United States Army Corps of Engineers

SIERRA VISTA SPECIFIC PLAN

Draft Environmental Impact Statement

Volume II - Appendices

SPK - 2006-01050

U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, CA 95814-2922
(916) 557-6605

July 2012

Draft Environmental Impact Statement

Sierra Vista Specific Plan

USACE Action ID: SPK-2006-01050

Volume II – Appendices

Prepared for:

U.S. Army Corps of Engineers
Sacramento District
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Sacramento, California 95814

Prepared by:

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Oakland, California 94607

July 2012

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APPENDIX 1.0

Draft Scoping Summary Report

JOINT EIR/EIS SCOPING MEETING FOR
THE SIERRA VISTA SPECIFIC PLAN

Draft Summary Report

July 25, 2008

Prepared by:

MIG, Inc.
800 Hearst Avenue
Berkeley, CA 94710

in cooperation with URS Corp.
for the City of Roseville and the U.S. Army Corps of Engineers

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PURPOSE OF THE SCOPING MEETING

On April 16, 2008, the City of Roseville and the U.S. Army Corps of Engineers held a joint public scoping meeting regarding the Sierra Vista Specific Plan, for the following purposes:

- In accordance with Public Resources Code Section 21083.9, the City solicited public comments on the project's Environmental Impact Report, Annexation, Sphere of Influence Amendment, and General Plan Amendment.

- The Corps of Engineers solicited public comments on the project under Section 404 of the Clean Water Act. The Sierra Vista Specific Plan project has applied for a Department of Army Permit under Section 404 for the discharge of dredged or fill material in waters of the United States.

Three documents were released to the public on March 28, 2008, noticing the process and announcing the public scoping meeting:

1. Notice of Preparation and Public Scoping Meeting on the Sierra Vista Specific Plan, Annexation, Sphere of Influence Amendment, and General Plan Amendment project, issued by the City of Roseville on March 28, 2008. (Appendix A)

2. Notice of Intent To Prepare an Environmental Impact Statement for the Proposed Sierra Vista Specific Plan Project, Corps permit Application Number 200601050, issued by the Department of the Army, U.S. Army Corps of Engineers, DOD, in the Federal Register/Vol. 73, No. 61/Friday, March 28, 2008/Notices. (Appendix B)

3. Public Notice Number 200601050, Notice of application for a Department of Army permit under Section 404 of the Clean Water Act, Intent to Prepare an Environmental Impact Statement (EIS) and Notice of Public Scoping Workshops for the Sierra Vista Specific Plan project, issued by the US Army Corps of Engineers, Sacramento District, March 28, 2008. (Appendix C)

MEETING PROCESS AND RESULTS

The scoping meeting was noticed in local newspapers and with letters to local agencies and stakeholders. It took place in Meetings Rooms 1 and 2 at City Hall, City of Roseville, 311 Vernon Street, from 5:00 to 7:00 p.m. on April 16, 2008.

The meeting was planned by a staff team from the City of Roseville Planning Department, the U.S. Army Corps of Engineers Public Affairs office, URS, Corp., MIG, Inc., and the Sierra Vista Landowner Group.

The meeting took place in a large conference room that was set up with exhibits consisting of maps of the proposed project and a flow chart of the environmental process (both State and Federal). Seating was arranged theater-style facing a screen at the front of the room. Signs on the outside of the building showed attendees where to go within City Hall. A sign-

in table was placed just outside the meeting room. Also on the table were placed the agenda for the meeting (Appendix D), a process graphic of the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) processes (Appendix E), a fact sheet about the project (Appendix F), and comment cards (Appendix G). The list of attendees who signed in is shown in Appendix H (although some attendees declined to sign in). Angela Kott, a court reporter from Paulson Reporting & Litigation Services, was stationed nearby to take verbal comments privately before and after the formal presentation, however there were no comments made at either time.

The following staff team members attended the meeting and were available before and after the formal presentation to talk with meeting attendees:

City of Roseville
Kathy Pease
Nela Luken
Terri Shirhall
Mark Morse
John Sprague
Kellye McKinney
Chris Kraft

U.S. Army Corps of Engineers
Nancy Haley
Dave Killam
Channa Jenkins

URS
Denise Heick
Kathy Rushmore

Sierra Vista Landowner Group
Jeff Jones

The meeting started at 5:00 p.m. with an open house. At 5:20 p.m., Nancy Kays of MIG, Inc., who was the meeting moderator, called the attendees together for the formal presentation. She explained the purpose of the meeting, briefly covered the agenda and introduced the speakers. She said that the comments could be received in several ways: (1) verbal comments at the scoping meeting, (2) on comment cards to be turned in at the meeting or sent to URS by April 29, 2008, or (3) to the court reporter after the presentation.

The meeting was then turned over to Kathy Pease of the City of Roseville, who began the PowerPoint presentation (Appendix I). She reviewed the project application and outlined the environmental review process. Nancy Haley of the Corps of Engineers then covered the NEPA Section 404 process for this project, as well as related approvals. Finally, Denise Heick of URS made a presentation on the CEQA and NEPA processes and the content of the Environmental Impact Report (EIR) and Environmental Impact Statement (EIS) analyses that will be conducted on the project. She also covered the differences between the two processes and the use of alternatives analysis.

Nancy Kays then asked if there were any questions or comments from the attendees. There was one question, that was answered by Denise Heick (Appendix J is a transcript). The formal portion of the meeting wrapped up with a PowerPoint slide of where to obtain more project information.

After the formal presentation, attendees were encouraged to stay to look at the project maps and discuss them with the staff members in an open house format.

The meeting concluded at about 6:45 p.m. No comment cards were turned in at the meeting.

Comments submitted after the meeting but before the April 29 deadline are shown in Appendices K and L.

APPENDIX A.
CITY OF ROSEVILLE NOTICE OF PREPARATION

CITY OF ROSEVILLE
CALIFORNIA

PLANNING & REVELOPMENT DEPARTMENT
311 Vernon Street, Roseville, CA 95678 (916) 774-5434

Notice of Preparation and Public Scoping Meeting

To:	Interested Persons
From:	City of Roseville
Date:	March 28, 2008
Subject:	**Notice of Public Scoping Meeting and Notice of Preparation of an Environmental Impact Report for the proposed Sierra Vista Specific Plan, Annexation, Sphere of Influence Amendment, and General Plan Amendment Project**
Project Title/File Number:	Sierra Vista Specific Plan, Annexation, Sphere of Influence Amendment, and General Plan Amendment Project File numbers: SPA-000024, DA-000029, GPA-000034, RZ-000037, ANN-000002
NOP Comment Period:	Written Comments are due no later than **April 29, 2008 by 5:00 p.m.**
Public Scoping Meeting:	In accordance with Public Resources Code Section 21083.9, notice is hereby given that the City of Roseville will conduct a public scoping meeting on Wednesday, April 16, 2008 from 5:00 p.m. to 7:00 p.m. at the City of Roseville Civic Center (Meeting Rooms 1 and 2), 311 Vernon Street, Roseville, California 95678.
Project Location:	West of Fiddyment Road, north of Baseline Road to approximately ½ mile west of the intersection of Watt Avenue, and south of the West Roseville Specific Plan
Project Applicant:	Sierra Vista Landowner Group
Lead Agency Contact Person:	Kathy Pease, Senior Planner Planning & Redevelopment Department City of Roseville 311 Vernon Street Roseville, CA 95678 (916) 774-5276 Fax: (916) 774-5219 Email: kpease@roseville.ca.us Website: www.roseville.ca.us/planning

It should be noted that a separate Environmental Impact Statement (EIS) will be prepared in compliance with the National Environmental Policy Act (NEPA) for this project.

1.0 Introduction

The City of Roseville (City) will be the lead agency and will prepare an Environmental Impact Report (EIR) for the Sierra Vista Specific Plan, Annexation, Sphere of Influence (SOI) Amendment, and General Plan Amendment project (referred to herein as the "proposed project"), which includes several project approvals listed in Section 4 of this Notice of Preparation (NOP). This NOP has been issued to notify interested parties that an EIR will be prepared, and to solicit feedback on the scope and content of the analysis in the EIR.

The proposed project description, vicinity map, and conceptual land use plan are provided in this NOP. In addition, the City has prepared an Initial Study/Environmental Checklist for the proposed project to identify potential environmental impacts. The City has determined that the proposed project may have a significant effect on the environment; therefore, an EIR is required. A copy of the Initial Study is attached to this NOP.

NOP Comment Period: Due to the time limits mandated by state law, your response to this NOP must be sent at the earliest possible date, but not later than 30 days after March 28, 2008 (the date this notice was first posted). Please submit comments to City of Roseville no later than April 29, 2008. Please provide written comments to:

Kathy Pease, Senior Planner
Planning & Redevelopment Department
City of Roseville
311 Vernon Street
Roseville, CA 95678
Phone: (916) 774-5276
Fax: (916) 774-5219
Email: kpease@roseville.ca.us

Public Scoping Meeting: A Public Scoping Meeting will be held on April 16, 2008 in connection with the proposed project to receive comments from interested parties regarding the issues that should be addressed in the EIR. The time and location of the Public Scoping Meeting is provided on the first page of this NOP.

It should be noted that the U.S. Army Corps of Engineers will be preparing a separate EIS for wetland permits required for the proposed project in compliance with NEPA. The Public Scoping Meeting will be a joint meeting for both the EIR and EIS. Separate notices will be sent out regarding the NEPA process.

2.0 Regulatory Background

This document provides notification that an EIR will be prepared for the proposed project. This NOP has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Division 13 Section 21000 et seq., and the State CEQA Guidelines, Title 14 California Code of Regulations Section 15000 et seq. According to CEQA Guidelines Section 15064, an EIR must be prepared if it is determined there is substantial evidence in light of the whole record that the proposed project may have a significant effect on the environment.

This NOP describes the proposed project in Section 3, and project approvals in Section 4. The probable environmental effects of the proposed project based on the Initial Study and the proposed scope of analysis for the EIR are identified in Section 5. Section 6 discusses the

project alternatives analysis, and Section 7 discusses the cumulative impacts analysis. Section 8 references previous studies and reports used in this analysis.

3.0 Project Description

The Sierra Vista Specific Plan (SVSP) is a proposed specific plan project encompassing approximately 2,178 acres in western Placer County. The proposed project would include development of a mix of land uses, including residential, commercial, office, public/quasi-public, and open space uses, and parks. Details regarding the project are provided below.

3.1 Project Location

The 2,178-acre proposed SVSP site (or project site) is in unincorporated Placer County immediately west and south of the City of Roseville's existing City limits. The project site is located approximately 6 miles west of Interstate 80 and State Route 65, 10 miles northeast of the City of Sacramento, 10 miles east of State Route 99, 5 miles west of downtown Roseville, and 4 miles east of the Sutter County line. Figures 1 and 2 provide a vicinity map and topographic map of the project site, respectively.

The proposed project site is west of Fiddyment Road, north of Baseline Road to approximately ½ mile west of the intersection of Watt Avenue, and south of the West Roseville Specific Plan area.

The majority of the proposed project site is within the City's Sphere of Influence (SOI), which was expanded in 2004 as part of the West Roseville Specific Plan (WRSP) annexation. Concurrent with the WRSP annexation, the City's SOI was amended to align with the boundary of the 5,500-acre Memorandum of Understanding (MOU) Transition Area between the City and Placer County. The MOU Transition Area was established in 1997 to foster cooperative land use planning, and applies to the area 2 miles west of Fiddyment Road and north of Baseline Road (Figure 1). The approval by the Local Agency Formation Commission (LAFCO) of the SOI expansion constituted recognition by both the City and Placer County that the remainder of the MOU Transition Area was a likely future growth area for the City. The MOU sets forth additional requirements for processing project approvals, including submittal of certain information, input by the Placer County Board of Supervisors regarding annexations, adherence to minimum development standards, and mitigation of traffic impacts. Approximately 487 acres of the SVSP are west of the City's MOU and SOI boundary, and therefore, one action of the proposed project would also include a SOI amendment. Figure 1 is a map showing the City's current boundary as well as the SOI and MOU boundary as it pertains to the SVSP site.

The assessor parcel numbers for the project site include:

> 017-150-001 (portion), 017-150-002, 017-150-008, 017-150-009, 017-150-011 (portion), 017-150-012, 017-150-019, 017-150-020, 017-150-023, 017-150-024, 017-150-025, 017-150-026, 017-150-027, 017-150-029, 017-150-030, 017-150-031, 017-150-032, 017-150-033, 017-150-034, 017-150-035, 017-150-036, and 017-150-039

3.2 Project Setting

The majority of the proposed project site is undeveloped and has historically been used for agricultural or grazing activities. Current land uses include four large-lot single-family residences, generally in the central and southwestern portion of the project site, and other smaller structures along Baseline Road associated with ongoing dry farming agricultural

production activities. In addition, strawberry fields are present in two small areas of the project site along Baseline Road.

The Placer County General Plan currently designates most of the site as Agriculture/Timberland, 80-acre minimum, although a few parcels have a 20-acre minimum designation. The project site is characterized by gently rolling topography and large, open annual grassland areas. The site's natural features include Curry Creek, which traverses the southern portion of the site in a westerly direction, crossing south of Baseline Road for a distance, and ultimately crossing back north, traversing the western edge of the project site.

Seasonal wetlands, including vernal pools and seasonal drainages, are also scattered throughout the site. A number of trees (approximately 90) are present on the project site. The majority of the trees are primarily along the Curry Creek corridor in the southwestern portion of the project site. Most of these trees are cottonwoods and willows, with the exception of five interior live oaks regulated by the City's Tree Ordinance.

The Western Area Power Administration (WAPA) and Sacramento Municipal Utility District have a combined 375-foot-wide easement (WAPA corridor) that generally extends in an east-west direction through the center of the project site. Several constraints are present within this corridor, including multiple high-tension power lines and associated towers. These structures are significant manmade features on the project site and will remain as part of WAPA's northern California energy transmission infrastructure system. In addition, there is a 50-foot-wide electrical easement that extends in a north-south direction through a portion of the project site. These two transmission line corridors are shown on Figure 2.

The California Department of Conservation classifies the project site as Farmland of Local Importance.

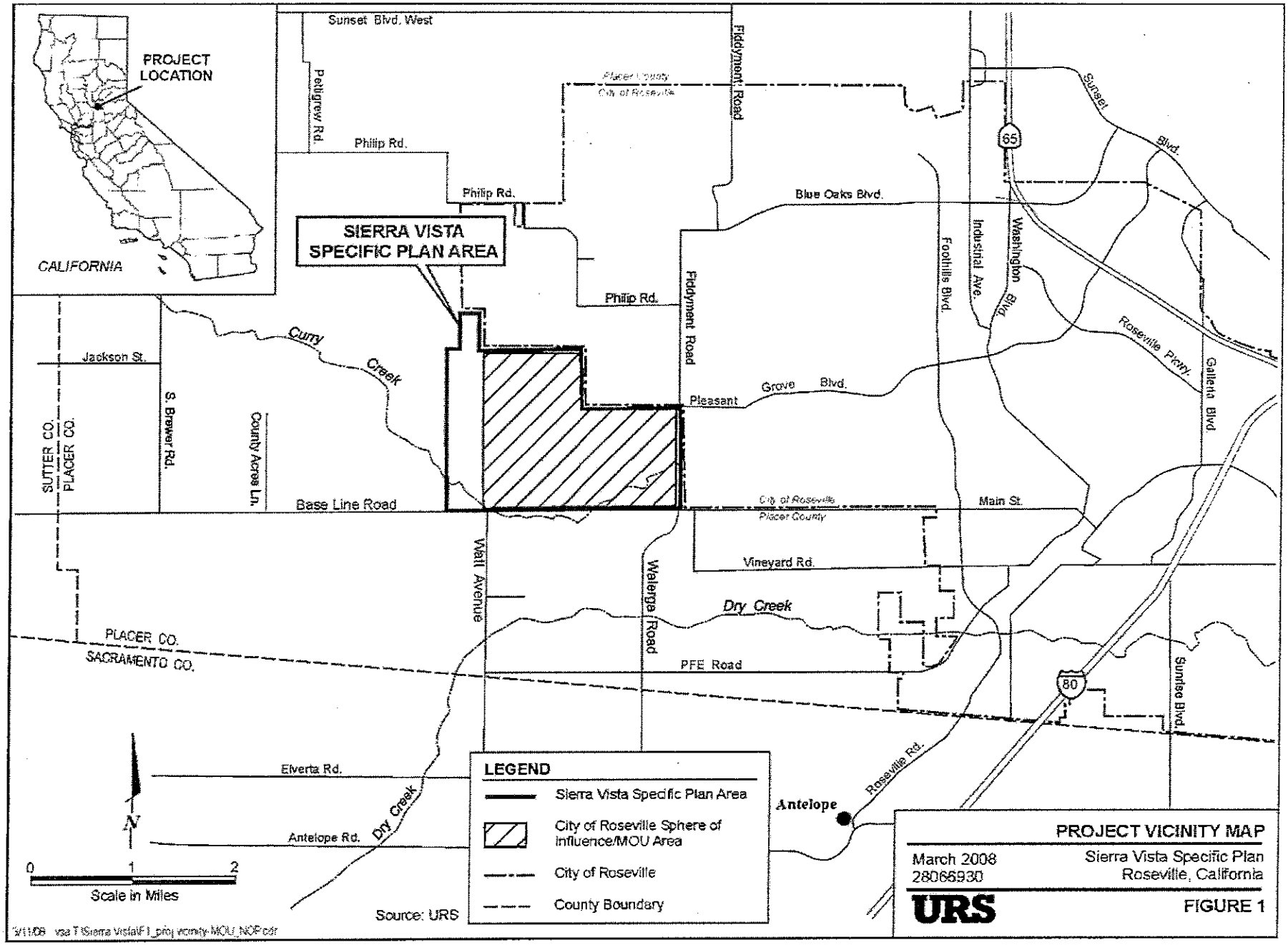
3.3 Surrounding Land Uses

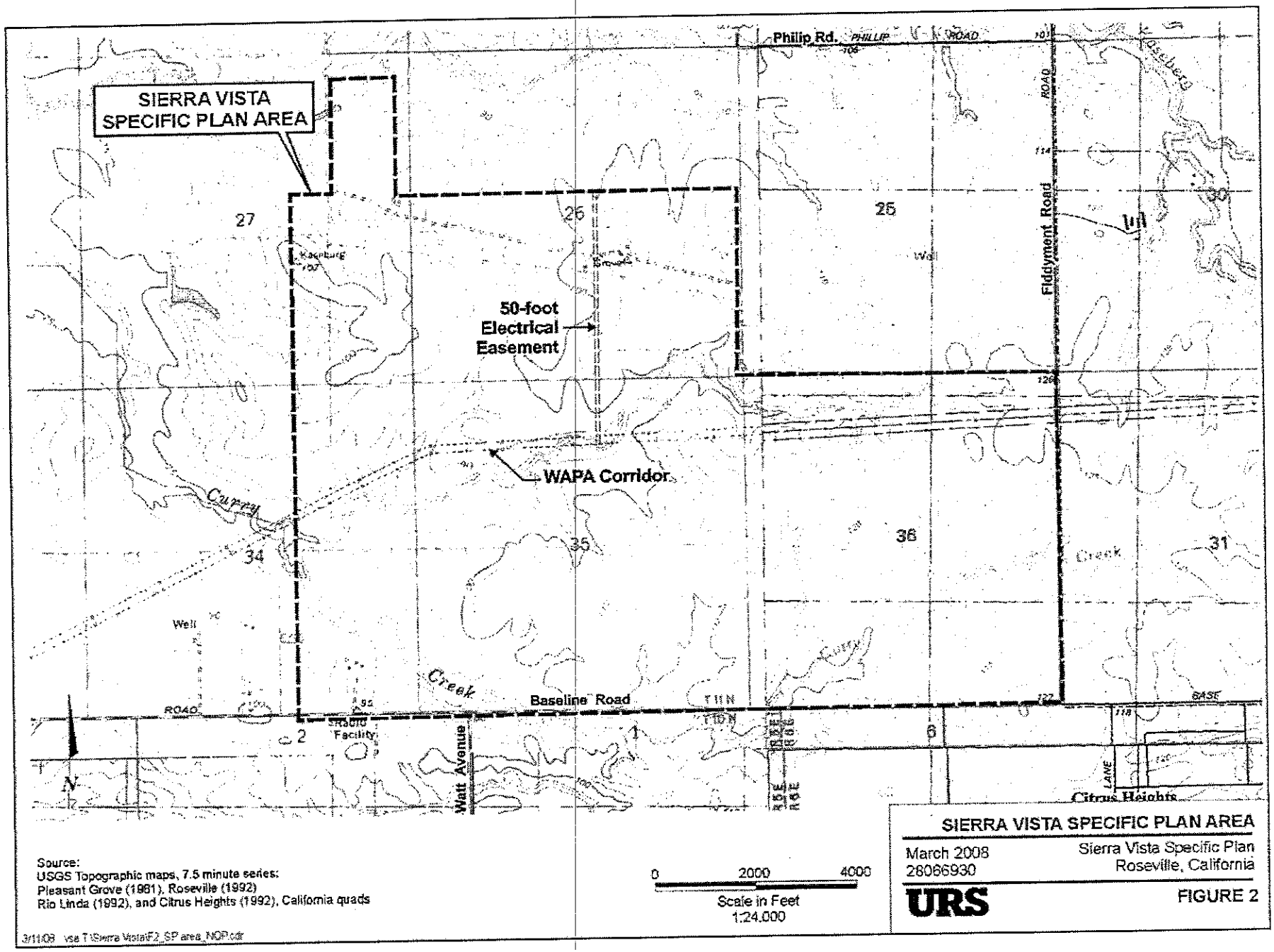
Land uses east and north of the project site include urbanized areas of newly developing and planned development projects consisting of residential units of varying densities with mixed-use, commercial, employment, open space, and public uses, and parks. The following are development projects adjacent to, or in the vicinity of, the project site.

- *North Roseville Specific Plan Phase* 2 (approved, built) – Directly east of the project site. Consists of a 160-acre low-density residential (716 units) community with an elementary school, 9-acre park, and an electrical substation that supports local electric service.

- *West Roseville Specific Plan* (approved, under construction) – Directly north of the project site. Consists of a 3,100-acre residential community supplemented by a mix of support and employment uses (8,500 dwelling units, 200 acres of commercial/office development, and 980 acres of public facilities including open space). The City is currently considering an amendment to the West Roseville Specific Plan that could add approximately 1,200 dwelling units, raising the Plan's buildout to 9,700 dwelling units.

- *Placer Vineyards Specific Plan* – Within unincorporated Placer County, directly south of the project site. This was approved by the County Board of Supervisors in June 2007, though the proponents have not yet obtained the federal permits they need to


PROJECT LOCATION
CALIFORNIA
SIERRA VISTA SPECIFIC PLAN AREA
Sunset Blvd. West
Pettigrew Rd.
Philip Rd.
Fiddyment Road
Placer County
City of Roseville
Blue Oaks Blvd.
Foothills Blvd.
Industrial Ave.
Washington Blvd.
Sunset Blvd.
65
Roseville Pkwy.
Galleria Blvd.
Curry Creek
Jackson St.
SUTTER CO.
PLACER CO.
S. Brewer Rd.
County Acres Ln.
Base Line Road
Pleasant Grove Blvd.
City of Roseville
Placer County
Main St.
Vineyard Rd.
Walt Avenue
Walerga Road
Dry Creek
PLACER CO.
SACRAMENTO CO.
PFE Road
80
Sunrise Blvd.
Elverta Rd.
Antelope Rd.
Antelope
Roseville Rd.
N
0
1
2
Scale in Miles
LEGEND
Sierra Vista Specific Plan Area
City of Roseville Sphere of Influence/MOU Area
City of Roseville
County Boundary
Source: URS
PROJECT VICINITY MAP
March 2008
28066930
Sierra Vista Specific Plan
Roseville, California
URS
FIGURE 1



Source:
USGS Topographic maps, 7.5 minute series:
Pleasant Grove (1961), Roseville (1992)
Rio Linda (1992), and Citrus Heights (1992), California quads

3/11/08 vse T:\Sierra Vista\F2_SP area_NOP.cdr

SIERRA VISTA SPECIFIC PLAN AREA

March 2008
26086930

Sierra Vista Specific Plan
Roseville, California

URS

FIGURE 2

develop. Consists of a proposed 5,230-acre development that would include approximately 14,132 residential units, 422 acres of employment centers, 140 acres of retail commercial centers, and 930 acres of new parks and open space.

- *Regional University Specific Plan* (proposed) – Northwest of the project site. Consists of a proposed 1,136-acre development project that would support development of a university campus and an adjoining community. The university is planned to accommodate approximately 6,000 students, and the community would include 3,232 residential units of varying densities with mixed-use, commercial, employment, open space, and public uses, and parks.

- *Creekview Specific Plan* (proposed for annexation to the City of Roseville) – West of the City of Roseville and north of project site. Consists of a proposed 570-acre project with approximately 2,700 residential units and mixed commercial uses. The project would also include a Sphere of Influence Amendment for a portion of the City's Reason Farms Pan Handle, which could accommodate a university or job center in the future.

Given its proximity to existing urban areas, jobs, and infrastructure, the SVSP is consistent with the Blueprint Project Preferred Growth Scenario adopted by the Sacramento Area Council of Governments (SACOG) in December 2004. In June 2005, the City of Roseville embraced SACOG's preferred Blueprint growth scenario by adopting Implementation Strategies to guide both infill and greenfield development projects in Roseville, consistent with SACOG's vision for the region.

3.4 Project Applicant

The proposed project Applicant is the Sierra Vista Landowner Group. The Sierra Vista Landowner Group consists of the following entities: CGB Investments; D.F. Properties, Inc.; Mourier Land Investment, Corporation; Mourier Investments, LLC; KT Communities; Richland Planned Communities, Inc.; and Westpark LR, LLC. In addition, one 40-acre parcel in the western portion of the project site is owned by a nonparticipating landowner and is not controlled by the Applicant. With approval of the proposed project, this particular parcel would be annexed by the City and would be designated as Urban Reserve. When the owners of the 40-acre parcel decide to develop, they would be required to go through the zoning and entitlement process and separate project-level environmental review.

3.5 Project Purpose and Objectives

The purpose of the proposed project is to implement a large-scale, mixed-use, mixed-density master planned community in the City in accordance with the City's Guiding Principles related to new development west of Roseville and Implementation Strategies to Achieve Blueprint Project Objectives. The proposed project is intended to provide for the orderly and systematic development of a mix of residential neighborhoods, schools, parks, and nonresidential uses.

The following objectives apply to the proposed project:

1. **Complete Comprehensive Planning for a Portion of the SOI Area:** Formulate a specific plan and related land use planning documents and approvals for a portion of the City's current SOI as a means of expanding the City in an orderly manner to accommodate Roseville's share of future regional population growth.

2. **Mix of Land Uses:** Provide for a mix of land uses within the SVSP to create a balanced community with approximately 9,995 residential units; 281 acres of commercial, commercial mixed use, and business professional uses; along with supporting public/quasi-public, open space and urban reserve uses, and parks. This mix of uses should be tailored to anticipated market conditions not only for housing product types, but also for nonresidential square footage.

3. **Blueprint Consistency:** Provide for development that meets the City's nine identified Blueprint Implementation strategies to achieve the Blueprint Principles adopted by the City Council in June 2005. Achieve project design characteristics that are reflective of the general policy direction embodied in the City's adopted General Plan Blueprint Implementation Strategies, including connectivity between neighborhoods commercial uses, and schools and parks. By focusing development on lands adjacent to existing urban areas and infrastructure, the Blueprint strives to reduce the pressure to urbanize other agricultural or habitat lands within the greater Sacramento region, and thereby minimize long-term environmental impacts within the region.

4. **Commercial/Employment Center:** Provide for retail/commercial and office opportunities along key sub-regional transportation corridors such as Baseline Road and Watt Avenue.

5. **Housing Opportunities:** Plan for approximately 9,995 residential units to provide housing choices in varying densities that respond to all market segments, including opportunities for rental units and affordable housing consistent with the City's General Plan.

6. **Mixed Use Nodes:** Create livable neighborhoods within the SVSP, with higher-density development nodes anchored by commercial mixed-use centers that site retail, office, and service opportunities in proximity to residential neighborhoods.

7. **Regional Roadways:** Provide for an extension of Watt Avenue along the western portion of the SVSP and develop the frontage with a mixture of land uses that take advantage of higher-density nodes around potential transit stops. In addition, develop an east-west roadway connection through the SVSP that parallels Baseline Road, which provides an alternative travel route for SVSP residents and enhances regional transportation systems.

8. **Land Use and Transportation Integration:** Provide for a mixture of land uses along the Watt Avenue and Baseline Road transportation corridors to take advantage of higher-density nodes around potential transit stops.

9. **Citywide Park Facilities:** Plan for a citywide park facility within the Plan Area with compatible adjacent land uses that will support adult and youth sporting programs.

10. **Bicycle Facilities:** Develop a system of Class I bikeway facilities that provide an alternative transportation mode and connect with planned City bikeway facilities to the north and east.

11. **Pedestrian and Bicycle Connections:** Provide connections throughout the community in the east-west direction and north-south direction via a system of open space and paseos, including connections to the West Roseville Specific Plan.

12. **Linking Public Use Areas:** Provide schools and accompanying parks with links to Plan-wide open spaces and residential neighborhoods.

13. **Habitat Conservation:** Develop the SVSP, to the extent feasible, consistent with Placer County's habitat conservation planning goals.

14. **Positive Fiscal Impact:** Include commercial and other tax-generating land uses that will allow the project to have an overall positive fiscal impact on the City and Placer County.

3.6 Project Overview

The project proposes a mix of land uses, organized in a manner to achieve the project objectives, including residential, commercial, office, public/quasi-public, and open space uses, and parks, with associated roads and infrastructure needed to serve these uses. The proposed project will address all aspects of future development of the project site, including land use, circulation, infrastructure, public services, implementation, and design characteristics. The description set forth below reflects the details of the proposed project as of March 2008. It is possible that some of these details may change by the time the Draft EIR is issued.

3.6.1 Proposed Land Uses

As shown on Figure 3 and Table 1, SVSP's conceptual land use plan includes low-, medium-, and high-density residential uses; commercial mixed use; commercial/office mixed use; community commercial; public/quasi-public; parks and recreation areas, open space, and paseos; and two urban reserve areas.

At buildout, the proposed project would provide approximately 9,995 dwelling units, generating approximately 25,219 new residents, and would add approximately 2,419,113 square feet of retail and office uses, resulting in approximately 5,821 jobs. The project would also provide sites for construction of four elementary schools, one middle school, and a fire station.

3.6.1.1 Residential Neighborhoods

Although there will be a wide variety of residential types within the SVSP, the units fall into three density ranges consistent with the residential density ranges in the City of Roseville General Plan: low, medium and high density. In addition, high-density units are proposed in the SVSP's commercial mixed-use designation discussed under Section 3.6.1.2 below.

Low-Density Residential

Approximately 636 acres of the SVSP's land uses are proposed as Low Density Residential (LDR) (with an average of 5 dwelling units per acre); this accounts for 3,172 dwelling units. Standard single-family detached housing on conventional lots (4,500 to 6,000 square feet) is the primary product type, although larger lots (more than 10,000 square feet) are likely. LDR parcels are generally distributed throughout the SVSP.

Medium-Density Residential

Approximately 398 acres of the project site are proposed as Medium Density Residential (MDR) (with an average of 10 dwelling units per acre); this accounts for 3,978 dwelling units. MDR land use provides an opportunity to accommodate a variety of attached and detached housing types, which could include single-family homes on small lots, cluster housing, zero lot line/zipper

lot housing, duet housing, townhomes, and other housing types. The incorporation of innovative housing types is encouraged to provide a variety of housing alternatives, maximize community-wide open space/recreation opportunities, and enhance the neighborhood environment. MDR areas are generally clustered around commercial centers and along Watt Avenue and West Side Drive, establishing retail and service centers to serve the local area in proximity to MDR neighborhoods.

High-Density Residential

Approximately 114 acres of the project site are proposed as High Density Residential (HDR) (with an average of 20 to 30 units per acre); this accounts for 2,538 dwelling units. In this density range, HDR areas would typically accommodate attached multi-family buildings such as townhomes, apartments, and condominiums, but could also include some detached housing product types. In addition, this type of multi-family housing provides for a mix of both for-sale and for-rent units. HDR parcels are primarily clustered around commercial mixed-use nodes, which concentrate higher-density population areas in proximity to these local-serving retail and service centers.

Affordable Housing

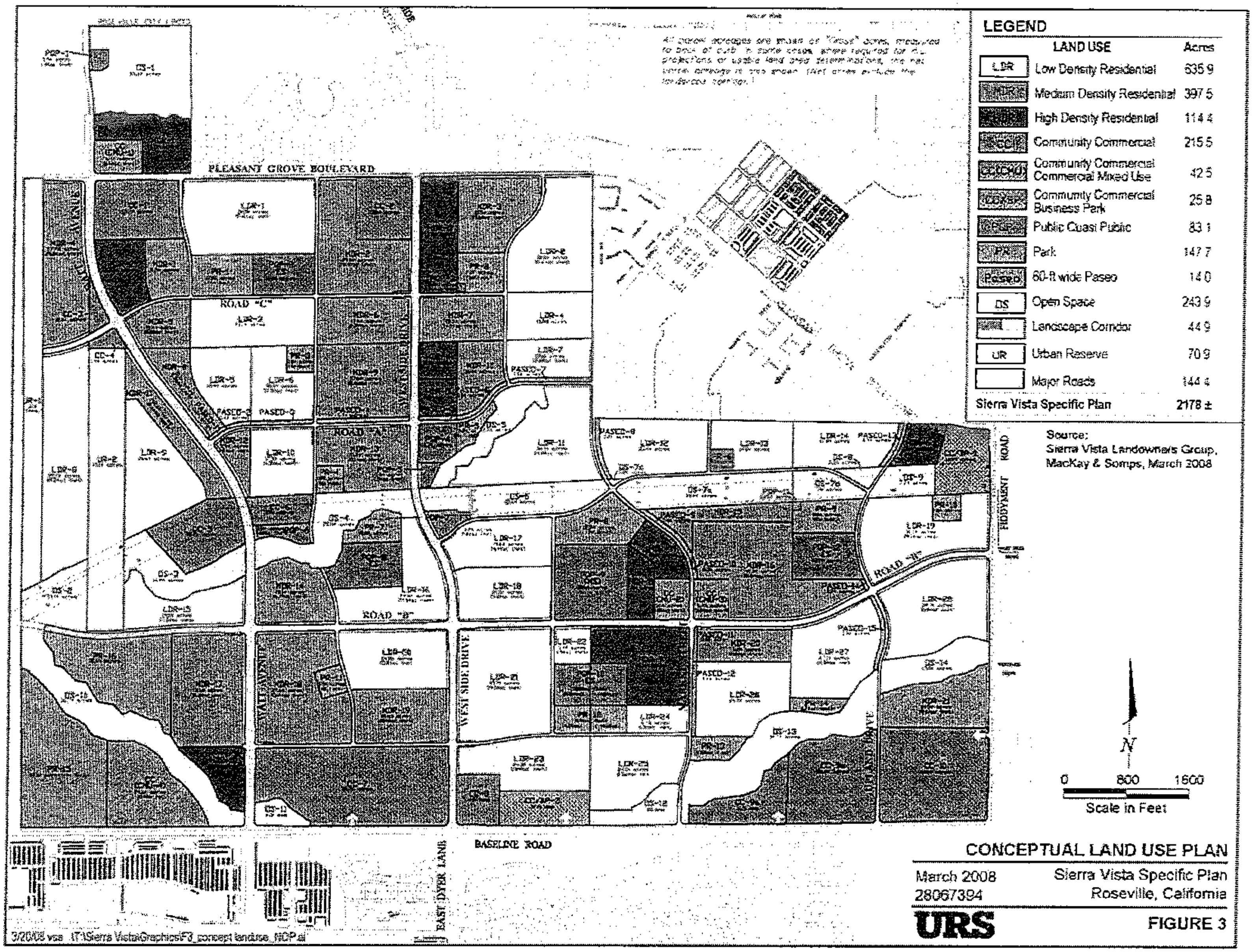
Consistent with the City's General Plan affordable housing goal, 10 percent of SVSP's residential units will be designated for middle-, low-, and very low-income households. This housing includes a mix of both purchase and rental housing made affordable to households in various income brackets. In accordance with General Plan policy, 20 percent of the affordable housing units would be made available to middle-income households, 40 percent to low-income households, and 40 percent to very low-income households. The affordable housing units within the SVSP would be allocated to specific medium- and high-density residential designated parcels. The intent is to distribute affordable units throughout the SVSP.

3.6.1.2 Employment and Service Areas

A range of employment and service land uses are proposed within the SVSP; these include commercial mixed-use, office, and community commercial uses. A majority of the SVSP's commercial and employment center uses are sited along Baseline Road, Watt Avenue, and Fiddyment Road, taking advantage of the exposure provided by the projected traffic volumes along these corridors. Smaller neighborhood-level commercial sites are provided in the interior of the SVSP, including mixed-use development sites intended to provide retail goods and services in proximity to the residential neighborhoods. The mixed-use areas are typically provided on smaller sites that can be integrated into the surrounding residential neighborhood. Conventional commercial sites are provided as well, typically along arterial roadways. The SVSP's employment and service uses are intended to complement and further diversify the City's employment, retail, service, and revenue base.

Commercial Mixed Use

Four sites in the SVSP are proposed for mixed-use developments, accounting for approximately 43 acres of the project site. These Commercial Mixed Use (CC/CMU) sites are intended to be developed as mixed-use centers that could include a combination of commercial, residential, and/or office uses promoting a variety of commercial uses and the flexibility of siting other uses that are typically considered compatible with commercial development. At full buildout of the SVSP, the mixed use sites could accommodate up to 146,815 square feet of commercial uses, 45,738 square feet of office uses, and 307 residential units.


LEGEND
LAND USE
Acres
LDR Low Density Residential 635.9
MDR Medium Density Residential 397.5
HDR High Density Residential 114.4
CC Community Commercial 215.5
CC/CMU Community Commercial Commercial Mixed Use 42.5
CC/BP Community Commercial Business Park 25.8
P/QP Public Quasi Public 83.1
PK Park 147.7
Paseo 60-ft wide Paseo 14.0
OS Open Space 243.9
Landscape Corridor 44.9
UR Urban Reserve 70.9
Major Roads 144.4
Sierra Vista Specific Plan 2178 ±
Source:
Sierra Vista Landowners Group,
MacKay & Somps, March 2008
PLEASANT GROVE BOULEVARD
ROAD "C"
ROAD "A"
ROAD "B"
BASELINE ROAD
WEST SIDE DRIVE
EAST DYER LANE
FIDDYMENT ROAD
N
0 800 1600
Scale in Feet
URS
3/20/08 vsa ..\T:\Sierra Vista\Graphics\F3_concept landuse_NOP.ai

CONCEPTUAL LAND USE PLAN

March 2008
28067394

Sierra Vista Specific Plan
Roseville, California

FIGURE 3

Table 1 Proposed Sierra Vista Specific Plan Land Uses				
Applied Zoning Districts	**Land Use Designation**		**Acres**	**Dwelling Units**
Residential Neighborhoods				
R1/DS RS/DS	LDR	Low Density Residential	635.9	3,172
RS/DS R3/DS	MDR	Medium Density Residential	397.8	3,978
RS/DS R3/DS	HDR	High Density Residential	114.4	2,538
Subtotal			**1,148.1**	**9,688**
Employment and Services				
CMU/SA	CC	Commercial Mixed Use	42.5	307
CC/SA	CC/BP	Commercial/Office Mixed Use	25.8	0
CC & GC	CC	Community Commercial	212.5	0
Subtotal			**280.8**	**307**
Open Space/Public				
P/QP	P/QP	Public/Quasi-Public	83.1	0
P/R	P/R	Parks & Recreation	147.7	0
OS	OS	Open Space	243.9	0
OS	OS	Paseos	14	0
UR	UR	Urban Reserve	70.9	0
Subtotal			**559.6**	**0**
Landscape Corridors			44.9	0
Major Roadways			144.4	0
Total			**2,177.8**	**9,995**

Definitions:

DS: Development Standard District (Overlay District)
GC: General Commercial District
R1: Single-Family Residential District
R3: Attached Housing District
RS: Small Lot Residential District
SA: Special Area District (Overlay District)

Commercial/Office Mixed Use

Two sites in the SVSP are proposed for development of Commercial/Office Mixed Use (CC/BP), accounting for 26 acres of the project site. These sites could be developed with a mix of both commercial and professional office uses, or solely commercial or office. This flexibility ensures that the SVSP's nonresidential, employment-generating land uses can be responsive to the

future needs of the market, while providing ample opportunities for both service and employment uses for the City. At full buildout of the SVSP, up to 89,000 square feet of commercial uses and 204,906 square feet of office uses could be accommodated on these sites.

Community Commercial

Ten sites in the SVSP are proposed for development of Community Commercial (CC), accounting for approximately 213 acres of the project site. The CC land use designation provides for a broad range of goods and services, with general retail stores and businesses that could integrate both neighborhood- and regional-serving type uses. The sites that could generally accommodate neighborhood-serving uses are located at arterial roadway intersections to improve their visibility and access to vehicular traffic. These sites are sized to allow development of conventional neighborhood shopping centers. Some CC sites are designed to accommodate regional-serving uses; they are located along the Baseline Road corridor to maximize automobile and transit accessibility. These sites are sized for potential "large floor-plate" retailers and could function with large shopping centers and commercial activities such as those found in a modern day "power center." At full buildout, the CC sites could provide for nearly 1,931,886 square feet of retail, office, restaurant, entertainment, and/or hotel uses.

3.6.1.3 Public, Park, and Open Space Areas

Nearly one-quarter of the land area in the SVSP is designated for different types of public use. The conceptual land use plan includes sites for Public/Quasi-Public (P/QP), Parks and Recreation (P/R), and Open Space (OS) land uses. All open space and public uses have been designated and sized consistent with General Plan policies and standards, and these land uses are discussed further below.

Public/Quasi-Public Sites

Approximately 83 acres of the SVSP are proposed as P/QP, intended for different types of uses that would benefit or serve future residents in the project. Each P/QP site within the SVSP has a use type assigned to it, as will be provided for in the Specific Plan document. In the aggregate, these sites would provide for a fire station, an electric substation, three groundwater wells, a water treatment facility, a recycled water distribution facility, a solid waste recycling site, a church, four elementary schools and a middle school. P/QP sites within the project site that are not designated for school or city facilities, as described in the Specific Plan, could be developed with other uses pursuant to the regulations in the City's Zoning Ordinance.

Parks and Recreation

Approximately 148 acres of the SVSP are proposed as P/R, comprising almost 7 percent of the project site. A combination of active and passive recreational facilities is provided for the community within two park categories—Neighborhood Parks and Citywide Parks.

Neighborhood parks are larger parks sited throughout the community adjacent to elementary and middle schools, maximizing joint-use opportunities for outdoor recreation facilities. These park facilities are typically between 8 and 12 acres. Smaller neighborhood parks are provided in greater frequency throughout the community to anchor some of the higher-density residential neighborhoods. Most of the community's parks are linked to a system of paseos, providing a comprehensive network of pedestrian and bikeway connections to the SVSP's parks and open space system.

A 71-acre citywide "Signature Park" is located in the southwestern corner of the SVSP along the western edge and Baseline Road, adjacent to a CC/CMU site. The Signature Park is comprised of one 41-acre parcel and one 30-acre parcel separated by a portion of the Curry Creek open space corridor. A variety of recreation facilities could be accommodated at this site, including soccer, baseball, and softball tournaments. In addition, ancillary amenities that complement the park may be planned, such as a field house, stadium, batting cages, restaurants, and large outdoor spaces or plazas for fairs and other large events. Recreational and ancillary amenities may include lighted facilities.

Open Space

Approximately 244 acres of the SVSP are proposed as OS, comprising approximately 11 percent of the total project site acreage. OS land use and zoning is generally applied to lands that are environmentally sensitive or otherwise significant due to habitat, hazards, natural features, or man-made features. Open space corridors provide for passive recreation opportunities, preservation of significant resources, viewsheds, potential flood water conveyance and retention, resource mitigation, and can improve the interface between uses. SVSP's open space system has three primary components:

- Creek Corridors – Curry Creek traverses the southern portion of the site in an east-west direction. This corridor, including associated environmentally sensitive resources, would be preserved as permanent open space.
- Northwestern Corner – In the northwestern portion of the SVSP, adjacent to and contiguous with the WRSP open space preserve to the north, SVSP's existing drainage and resource areas are included in the project site's open space system, mirroring the WRSP preserve to the north.
- WAPA Corridor – A linear open space corridor is designated within the WAPA power line easement running east-west through the SVSP. Although development is limited to a few acres within the easement that include parking, P/QP, and limited commercial or industrial uses, the corridor also provides a number of potential benefits for the community, including opportunities to locate facilities for stormwater drainage, low-impact development features, bikeways, natural open space, recreation features, and parking lots for neighborhood parks.

3.6.1.4 Paseos

Paseos are landscape corridors within residential neighborhoods or along roadways that are intended to provide pedestrian and bikeway linkages from the residential neighborhoods to parks, schools, and open space areas. Approximately 14 acres of paseos are designated within the SVSP.

3.6.1.5 Urban Reserve

Two areas totaling 71 acres are designated as Urban Reserve. The first area consists of 31 acres situated along the western edge of SVSP, extending from the southern edge of Placer County's Regional University Specific Plan project area southward to the WAPA and Curry Creek corridors. The purpose of designating this area as Urban Reserve is to help achieve the General Plan's growth management policies for the City's western edge by providing a transitional area between City and county lands. Furthermore, this edge would ensure that the identity and uniqueness of the City would be maintained.

The second area consists of 40 acres situated between the western property boundary and the proposed Watt Avenue alignment. This parcel is owned by a nonparticipating landowner. The intent of designating this area as Urban Reserve is to include in the Specific Plan property that is not currently participating in the project. When the owners of the 40-acre parcel decide to develop, they would be required to go through the zoning and entitlement process and separate project-level environmental review.

3.6.2 Transportation and Circulation

The proposed circulation system includes a hierarchy of roadways, a pedestrian and bikeway network, and public transit linkages that are designed to connect with existing city and regional systems. The intent is to create a pedestrian-friendly environment that is both walkable and accessible by bike, encouraging people to rely less on their automobiles. Traffic signals within the site would be located and installed as specified in the SVSP Development Agreements, and as warranted by the City.

The SVSP circulation system includes arterial, collector, and primary and minor residential roadways. The construction of arterial and collector roadways would be phased as described in the Specific Plan and the Infrastructure Phasing Plan(s) attached to the Development Agreements. All public roads would be constructed to City of Roseville standards, consistent with the design sections illustrated in the Specific Plan. The SVSP planned circulation system provides for connectivity of streets to adjacent land uses within, as well as outside, the SVSP with the extension of Watt Avenue, West Side Drive and Market Street to the Placer Vineyards Specific Plan and to the WRSP. Road "B" is designed as an east/west facility and shall be designed so that the ability to accommodate a potential future connection to the Curry Creek Community Plan area is not precluded.

3.6.2.1 Arterial Roadways

Arterial roadways are primary circulation routes that provide linkages to the regional circulation system, generally carrying large volumes of traffic within and through the City. In the SVSP, arterials range from four to six lanes, include landscape medians and Class I and II bike lanes, and have adjacent sidewalks and landscape corridors. On-street parking on arterials is prohibited.

Planned arterial roadways within the SVSP include Baseline Road, Watt Avenue, Fiddyment Road, West Side Drive, Pleasant Grove Boulevard, and Road "B." The project would include the design standards for the ultimate improvement of the SVSP arterial roadways.

3.6.2.2 Collector Roadways

Collector roadways are secondary circulation routes that generally distribute trips from the arterial street system to the local street system. Collector streets typically carry an average daily traffic of more than 4,000 vehicles. For the project, Road "A," Market Street, and Upland Drive are planned as collector roadways. The Specific Plan would include the design standards for the ultimate improvement of the SVSP collector roadways. The City is exploring opportunities to create modified collectors that would facilitate walkability.

3.6.2.3 Local Roadways

Two local roadway types are planned for residential areas of the SVSP, but are not illustrated on the land use plan. Local roadways provide direct access to individual dwelling units and provide connections to collector streets. Primary residential streets typically have two lanes and

are designed to accommodate higher traffic volumes. Minor residential streets also typically have two lanes, but are designed to carry lower traffic volumes. In addition, the SVSP would encourage the use of single loaded roadways adjacent to paseos and open space areas, and provisions for entry features at intersections with collector or arterial roadways. The proposed project would include design standards for the improvement of local roadways in the SVSP.

3.6.2.4 Pedestrian and Bikeway Network

A comprehensive system of pedestrian and bikeway paths is proposed throughout the SVSP, complementing the transportation choices available for the SVSP's residents, employees, and visitors. This network is an important component in ensuring connectivity and promoting non-vehicular travel within the SVSP. Ultimately, this system of pedestrian paths and bikeways provides off-street linkages throughout the community, connecting to Roseville's existing and planned facilities to the north and east of the SVSP. The pedestrian and bikeway network includes a combination of Class I and Class IA bike paths, and Class II bike lanes, which would be illustrated in the Specific Plan.

3.6.3 Public Transit

Public transit in the SVSP could include a combination of bus service systems from Roseville Transit and Placer County Transit. These services would use the SVSP's circulation systems to provide local and regional transit connections for community residents. Roseville Transit provides fixed route and Dial-A-Ride services within the City, as well as fixed route commuter services between Roseville and downtown Sacramento. Watt Avenue is planned to accommodate a future route for bus rapid transit. Bus turnouts and shelters would be located and constructed in accordance with City Improvements Standards and as otherwise required by the Public Works Director for specific projects. The SVSP would be designed to support Bus Rapid Transit (BRT) along the proposed Watt Avenue right-of-way. Two potential bus stops are planned as part of commercial uses at the southerly and northerly ends of the project.

3.6.4 Utilities

The SVSP addresses a variety of public utilities, including potable water, wastewater, recycled water, storm drainage and flood control, electrical service, street lighting, natural gas, communications, and solid waste. Each of these is described below.

3.6.4.1 Potable Water

The City of Roseville is responsible for the acquisition, development, treatment, conveyance, and delivery of potable and irrigation water supplies within the City. Once annexed, the SVSP would become part of the City's retail service area. Additional surface water supplies will be needed to serve the SVSP. Potable water supply would be delivered to the SVSP through existing City transmission mains to the east and north. Possible other connections from the south or west may also be required. Onsite components would consist of distribution pipe networks and onsite storage to meet project demands.

The City is evaluating water supply sources to serve the proposed project. These water sources could include:

- Reallocation of water supplies made available through unit water demand factors based on Roseville water meter data;

- A surface water contract entitlement from other water purveyor(s), which could include the San Juan Water District;
- Recycled water supplies for nonpotable use (recycled water for commercial and multi-family landscaping, medians, and parks); and/or
- Potential future delivery from the Sacramento River Reliability Project (Sacramento River Diversion).

Water Demands

The City has estimated the project's water demands based on information derived from the City's unit water demand factors and the land uses shown on the SVSP Land Use Plan (Figure 3). Land use designations, associated acreages and dwelling unit counts, unit demand factors, and peaking factors were used to calculate the project's annual potable water demands. These were calculated based on either the number of dwelling units in residential parcels or the total acreage for each type of land use. Unit per acre demand factors and peaking factors were then applied to each individual parcel's potable water demands. Based on these calculations, it is estimated that the water demand for the SVSP area is approximately 5,500 acre-feet per year (AF/yr).

Water Transmission

It is anticipated that SVSP would connect into the City's Pressure Zone 4 to receive its potable water. The City distribution system would supply water through a total of four points of connection with Pressure Zone 4 within the City's existing water distribution system. Additional connections from the south or west may also be required, depending on the water supply analysis.

A future Sacramento River Diversion could also interconnect to SVSP distribution systems, most likely in Watt Avenue. The current concept includes a blending tank that would be constructed within SVSP at PQP-5 to treat (e.g., supplemental chlorination if required), fluoridate, and adjust the pH of the water before it is mixed with potable water in the City's distribution system. This would be co-located with the tank facilities described below.

Water Storage

According to *The Master Water Study for West Roseville Specific Plan Area*, the tank to serve the WRSP area may be oversized by 4 million gallons (MG) to meet the demands of MOU areas 1 and 2, which correspond to the proposed Creekview Specific Plan and SVSP. The City is evaluating the possibility of the WRSP's water tank providing storage for the entire SVSP area. If the SVSP must provide its own storage, it would consist of an approximately 6.5-million-gallon storage tank and associated pumping and treatment facilities, which would be in the western area of the SVSP. In addition, three onsite injection/extraction groundwater wells would be part of the water infrastructure system, providing the City with an emergency water supply during dry years or during fire flows, and allowing for the eventual use of a city-wide Aquifer Storage and Recovery Program.

3.6.4.2 Wastewater

The City of Roseville provides regional wastewater treatment services to areas within and outside of the City's boundaries. The City owns and operates two wastewater treatment plants—the Pleasant Grove Wastewater Treatment Plant (PGWWTP) and the Dry Creek Wastewater Treatment Plant—for the benefit of the South Placer Wastewater Authority, an entity comprised of the City of Roseville, Placer County, and the South Placer Municipal Utility

District. All sewer improvements would be consistent with the Regional Wastewater and Recycled Water Systems Evaluation Report (Systems Evaluation Report) and the City of Roseville Improvement Standards.

Wastewater Treatment Capacity and Demand

Wastewater flows from SVSP area would be conveyed to the PGWWTP. The current dry weather flow capacity in the PGWWTP is 12.0 million gallons per day (MGD) and the wet weather treatment capacity is 30 MGD. The measured dry weather flow in 2005 was 6.6 MGD. The ultimate buildout dry weather flow projection as presented in the Systems Evaluation Report for PGWWTP is 24 MGD.

The SVSP area wastewater generational flow is estimated to be approximately 2.18 MGD, based on the unit factors recommended in the Systems Evaluation Report.

Collection and Transmission

Gravity sewer lines within the roadway network would serve the SVSP area. These pipes would generally flow from south to north and east to west. A lift station and force main would be constructed in the southwesterly portion of the SVSP that would direct flows to the east to the gravity system. Additionally, a lift station and force main would be constructed in the northwesterly portion of the SVSP that would lift flows into the gravity sewer system.

Proposed pipelines within SVSP ranging in size from 6 to 24 inches would connect to existing pipelines within the WRSP area.

3.6.4.3 Recycled Water

Recycled water that is tertiary-treated to conform to the California Department of Health Services requirements for "full unrestricted reuse" is currently produced at both the PGWWTP and the Dry Creek Wastewater Treatment Plant, and is delivered to many users in the city, including the WRSP area to the north of the project site. The City desires to expand its existing recycled water distribution system to maximize its use to reduce demands for potable water.

Recycled water would be obtained from the PGWWTP and conveyed through a separate recycled water system to the SVSP. It is anticipated that the main supply to the project site would come from the north in the future extension of Watt Avenue. Recycled water may be used for landscape irrigation of parks, schools, publicly landscaped areas (e.g., roadway medians), and commercial, business professional, and multi-family projects within the SVSP area. The recycled water demand on a peak day in July (July Day Demand) in the SVSP is approximately 2.42 MGD. Recycled water conveyance pipelines ranging in diameter from 6 to 30 inches would be installed within public rights-of-way.

Recycled Water Storage

It is anticipated that the recycled water onsite storage tank and pump station would be located on a planned parcel in the northwestern portion of the project site. The capacity of the recycled water storage tank and pump station is based on the size of the distribution system, on recycled water demands, and the rate at which recycled water is supplied to the tank.

The capacity of the storage tank would be approximately 3.0 MG, which is equivalent to one peak day of storage plus a 20 percent safety factor. This tank size would provide the City with

the flexibility to provide recycled water at any time of the day without having to maintain flows at a constant rate for any specified amount of time.

3.6.4.4 Storm Drainage and Flood Control

The SVSP area is located in the upper portion (headwaters) of the Curry Creek watershed. Existing drainage runoff flows to Curry Creek and its tributaries. Curry Creek flows from east to west and is within the southern portion of the SVSP. Curry Creek tributary, which also flows from east to west, is in the middle portion of the project site. Curry Creek and its tributary were modeled starting at Fiddyment Road and then to the west boundary of the project. Storm water model calculations and analysis would be prepared in accordance with the Placer County Storm Water Management Manual (SWMM), dated September 1, 1990 and the SWMM Addendum 1, dated October 1997.

Pre-Project versus Post-Project Runoff

Preliminary calculations and hydrologic modeling indicate that onsite detention within the project would likely be required to attenuate peak flows downstream. Post-project flows are required to be the estimated pre-development peak flow rate, less 10 percent of the difference between the estimated pre-development and post-development flow rates, and in no case are required to be less than 90 percent of the pre-project flows. Therefore, detention basins are proposed via added creek attenuation areas as part of the SVSP. The project proposes that adequate onsite storage would be incorporated on the property through minor grading of upland areas along the margins of Curry Creek. Alternative onsite storage options may also be evaluated. No structures would be placed within the creek except for the required road and bike trail crossings. In addition to detention, the SVSP area would participate with the City of Roseville in constructing a regional retention basin to mitigate total storm water runoff volume. The City of Roseville regional retention basin (Reason Farms) would be within the Pleasant Grove watershed, west of the SVSP on the Reasons Farm Property owned by the City.

Storm Drainage Facilities

Proposed onsite drainage improvements consist of a combination of conventional subsurface and surface drainage systems, including construction of pipe conveyance systems and construction of natural bottom culverts over creek and tributary crossings. Storm water would be discharged into natural drainage swales through outfalls and ultimately into open space corridors. Cobble aprons, grassy swales, mechanical filtration devices, low impact development (LID) concepts, and other best management practices (BMPs) would be used at pipe outfalls or other appropriate locations for water quality management and to convey storm water runoff to receiving waters while minimizing impacts to open space resources.

Drainage facilities would be designed and constructed in conformance with City of Roseville Improvement Standards and the Placer County Flood Control Agency's SWMM.

Runoff Water Quality Best Management Practices

The SVSP drainage system would include water quality BMPs to reduce the types and amounts of pollutants that may be carried in storm water runoff. These features may include the detention basins in the open space parcels, grassy swales and vegetated channels that can be used to remove pollutants by filtration, drainage filtration improvements, and onsite LID features. Mechanical filtration systems may be used in commercial, residential, and/or other areas where practical.

The specific water quality BMPs that may be used in the SVSP area will conform to the City of Roseville's Storm Water Quality Design Manual, which complies with federal and state water quality requirements. The SVSP area would manage storm water quality through an integrated approach to achieve effective storm water management. Control measures would consist of source control, runoff reduction, and treatment control.

3.6.4.5 Electrical Service

The proposed SVSP is within the service area of Pacific Gas & Electric (PG&E). If annexed, it is proposed that Roseville Electric would provide electric service to the SVSP area. Electricity would be supplied to the SVSP through existing and/or proposed facilities. Demand for electrical service in the SVSP is estimated to average 31 MVA per day, with a peak day demand of 67 MVA. An electric substation is proposed on a planned PQP-5 parcel, centrally located in the project site (east of West Side Drive and directly north and adjacent to the WAPA corridor). Overhead 60-kV transmission lines would run through the project site, extending south on the east side of West Side Drive to the planned electrical substation through a recorded 50-foot-wide power line easement, which includes a portion or all of a public utility easement and a landscape easement. The proposed 60-kV power line easement would then run east, paralleling the WAPA corridor and extending outside the SVSP, to connect to the existing Fiddyment Substation near the intersection of Pleasant Grove Boulevard and Fiddyment Road. Underground electrical distribution would be extended to individual parcels in conjunction with roadway improvements.

3.6.4.6 Street Lighting

Street lighting would be provided along all public roadways in the SVSP as part of the roadway frontage improvements at intervals in accordance with City standards. All electric and street light facilities would be constructed to the City's standards.

3.6.4.7 Natural Gas

PG&E would provide natural gas upon request and in accordance with the rules and tariffs of the California Public Utilities Commission. PG&E's long-range plans provide for availability of gas service to accommodate increased demand. Delivery of gas service to individual projects in the SVSP would be reviewed by PG&E when such individual proposals are made. Service would be provided to the SVSP from existing and planned infrastructure adjacent to the project site. PG&E maintains a 6-inch high-pressure gas main on the west side of Fiddyment Road. PG&E's existing facilities in Fiddyment Road may be extended to serve the project site. A high-pressure gas line is currently proposed to be extended on Baseline Road from the west to Fiddyment Road and then north to Pleasant Grove to connect with the Roseville Energy Park.

3.6.4.8 Communications

The SVSP is within the service areas of SureWest Communications, AT&T, Comcast, and WAVE. Together, these providers offer voice, video, and data communication services to all development within the plan area. Distribution lines to individual parcels would be extended from existing infrastructure adjacent to the plan area in accordance with the infrastructure Phasing Plan for dry utilities. The appropriate providers would deliver telephone, cable television, and high speed data line services to individual projects in the SVSP.

3.6.4.9 Solid Waste

The City of Roseville would provide solid waste services to the SVSP. Solid waste would be collected and delivered to the Western Placer Waste Management Authority (WPWMA) facility, northwest of the city at Athens and Fiddyment Roads. The WPWMA owns a Material Recovery Facility that receives, separates, processes, and markets recyclable materials removed from the waste stream. Residual waste is transferred to the WPWMA's Western Regional Sanitary Landfill on the same site.

A community solid waste recycling drop off area is planned within the SVSP on a planned P/QP parcel located in the western portion of the project site between Road "A" and Road "B." This parcel is also designated to accommodate the water treatment facility and one of the three onsite wells.

3.6.5 Resource Management

Resource Management is intended to ensure that the natural resources of the SVSP area are conserved and that the impacts associated with urban development are mitigated to the extent feasible. The plan area has been minimally disturbed through structural development, small agricultural operations, and associated grading activities. As a result, areas within open space corridors of natural habitat have the potential for wildlife diversity. Existing vegetation is dominated primarily by nonnative annual grasslands. Biological resources within the plan area include Curry Creek and its associated riparian habitat; wetland areas with aquatic habitat; native and nonnative trees; and various mammals, birds, and reptiles.

3.6.5.1 Curry Creek & Wetlands

The SVSP is situated within the Curry Creek watershed. In addition to Curry Creek, small swales and drainages throughout the SVSP carry water briefly during winter rainfall. Seasonal wetlands and seasonal wetland swales within the plan area are broad, gently sloping drainages. The vernal pools are topographic basins with an impermeable or semi-permeable soil layer that stays inundated during the wet season and can remain inundated until late spring or early summer. Outside of the creek and swales, vernal pools and seasonal wetlands are found primarily within grassland areas. Other seasonally wet areas occur in low-lying depressions and are wet long enough to support wetland vegetation, but do occur within swales or isolated basins. The wetland areas include habitat potentially suitable for certain federal and/or state special-status plant and wildlife species.

Wetland delineations show that 53.19 acres of waters of the United States are present on the proposed project site. Of the 53.19 acres, approximately 37.74 acres of waters of the United States would be affected by the proposed project. Offsite mitigation would be a substantial component of preservation of wetlands/waters of the United States. Development of the SVSP area will be subject to the appropriate approvals from the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and California Department of Fish and Game.

3.6.5.2 Wildlife and Vegetation

The predominant vegetation community within the SVSP is annual grassland dominated by nonnative naturalized Mediterranean grasses. In addition, other herbaceous species in the annual grassland community are present on site. Cultivated portions of the project site are dominated by wheat. Tree cover on site is limited to areas around rural residences and along drainages and fence lines. The ditches/canals, intermittent and perennial drainages, and perennial streams are largely unvegetated due to scouring during rain events. In areas where

vegetation has become established, the dominant species include creeping spikerush, Vasey's coyote thistle, soft rush, iris-leaf rush, and broad-leaf water plantain. Tree species along the edges of the intermittent and perennial drainages include blue gum.

Emergent marsh vegetation associated with Curry Creek is comprised of broad-leaf cattail, ryegrass, and hairy willow herb. Species composition in the riverine seasonal wetland, seasonal wetlands, and seasonal wetland swales vary according to the level of historic disturbance. Features with a higher level of disturbance (e.g., high-density cattle grazing) are dominated by nonnative species, such as ryegrass, mannagrass, and Mediterranean barley. Features with minimal disturbances are comprised of Carter's buttercup, hyssop loosestrife, toad rush, slender popcorn flower, and bractless hedgehyssop.

Scattered wetland features are dotted throughout the project site. Species composition in the vernal pools varies according to the level of grazing and farming activity. Vernal pools with a higher level of disturbance (e.g., high-density cattle grazing) are dominated by nonnative grasses including Mediterranean barley, mannagrass, and ryegrass. Vernal pools with minimal disturbances are comprised of predominantly native species, including slender popcorn flower, Vasey's coyote thistle, Carter's buttercup, bractless hedgehyssop, double-horn downingia, creeping spikerush, and annual hairgrass.

3.6.5.3 Cultural Resources

Eleven cultural resources have been identified on the project property. These consist of eight sites and three isolates. The eight sites include three refuse deposits (P-31-1255, CA-PLA-1898H, and CA-PLA-1989H), a site with two privies (CA-PLA-1900H), a farmstead with standing structures and associated dispersed material (CA-PLA-1897H), a house and barn foundation (CA-PLA-1988H), a windmill foundation (P-31-2873), and the WAPA transmission lines (P-31-3280). The three isolates are farm equipment (P-31-2876), a generator and well pump (P-31-2877), and a burned red brick fragment (P-31-2878). Each of these sites was evaluated for significance using the criteria for eligibility for inclusion in the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR). None of the 11 cultural resources within the project boundary appears to be eligible for inclusion in the NRHP or CRHR.

3.6.6 Offsite Improvements

Offsite utility improvements may include the extension of water, wastewater, storm drainage, and recycled water infrastructure, as well as dry utilities. Offsite circulation improvements, such as the widening of existing roadways and/or intersections within the city or Placer County, may be needed depending on the findings of the SVSP traffic study.

3.6.7 Public Services

3.6.7.1 Police Services

The Roseville Police Department would serve the SVSP. The Roseville Police Department provides all operations and patrols out of its central station on Junction Boulevard, approximately 3 miles from the eastern boundary of the project site. The SVSP would comply with Roseville Police Department recommendations regarding safety and security.

3.6.7.2 Fire Protection Services

The Roseville Fire Department would provide fire protection, fire suppression, emergency medical service, and hazardous materials management services to the SVSP.

A fire station site on a planned P/QP parcel is designated within the central portion of the SVSP along West Side Drive. This station would provide first response within the project site. Timing of construction and staffing of the fire station would be consistent with the Fire Department Standards of Response Coverage Study. Existing fire Stations #2 and #5, east of the project site, would provide interim and secondary response.

3.6.7.3 Schools

The proposed project includes several school sites to serve the residents of the SVSP. The SVSP is within the boundaries of three school districts: Center Unified School District (K-12), Roseville City School District (K-8), and Roseville Joint Union High School District (9-12). To meet the future demand for new schools generated by the residential development within the SVSP, four elementary school sites and one middle school site are provided on the land use plan. One of these four elementary schools is on a 10-acre site within the Roseville City School District in the northern portion of the SVSP. The remaining three elementary school sites (approximately 12 acres each), and an approximately 21-acre middle school are located within the Center Unified School District boundaries in the southern portion of the project site. All school sites are adjacent to neighborhood parks to maximize opportunities for joint use recreation facilities.

3.6.7.4 Libraries

The City operates a public library system that currently has three branches. With locations in the downtown Roseville area, Máidu Regional Park, and Mahany Park, these branches provide traditional library services to City residents. The Martha Riley Community Library in Mahany Park is coupled with a utility education center to provide services to the western portion of the City, including the SVSP.

4.0 Project Approvals

On March 29, 2007, a formal application for the proposed project was submitted to the City, initiating the City's official review process. It is anticipated that the following project approvals would be required of the City for the proposed project:

- SOI Amendment request to amend the City of Roseville SOI to include approximately 487 acres on the western and southern boundaries of the project site;
- Request for annexation to the City of Roseville;
- General Plan Amendment to update the General Plan from 2020 to 2025 and including amendment of the City's land use map, figures, and text;
- Development agreements;
- Pre-zoning of Annexation Area;
- Rezoning;

- Specific Plan;
- Specific Plan design guidelines;
- Tree permits;
- Large lot tentative map;
- Tentative subdivision maps (small lot);
- Utility service area annexation; and
- Potential amendments of public utility service area boundaries (PG&E, Pacific Bell, wastewater, Placer County Water Agency Zone 5 boundary, California Department of Forestry).

The EIR for the proposed project would address the approvals and entitlements required by the City. The EIR will also serve as the environmental document for the construction of required onsite and offsite public improvements, which may include roadways, bikeways, and trails; water, wastewater, recycled water, and storm drainage infrastructure; and dry utilities.

The EIR will analyze construction and operation of the proposed project on a project-specific level (CEQA Guidelines Section 15161). Any future residential projects that are consistent with the project could be considered exempt from further environmental review (Government Code Section 65457, CEQA Guidelines Section 15182). The project-level analysis in the EIR will also provide the basis for CEQA compliance for subsequent non residential approvals for the SVSP, such as tree permits, use permits, design review permits, and other discretionary permits issued by the City.

If the City Council approves the project, the applicants and the City will request Placer County LAFCO to amend the City's SOI and approve annexation of the project site into the City's corporate boundaries. Placer County LAFCO will use this EIR during its review of the annexation request and the SOI amendment request. Therefore, the EIR will address consistency with applicable LAFCO policies.

In addition to the above-described City approvals and entitlements, implementation of the project could require approval of the following permits from federal, state, and local agencies prior to construction. The list below is not inclusive, as additional permits may be identified during preparation of the EIR:

- U.S. Army Corps of Engineers Section 404 Permit to fill wetland areas;
- Department of Fish and Game Streambed Alteration Agreement for work in any water courses;
- State General Construction Activity Stormwater Permit, issued by the Regional Water Quality Control Board;
- Regional Water Quality Control Board permits related to the control of non-point source runoff pursuant to the National Pollutant Discharge Elimination System permit requirements, and approval for the recycled water deliveries for nonpotable use;

- Department of Health Services approval of groundwater extraction wells for potable use;
- Roseville Union School District and Center School District approvals for the construction of schools;
- U.S. Fish and Wildlife Service Section 7 Endangered Species Act Consultation; and
- Placer County Air Pollution Control District Fugitive Dust Prevention and Control Plan coordination.

Because the proposed project is a "project of statewide, regional, or area-wide significance," the project is subject to the requirements of Public Resources Code Section 21092.4, which requires a lead agency, such as the City, to consult with "transportation planning agencies and public agencies which have transportation facilities within their jurisdictions that could be affected by the project." For the proposed project, these other agencies would include, at a minimum: Placer, Sacramento, and Sutter Counties; Caltrans; Placer County Transportation Agency; the cities of Rocklin and Lincoln; and SACOG. For the purposes of Section 21092.4, "'transportation facilities' includes major local arterials and public transit within 5 miles of the project site and freeways, highways, and rail transit within 10 miles of the project site." Thus, although public agencies with such affected facilities may not have approval power over any aspect of the project, they are nevertheless entitled to offer input regarding how the EIR should address impacts on their transportation facilities, as defined.

5.0 Probable Environmental Effects and Scope of the EIR

The EIR for the proposed project will analyze the project-related impacts to resources in the project area within the following resource areas:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils and Seismicity
- Hazards, Hazardous Materials, and Public Safety
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population, Employment and Housing
- Public Services
- Recreation
- Transportation and Circulation
- Utilities and Service Systems

Climate change related to greenhouse gas emissions and water supply will be evaluated in the cumulative section of the EIR. The Initial Study attached to this NOP provides further description regarding potential impacts of the project to these resource areas.

6.0 Project Alternatives

As required by CEQA, the EIR will evaluate alternatives to the proposed project. As stated in Section 15126.6(c) of the CEQA Guidelines, the primary intent of the alternatives evaluation in an EIR is that "the range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." Although the effects of the proposed project have yet to be identified, significant impacts are expected to result from two aspects of the project: converting undeveloped agricultural land (which contains biological and other natural resources) to urban uses; and increasing the population and employment activity in the South Placer County area. Therefore, it can be anticipated that, at a minimum, the alternatives will address a no project alternative, a reduction in the amount of development, and a reduction in the amount of acreage that is converted.

7.0 Cumulative Analysis

As required by CEQA, the EIR will evaluate the cumulative impacts of the proposed project. As stated in CEQA Section 15065(a)(3), projects should be evaluated to determine whether the impacts are "cumulatively considerable," which means that the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of current projects, and the effects of probable future projects."

8.0 Previous Studies/Reports

The following documents that relate to the project have been prepared and are available for review at the Roseville Planning & Redevelopment Department (311 Vernon Street, Roseville, California, 95678):

1. Sierra Vista Specific Plan Feasibility Analysis (March 2007)
2. City of Roseville's 2020 Transportation System Capital Improvements Program (CIP) Update (current CIP, 2007)
3. West Roseville Specific Plan and Sphere of Influence Amendment Area Environmental Impact Report (approved 2004)

CITY OF ROSEVILLE CALIFORNIA

PLANNING & REVELOPMENT DEPARTMENT
311 Vernon Street, Roseville, CA 95678 (916) 774-5434

INITIAL STUDY & ENVIRONMENTAL CHECKLIST

Project Title/File Number	**Sierra Vista Specific Plan, Annexation, Sphere of Influence Amendment, and General Plan Amendment Project** **File numbers:** SPA-000024, DA-000029, GPA-000034, RZ-000037, ANN-000002
Project Location	West of Fiddyment Road, north of Baseline Road to approximately ½-mile west of the intersection of Watt Avenue, and south of the West Roseville Specific Plan
Project Applicant	Sierra Vista Landowner Group
Lead Agency Contact Person	Kathy Pease, Senior Planner Planning & Redevelopment Department
Phone Number	(916) 774-5434

This initial study has been prepared to identify the anticipated environmental impacts of the above described project application. The document relies on previous environmental documents and site-specific studies prepared to address in detail the effects or impacts associated with the project.

This document has been prepared pursuant to the California Environmental Quality Act (CEQA), (Public Resources Code, Section 21000 et seq.) and the State CEQA Guidelines (14 CCR 15000 et seq.).

In reviewing the information provided for this project, the City of Roseville has analyzed the potential environmental impacts created by this project and determined that at least one impact is considered to be potentially significant. Therefore, **on the basis of the following initial evaluation,** we find that the proposed project **may** have a significant effect on the environment, and an **Environmental Impact Report** will be required.

Prepared by: Kathy Pease Date: March 28, 2008
Kathy Pease, AICP,
Senior Planner

Project Description

The Sierra Vista Specific Plan (SVSP) is a proposed development project encompassing approximately 2,178 acres in western Placer County (the County). Approximately 1,691 acres of the site are located within the City of Roseville's Sphere of Influence (SOI) and within an area subject to a Memorandum of Understanding (MOU) with Placer County. The remaining 487 acres of the project site are situated west of the City's MOU Transition Area and SOI. The site encompasses twelve different properties under separate land ownership. Current land uses include approximately four large-lot, single-family residences generally located in the central and southwestern portion of the project site, as well as other smaller structures associated with ongoing dry farming agricultural production activities along Baseline Road. Two small areas of the project site are currently in use as strawberry fields.

The Applicant is proposing to develop the site for residential, commercial, office, public/quasi-public (schools, fire stations, etc.), and open space uses, and parks, as well as urban reserves. In addition, the proposed project would include roads and infrastructure needed to serve these uses. The Notice of Preparation provides further details on the proposed project description.

City of Roseville Mitigating Ordinances, Guidelines, and Standards

CEQA allows the use of uniformly applied, previously adopted development policies or standards as mitigation for the environmental effects of future projects when those standards have been adopted by the City, with findings based on substantial evidence that the policies or standards will substantially mitigate environmental effects. The City's Zoning Ordinance, Noise Ordinance, Flood Damage Prevention Ordinance, Construction Standards, Improvement Standards, Tree Ordinance, Subdivision Ordinance, and Community and Specific Plan Design Guidelines include standards and policies that are uniformly applied to development projects throughout the City. In March 2003, the City of Roseville adopted Findings of Fact confirming that certain environmental impacts for the following issue areas are mitigated by the uniform application of the above ordinances, guidelines, and standards (Resolution 03-169):

- Flooding
- Urban Form/Aesthetics
- Tree Impacts
- Cultural Resources Impacts
- Hazards/Hazardous Materials
- Water Quality
- Drainage
- Traffic

The City's mitigating ordinances, guidelines and standards are referenced, where applicable, in this Initial Study Checklist. They will be considered in the full environmental review to be conducted for the proposed project, but are not intended to limit the scope of such environmental review.

Initial Study Checklist

The initial study checklist recommended by the CEQA Guidelines is used to describe the potential impacts of the proposed project on the environment.

I. Aesthetics

Would the project:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	X			
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	X			

Discussion:

a, b) No formally designated scenic vistas or scenic highways are within or adjacent to the project site. Therefore, the proposed project is expected to have a less-than-significant impact on these resources.

c, d) The proposed project would result in development of an area that is currently rural. This development will change the visual character of the area and increase the amount of light and glare in the area. Therefore, these impacts are considered potentially significant and will be evaluated in the EIR. The EIR will include a visual analysis to identify, map, and photo-document key scenic features and important view corridors in the existing landscape, and identify potentially sensitive offsite viewing locations. Conceptual simulations will be developed for the proposed project from key sensitive viewpoints. Using the simulations, the EIR will evaluate aesthetic impacts from the proposed project on existing conditions and identify mitigation measures, if feasible and if needed, to minimize these impacts.

II. Agricultural Resources

Would the project:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?	X			
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	X			
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use?	X			

Discussion:

a, c) The project site does not include any Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Grazing Land as shown in the Farmland Mapping and Monitoring Program prepared by the California Department of Conservation – Division of Land Resource Protection. However, the project site does contain Farmland of Local Importance, and the project site has supported agricultural activities in the past, including dry farming as well as periods of irrigated rice farming. Currently, the majority of the site is not actively farmed, with the exception of two small strawberry fields near the northwestern corner of the intersection of Baseline Road and Fiddyment Road.

The California Department of Conservation categorizes soils by their potential use as agricultural land. Farmland of Local Importance comprises farmlands not covered by the categories of Prime, Statewide Importance, or Unique. They include lands zoned for agriculture, dry farmed lands, irrigated pasture, and other agricultural lands of economic importance or that have a potential for irrigation.

The project would change existing land in the study area to nonagricultural uses, including residential, commercial, office, public/quasi-public, parks, open space, and urban reserves. Therefore, impacts from the proposed project are considered potentially significant and will be evaluated in the EIR.

b) None of the properties located within the project area are encumbered by a California Land Conservation Act (Williamson Act) contract. However, the project site currently has two applicable Placer County zoning designations, which are Farm-Building-Site-20 acre minimum and Farm-Building-Site-80 acre minimum. The proposed project may conflict with this zoning of the project area, and therefore, impacts from the proposed project are considered potentially significant and will be evaluated in the EIR. For additional discussion of designated land use and zoning consistency, please refer to Section IX, Land Use and Planning, part (b), of this Initial Study.

III. Air Quality

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

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	X			
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	X			
c) Result in a cumulatively considerable net increase of any criteria for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	X			
d) Expose sensitive receptors to substantial pollutant concentrations?	X			
e) Create objectionable odors affecting a substantial number of people?	X			

Discussion:

a, b) The City of Roseville is located in southern Placer County within the Sacramento Valley Air Basin (SVAB). Under the California Clean Air Act, the SVAB has been designated as a nonattainment area for ozone and PM_{10} (particulate matter less than 10 microns in diameter). Under the federal Clean Air Act, the SVAB is designated as a "serious" nonattainment for ozone, and South Placer County is in attainment for the federal PM_{10} standards. The Placer County Air Pollution Control District (APCD) is responsible for administration of air quality standards.

The City of Roseville, along with the South Placer County area, is located in the Sacramento Air Quality Maintenance Area (SAQMA). The Sacramento Area Council of Governments (SACOG), in conjunction with SAQMA air quality management districts and the California Air Resources Board, developed the SAQMA portion of the State Implementation Plan (SIP). The SIP is required to demonstrate how the SAQMA will meet the standards of the federal Clean Air Act. The U.S. EPA approved the SIP in 1996, and the SAQMA has since been operating under the SIP control measures.

The proposed project would produce air pollutant emissions during construction and after buildout of the proposed project. Construction emissions would be generated from construction equipment, worker vehicle exhaust, and fugitive dust generated from grading activities. Operational emissions would include vehicle trips generated by the project, consumer products, natural gas emissions from water and space heating, and fireplaces. Construction and operational emissions from the proposed project would increase the emissions inventory in the SVAB, which is currently designated as a nonattainment area per state and federal ozone standards as well as a nonattainment area for PM_{10} per state standards. Therefore, impacts from the proposed project are considered potentially significant and will be evaluated in the EIR.

Construction and operational air pollutant emissions will be modeled as part of the EIR analyses. The model will analyze fugitive and exhaust emissions during construction and mobile, stationary, and area sources during operations. These projected emissions will then be compared to the Federal Ambient Air Quality Standards, California Ambient Air Quality Standards, and the local thresholds established by the Placer County APCD. Although feasible mitigation measures will be presented to reduce emissions, it is anticipated that emissions resulting from the proposed project may exceed the significance thresholds of the Placer County APCD.

c) Cumulative construction and operational emissions from all projects within Placer County would exceed Placer County APCD's significance thresholds due to the large number of projects that could be under construction simultaneously. The implementation of all feasible and applicable control measures would reduce emissions as much as possible during construction activities. However, construction activities would still generate unavoidable, temporary increases in the nonattainment pollutants and their precursors on air quality. Because the air basin is designated as a nonattainment area for certain pollutants, any incremental addition would be considered cumulatively considerable, and therefore, significant.

Operations of the proposed project could also result in cumulatively considerable air quality impacts due to the increase in stationary and mobile source emissions. These impacts could also result in effects on climate change. For example, typical greenhouse gases such as carbon dioxide, ozone-depleting substances, and methane would be emitted from mobile sources (i.e., vehicles) and area sources (e.g., air conditioning systems).

Based on potential cumulatively considerable impacts to air quality from construction and operations of the proposed project, this impact will be evaluated in the EIR. Although feasible mitigation measures will be presented to reduce emissions, it is anticipated that construction and operations will generate unavoidable short-term and long-term increases in the nonattainment pollutants and their precursors on air quality.

d) The project site is primarily undeveloped, and no existing stationary (industrial) sources of substantial concentrations of pollutants are located on or adjacent to the site. However, there may be the potential for certain sensitive receptors to be exposed to emissions generated after buildout of the proposed project, such as high-volume traffic corridors. Therefore, this impact is considered potentially significant and will be evaluated in the EIR.

The EIR will present modeling results that demonstrate whether or not the proposed project would create carbon monoxide (CO) hot spots at certain intersections. The evaluation will include identification of major nearby sources of emissions, including potential major truck routes that would be a source of diesel emissions. Feasible mitigation measures will be identified, if necessary, to provide an appropriate separation of sensitive receptors from major sources of air pollutants.

e) Current project data reveal that the project does not include development of typical sources of objectionable odors (e.g., wastewater treatment, manufacturing, landfill, etc.). However, the potential exists that offsite sources of odor present in the area could impact the proposed sensitive receptors, such as residences. Therefore, this impact is considered potentially significant and will be evaluated in the EIR. Odor impacts will be evaluated by collecting information on existing odor complaints in the area and examining distances from odor sources to potential sensitive receptors. The results of this evaluation will be presented in the EIR.

IV. Biological Resources

Would the project:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	X			
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	X			
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	X			
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	X			
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	X			

Discussion:

a) Development of the proposed project may disturb habitat for special-status species, including Swainson's hawk, other legally protected raptors, burrowing owls, western spadefoot, and may result in the disturbance or loss of habitat for vernal pool crustaceans, some of which are federally listed species. Table 1 lists the special-status species that could be impacted by the proposed project. Therefore, the impacts from the proposed project are considered potentially significant and will be evaluated in the EIR. Mitigation measures such as preconstruction surveys, onsite avoidance, and offsite preservation will be identified and analyzed in the EIR. To comply with the National Environmental Policy Act (NEPA), the U.S. Army Corps of Engineers has decided to prepare a separate Environmental Impact Statement for the proposed project to assess the potential impacts to waters of the United States.

Table 1
Special-Status Species that Could Occur in the Study Area

Species	Federal	State	CNPS	Habitat	Potential for Occurrence
Plants					
Big-scale balsam-root *Balsamorhiza macrolepis macrolepis*	—	—	List 1B.2	Cismontane woodland; valley and foothill grassland	Unlikely. Disturbance may preclude this species.
Dwarf downingia *Downingia pusilla*	—	—	List 2.2	Valley and foothill grassland; vernal pools	Occurs. Found at several locations during surveys.
Bogg's Lake hedge-hyssop *Gratiola heterosepala*	—	CE	List 1B.2	Vernal pools	Possible. Marginal habitat is present.
Rose mallow *Hibiscus lasiocarpus*	—	—	List 2.2	Marshes and swamps (freshwater).	Possible. Marginal habitat is present.
Ahart's dwarf rush *Juncus leiospermus ahartii*	—	—	List 1B.2	Vernal pools	Possible. Suitable habitat is present.
Red Bluff dwarf rush *Juncus leiospermus leiospermus*	—	—	List 1B.1	Vernal pools and seasonal wetlands	Unlikely. Nearest known occurrence is considered to be a misidentification (CDFG, 2007).
Legenere *Legenere limosa*	—	—	List 1B.1	Vernal pools and seasonal wetlands	Possible. Marginal habitat is present.
Pincushion navarretia *Navarretia myersii myersii*	—	—	List 1B.1	Vernal pools	Possible. Suitable habitat is present.
Slender Orcutt grass *Orcuttia tenuis*	FT	CE	List 1B.1	Vernal pools	Unlikely. Marginal habitat occurs in the study area. Prefers larger, deeper pools. Not known from Placer County.
Sacramento Valley Orcutt grass *Orcuttia viscida*	FE	CE	List 1B.1	Vernal pools	Unlikely. Marginal habitat occurs in the study area. Prefers larger, deeper pools. Not known from Placer County.
Sanford's arrowhead *Sagittaria sanfordii*	—	—	List 1B.2	Marshes, swamps, and other wetlands	Possible. Suitable habitat is present along streams.
Invertebrates					
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	—	—	Vernal pools, swales, seasonal wetlands	Occurs. Observed by ECORP during 2005-2006 wet season surveys (ECORP, 2006a).

Table 1
Special-Status Species that Could Occur in the Study Area
(Continued)

Species	Federal	State	CNPS	Habitat	Potential for Occurrence
Conservancy fairy shrimp *Branchinecta conservatio*	FE	—	—	Vernal pools, swales, seasonal wetlands	Possible. Recently detected in western Placer County (USFWS, 2007).
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	—	—	Vernal pools, swales, seasonal wetlands	Unlikely. Not detected in surveys.
Amphibians					
California tiger salamander *Ambystoma californiense*	FT	CSC	—	Vernal pools, vernal pool grasslands, ponds	Unlikely. Not detected during branchiopod or spadefoot surveys (ECORP, 2006a; 2006b).
California red-legged frog *Rana aurora draytonii*	FT	CSC	—	Deeper pools and streams with emergent or overhanging vegetation	Unlikely. Marginally suitable habitat within study area.
Western spadefoot *Spea hammondii*	—	CSC	—	Vernal pools	Possible. Not detected during surveys (ECORP, 2006b); however, suitable habitat in study area and known from nearby locations.
Giant garter snake *Thamnophis gigas*	FT	CT	—	Streams, irrigation channels, seasonal wetlands	Unlikely. Marginally suitable habitat in study area.
Reptiles					
Western pond turtle *Clemmys marmorata*	—	CSC	—	Ponds, marshes, river, streams and ditches with basking sites and vegetation.	Unlikely. Marginally suitable habitat in study area.
Birds					
Tricolored blackbird *Agelaius tricolor*	—	CSC	—	Open water areas with tall emergent vegetation or in willow and blackberry thickets	Possible. Suitable habitat in study area.
Great egret (rookery) *Ardea alba*	—	*	—	Colonial nester in tall trees	Possible. Suitable rookery habitat occurs in the study area.
Great blue heron (rookery) *Ardea herodias*	—	*	—	Colonial nester in tall trees	Possible. Suitable rookery habitat occurs in the study area.

Table 1
Special-Status Species that Could Occur in the Study Area
(Continued)

Species	Federal	State	CNPS	Habitat	Potential for Occurrence
Burrowing owl *Athene cunicularia*	—	CSC	—	Grasslands, agricultural lands	Occurs. Found wintering in the study area on one occasion.
Swainson's hawk *Buteo swainsoni*	—	CT	—	Grasslands, agricultural lands	Occurs. Observed nesting in the 200-acre addition (2007)
Ferruginous hawk *Buteo regalis*	—	CSC	—	Grasslands, agricultural lands	Likely – winter only.
Northern harrier *Circus cyaneus*	—	CSC	—	Grasslands, seasonal wetlands, agricultural lands	Occurs. Observed foraging in the study area (2007).
Snowy egret (rookery) *Egretta thula*	—	*	—	Colonial nester in dense tules	Possible. Suitable rookery habitat occurs in the study area.
White-tailed kite *Elanus leucurus*	—	CFP	–	Open grassland, meadows, and farmlands. Nests in tall trees near foraging areas	Occurs. Possible nest observed in the 200-acre addition (2007).
Greater sandhill crane *Grus canadensis tabida*	FT	—	—	Seasonal wetlands, irrigated pastures, alfalfa and corn fields	Unlikely. Marginally suitable habitat in the study area.
Loggerhead shrike *Lanius ludovicianus*	—	CSC	—	Grasslands, pastures, agricultural lands	Occurs. Observed foraging in the study area (2007).
California black rail *Laterallus jamaicensis coturniculus*		CT	—	Marsh	Unlikely. Marginally suitable habitat in study area.
Long-billed curlew *Numenius americanus*		CSC		Grasslands, pastures	Possible. Suitable wintering habitat in study area.
Black-crowned night-heron (rookery) *Nycticorax nycticorax*	—	*	—	Colonial nester in trees and sometimes tule patches.	Possible. Suitable rookery habitat occurs in the study area.
Mammals					
Pallid bat *Antrozous pallidus*	—	CSC	—	Shrublands, grasslands, woodlands, forests; rocky areas, caves, mines, hollow trees for roosting.	Possible for foraging, unlikely for roosting.
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	—	CSC	—	Most low to mid-elevation habitats; caves, mines, and buildings for roosting.	Possible for foraging, unlikely for roosting.

Table 1
Special-Status Species that Could Occur in the Study Area
(Continued)

Species	Federal	State	CNPS	Habitat	Potential for Occurrence
Yuma myotis *Myotis yumanensis*	—	CSC	—	Forests and woodlands; caves, mines, and buildings for roosting	Possible for foraging, unlikely for roosting.

Source: North Fork Associates, 2007, *Biological Resource Assessment for Sierra Vista Specific Plan Project*

Status Codes:

Federal	FE	Federal Endangered
	FT	Federal Threatened
	FP	Federal Proposed Species
State	CE	California Endangered
	CT	California Threatened
	CR	California Rare (plants only)
	CSC	California Species of Concern
	CFP	California Fully Protected
	*	Rookeries are tracked and of special interest to CDFG
CNPS	List 1B	Rare or Endangered in California
	List 2	R and E in California, more common elsewhere
	1 – Seriously endangered in California	
	2 – Fairly endangered in California	

Definitions for the Potential to Occur:

- **None.** Habitat does not occur.
- **Unlikely.** Some habitat may occur, but disturbance or other activities may restrict or eliminate the possibility of the species occurring. Habitat may be very marginal, or the study area may be outside the range of the species.
- **Possible.** Marginal to suitable habitat occurs, and the study area occurs within the range of the species.
- **Likely.** Good habitat occurs, but the species was not observed during surveys.
- **Occurs:** Species was observed during surveys.

b, c) Curry Creek, a perennial stream, seasonal wetland swales, and seasonal wetlands are located throughout the site. Proposed development could adversely affect Curry Creek and associated riparian vegetation, and could result in fill to federally regulated wetlands. Therefore, the proposed project would result in potentially significant impacts to riparian and vernal pool habitat identified by the California Department of Fish and Game (DFG) or U.S. Fish and Wildlife Service (USFWS) and federally protected wetlands; this impact will be evaluated in the EIR.

A Clean Water Act Section 404 permit application has been submitted to the U.S. Army Corps of Engineers. A separate Environmental Impact Statement under NEPA will be prepared for the proposed project to meet the U.S. Army Corps of Engineers Section 404(b)(1) guidelines with respect to the federal analysis required to analyze the impacts on waters of the United States.

Feasible mitigation measures will be presented and analyzed in the EIR (and the EIS) to reduce these impacts, including agency consultation and compliance with agency permitting requirements. Although impacts to biological resources may be reduced with mitigation, some impacts may remain significant and unavoidable.

d) The perennial drainage and seasonal wetlands and drainages located within the project area are expected to support both aquatic and semi-aquatic species. The aquatic habitat of Curry Creek is expected to support bullfrogs, mosquitofish, and possibly other nonnative warm water fish species. However, no anadromous (migratory) fish or resident cold water fish species are expected to occur in Curry Creek or other drainages of the project area (as indicated in the 2002 West Roseville Specific Plan and Sphere of Influence Amendment Area EIR). Nevertheless, the proposed project could impact resident and migratory bird species and other resident wildlife. Therefore, this impact is considered potentially significant and will be evaluated in the EIR.

e) The Roseville Municipal Code, Title 19, Zoning, contains a section on tree preservation (Article IV). The code protects native oak trees that have a diameter of 6 inches or more at breast height (dbh). A permit is required for any activity that would harm, destroy, kill, or remove a protected tree within a protected zone. The replacement of trees in kind, relocation of trees, revegetation, or an In-Lieu Mitigation fee is required.

Surveys indicate that approximately 90 trees are present on the site, five of which are oak trees regulated by the City's Tree Ordinance. Implementation of the proposed project is expected to result in the removal of trees for development of the land use plan as well as roadway and other infrastructure improvements. Therefore, impacts are considered potentially significant and will be evaluated in the EIR. If trees need to be removed, an In-Lieu Mitigation fee would be paid, or the trees would need to be replaced in kind pursuant to the City's zoning ordinance. It is anticipated that compliance with the Roseville tree preservation policies will reduced the impacts to a less-than-significant level.

f) There are no existing conservation plans. However, Placer County is currently developing the Placer County Conservation Plan (PCCP). Therefore, this impact is considered potentially significant and will be evaluated in the EIR. It is expected that a mitigation plan will be developed for the proposed project which is consistent with, and complements, the proposed PCCP. The EIR will analyze the consistency of the proposed project with the County's proposed PCCP. However, since the PCCP is not approved and may not be approved by the time the proposed project is through environmental review, ultimate consistency with the PCCP may be undeterminable.

V. Cultural Resources

Would the project:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historic resource as defined in Section 15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		
d) Disturb any human remains, including those interred outside of formal cemeteries?		X		

Discussion:

a,b,d) Eleven cultural resources have been identified on the project property—eight sites and three isolates. The eight sites are three refuse deposits (P-31-1255, CA-PLA-1898H, and CA-PLA-1989H), a site with two privies (CA-PLA-1900H), a farmstead with standing structures and associated dispersed material (CA-PLA-1897H), a house and barn foundation (CA-PLA-1988H), a windmill foundation (P-31-2873), and the Western Area Power Administration (WAPA) transmission lines (P-31-3280). The three isolates are farm equipment (P-31-2876), a generator and well pump (P-31-2877), and a burned red brick

fragment (P-31-2878). Each of these sites was evaluated for significance using the criteria for eligibility for inclusion in the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR). None of the 11 cultural resources within the project boundary appears to be eligible for inclusion in the NRHP or CRHR.

Construction activities could result in the discovery of potentially significant cultural resources that could be inadvertently exposed during grading or excavation activities. The City of Roseville's Mitigating Policies and Standards include Construction Standards (Resolution 01-208) to prevent impacts to cultural resources. The proposed project would be constructed in compliance with these standards. The Construction Standards requires a contractor to halt construction if signs of an archaeological site are discovered: "work shall be halted, and the Community Development Department notified. A qualified archaeologist shall be notified, and additional mitigation may be required." Therefore, impacts to these resources are considered potentially significant and will be evaluated in the EIR. It is anticipated that the EIR will identify mitigation measures, if feasible and if needed, to minimize these impacts.

c) With regard to paleontological resources, the sediments on the project site referable to both the Riverbank and Turlock Lake Formations have yielded scientifically significant fossils in the past. Construction activities could result in the discovery of potentially significant paleontological resources that could be inadvertently exposed during grading or excavation activities. Therefore, impacts to paleontological resources are considered potentially significant and will be evaluated in the EIR. It is anticipated that the EIR will identify mitigation measures, if feasible and if needed, to minimize these impacts.

VI. Geology and Soils

Would the project:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)			X	
ii) Strong seismic groundshaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?		X		
c) Be located in a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			X	

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X

Discussion:

a) The proposed project would result in construction activities and the placement of fill, buildings, and infrastructure on the project site. Given the location, the proposed project is not expected to expose people or structures to potential substantial adverse effects involving seismic shaking, ground failure, or landslides. This finding is further described below:

i–iii) The project area is in southwestern Placer County. The California Geological Survey (CGS) classifies the South Placer area as a low-severity earthquake zone. No active faults are known to exist within the County. The project area is considered to have low seismic risk with respect to faulting, groundshaking, seismically related ground failure, and liquefaction. The Uniform Building Code (UBC) and California Building Bode (CBC) for seismic safety include standards for roadway improvements and construction. The proposed project would be constructed in compliance with the UBC and CBC, which include seismic standards to protect the public and reduce the risk of roadway damage or collapse. Therefore, these impacts are expected to be less than significant.

iv) Landslides due to slope instability do not typically occur in the project vicinity. The topography is relatively flat. The proposed project construction would comply with the City of Roseville's Design/Construction Standards and Improvement Standards. In the grading sections of these standards, a site-specific geotechnical report and an erosion and sedimentation plan are required to be prepared. In addition, the UBC outlines site development standards for the protection of slopes. The proposed project would minimize the potential of landslides by implementing state and local regulations for grading and slope stabilization. Therefore, the impact is expected to be less than significant.

b) The proposed project includes conversion of undeveloped and agricultural land to a mix of residential, commercial, office, public/quasi-public, open space, and urban reserve uses. and parks. During construction of the proposed project, disturbed areas may be subject to soil erosion. Therefore, this impact is considered potentially significant and will be evaluated in the EIR. It is anticipated that mitigation measures, if needed, will be identified to reduce these impacts to a less-than-significant level. For example, the City has established protocols for construction projects to minimize soil erosion or loss of topsoil. Any exposed soils from the construction phase of the proposed project would need to be covered by landscaping and semi-impervious and/or impervious surfaces, which would minimize soil erosion.

c–d) The proposed project is not located in a sensitive geologic area and the City of Roseville area does not typically experience subsidence. Evaluation of the soils on site indicates that they are capable of supporting residential, commercial and retail structures, industrial buildings and schools, provided that the near-surface soils are properly compacted and engineered fill is placed and compacted during earthwork. The proposed project would comply with the Design/Construction Standards and Improvement Standards to reduce impacts related to soil, including on or offsite landslides, lateral spreading, subsidence, liquefaction, collapse, or expansive soils. Based on these factors, these impacts would be considered less than significant.

e) The proposed project would not require construction of new wastewater disposal systems on the project site; wastewater would be conveyed to the Pleasant Grove Wastewater Treatment Plant. Therefore, no impact is anticipated from the proposed project.

VII. Hazards and Hazardous Materials

Would the project:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?		X		
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?		X		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?		X		
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing in the project area?				X

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?		X		
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?		X		

Discussion:

a, b) Hazardous materials would be used, stored, and transported during both construction and operations of the proposed project. Hazardous materials used during construction could include diesel fuel, paints, solvents, gasoline, motor oil, and grease. For operations, the proposed project includes residential, commercial, office, public/quasi-public, and open space land uses, and parks. Public/quasi-public facilities would include a fire station, a church site, an electric substation, three groundwater wells, a water treatment facility, a recycled water distribution facility, a solid waste recycling site, and four elementary schools, and one middle school. Hazardous materials may be used, stored, and transported in association with the electric substation and water treatment facility. In addition, small to moderate quantities of hazardous materials may also be used by residences and commercial businesses (such as pesticides or cleaning agents), and household hazardous waste may be generated on the site.

Although Best Management Practices (BMPs) would be implemented for construction and operation activities to minimize the risks to the environment and public health, this impact is considered potentially significant and will be evaluated in the EIR. It is anticipated that mitigation measures will be identified, if feasible and if needed, to reduce these impacts to a less-than-significant level.

c) Four elementary schools and one middle school are proposed as a part of this project. In addition, Coyote Ridge Elementary School is within one-quarter mile of the proposed project site. Therefore, hazardous materials will be used during construction of the proposed project within one-quarter mile of an existing school. In addition, land uses which may introduce the use of hazardous materials (i.e., water treatment facility) may be located within one-quarter mile of a proposed school. During operations, WAPA and Sacramento Municipal Utility District have a combined 375-foot-wide easement (WAPA corridor) that generally extends in an east-west direction through the center of the project site. In addition, a 50-foot north-south trending electrical easement runs through the center of the site. These easements contain multiple high-tension power lines and associated towers. California Code of Regulation requires that new school site be located at least 100 feet from the transmission line right-of-way for 50-133 kV lines, 150 feet for 220-230 kV lines, and 350 feet for 500-550 kV lines. These distances are required because the strength of the electromagnetic fields (EMFs) decreases to approximately background levels. Because the existing school is within one-quarter mile of the project site, as would the schools proposed as part of the project, this impact is considered potentially significant and will be evaluated in the EIR. It is anticipated that mitigation

measures will be identified, if feasible and if needed, to reduce these impacts to a less-than-significant level.

d) The site has historically been used for farming and residential uses. Phase I Environmental Site Assessments (ESAs) of the project site indicate that generally there is no evidence of significant contamination on the project site, nor are state or federally listed hazardous materials sites within the project boundaries. The Phase I ESAs identified a few issues of concern: debris piles, soil stains, abandoned wells, old structures on site that might contain asbestos or lead-based paints, and abandoned septic systems. The Phase I ESAs recommended that the structures, debris, and stained soils be removed and properly disposed. Therefore, impacts are considered potentially significant and will be evaluated in the EIR. It is anticipated that mitigation measures will be identified, if feasible and if needed, to reduce these impacts to a less-than-significant level.

e) The proposed project is currently not within an airport land use compatibility plan (ALUCP), and would not result in a safety hazard to the surrounding airports (Sacramento International Airport, Rio Linda Airport, and McClellan). However, it is noted that the project area is within an area subject to overflights associated with McClellan Air Field. The Sacramento Area Council of Governments (SACOG) is currently in the process of updating the ALUCP for McClellan. Therefore, impacts are considered potentially significant and will be evaluated in the EIR. The EIR will address land use and potential noise compatibility impacts associated with the overflights. It is anticipated that mitigation measures will be identified, if feasible and if needed, to reduce these impacts to a less-than-significant level.

f) No private airstrips are within the vicinity of the proposed project. Therefore, no impacts are expected from the proposed project.

g) The proposed project is not expected to interfere with emergency response or evacuation plans. The project would be designed to facilitate emergency traffic. During construction, emergency routes would remain open and emergency response plans would not be affected. Even so, increased traffic from the project could affect the ability of emergency providers to travel to locations where emergencies are occurring, and for that reason this issue will be addressed in the EIR.

h) City of Roseville's wildfire hazard is rated as moderate by the California Department of Forestry and Fire Protection (CDF) Fire and Resource Assessment Program. Wildfire risks to the City of Roseville are generally from grassland fires that spread to urban areas. The project site is comprised largely of grassland. Construction activities could introduce wildland fires through the use of flammable materials or idling equipment on the project site. For operations, although some risk exists that the project site might be susceptible to a wildland fire, the proposed project would not create a use that would intensify this risk. The operations and maintenance plan for the open space areas will identify a mowed strip at least 50 feet wide to reduce brush adjacent to structures. Although project operations are not expected to result in significant impacts, this impact is considered potentially significant based on construction activities, and will be evaluated in the EIR. It is anticipated that mitigation measures will be identified, if feasible and if needed, to reduce these impacts to a less-than-significant level.

VIII. Hydrology and Water Quality

Would the project:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?		X		
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?		X		
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?		X		
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?		X		
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted water?		X		
f) Otherwise substantially degrade water quality?		X		
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?		X		
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X

Discussion:

a, f) The proposed project includes conversion of undeveloped and agricultural land to a mix of residential, commercial, office, public/quasi-public, open space, and urban reserve uses, and parks. Construction will require substantial site clearing and grading for building sites and the necessary infrastructure. This disturbance may result in soil erosion, which could increase sediment loads in stormwater runoff. Therefore, this impact is considered potentially significant and will be evaluated in the EIR. As will be discussed in the EIR, the City will comply with the requirements, mitigation measures, and BMPs of the applicable local, state, and federal regulations intended to protect water quality and control the quality and quantity of storm water runoff from construction sites and new developments as summarized below:

- State of California's General Permit for Construction Storm Water Discharges. Stormwater discharges from activities such as grading and stockpiling are regulated under this permit. This would require the City to file a Notice of Intent (NOI) with the Central Valley Regional Water Quality Control Board for construction projects disturbing one acre or more. A Stormwater Pollution Prevention Plan (SWPPP) would be filed as part of the NOI, as required. The SWPPP would address water pollution control measures and outline BMPs such as erosion controls, sediment controls, nonstormwater runoff controls, and waste management controls.

- City's Grading Ordinance and Stormwater Ordinance. These regulations stipulate that appropriate erosion control measures be implemented to reduce sedimentation within any creek systems. The Grading Ordinance requires prompt revegetation of disturbed areas, avoidance of grading activities during wet weather, and avoidance of disturbance within drainageways as well as other erosion and sedimentation control measures. A Grading Plan is required where grading or stockpiling would degrade important natural features (e.g., removal of or damage of native oak trees) or result in the excavation or placement of fill within any channel or tributary that would convey stormwater with a flow of 200 cubic feet per second or more for a 10-year event.

- U.S. EPA stormwater management regulations as enforced by the State Water Resources Control Board. These regulations include requirements under the City's National Pollutant Discharge Elimination System (NPDES) permit (No. CAS000004). Under this permit, the City is required to regulate the entry of pollutants and non-stormwater discharges into the City stormwater conveyance system.

- City's Urban Stormwater Quality Management and Discharge Control Ordinance. This ordinance stipulates that the City will establish requirements identifying BMPs for any activity, operation, or facility that may cause or contribute to pollution or contamination of stormwater, the storm drain system, or waters of the United States. The BMPs are promulgated to control the volume, rate, and potential pollutant load of stormwater runoff from new development projects as may be appropriate to minimize the generation, transport, and discharge of pollutants.

It is anticipated that feasible mitigation measures consistent with established local and state regulations regarding construction and operational discharge requirements will be identified in the EIR to reduce these impacts to less-than-significant levels.

b) The proposed project would result in an increase in the impervious surface area of the site. Increase in impervious surface area can interfere with the ability of water to infiltrate the soil and recharge groundwater sources. In addition, three onsite injection/extraction groundwater wells are proposed as part of the water infrastructure system. These wells would provide the City with an emergency water supply during dry years or during fire flows, and allow for the eventual use of an Aquifer Storage and Recovery Project. Based on these factors, impacts to groundwater supplies and groundwater recharge are considered potentially significant and will be evaluated in the EIR. It is anticipated that feasible mitigation measures, if needed, will be identified in the EIR to reduce these impacts to a less-than-significant level.

c) Construction of the proposed project includes development of previously undeveloped areas, potentially impacting a perennial stream (Curry Creek), seasonal wetland swales and seasonal wetlands (see IV., Biology, (b)). The potential direct impacts to these water resources due to construction activities and the long-term increase in impervious cover on the site would result in alteration of the existing drainage patterns of the site. These alterations could result in substantial erosion both on and off the site. Placement of permanent or temporary fill in waters of the United States is regulated by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act. The project could result in potential temporary and permanent impacts to non-wetland waters of the United States due to placement of fill and or culverts. Based on these factors, this impact is considered potentially significant and will be evaluated in the EIR. It is anticipated that feasible mitigation measures will be identified in the EIR to reduce these impacts to a less-than-significant level.

d) Project-related construction and operational activities would result in the alteration of the existing drainage pattern of the site, which could substantially increase the amount of stormwater runoff from the site. The proposed project would include onsite detention facilities to mitigate for increases in stormwater peak flow rates, in accordance with the Placer County Stormwater Management Manual. In addition to the detention facilities, the project would participate with the City in construction of a regional retention basin to mitigate increases in stormwater runoff volume.

   At some locations, fill or culverts or both would be placed adjacent to or within waterways (creeks/channels/ditches), and new ditches would be required. Roads, culverts, and ditches would be sized in accordance with City's design guidance and the Placer County Stormwater Management Manual. As described in (h) below, placement of fill within waterways would not be allowed to adversely affect hydraulic flow conditions or create flooding.

   Impacts of the proposed project to potential flooding on site or off site are considered potentially significant and will be evaluated in the EIR. The EIR will include a detailed evaluation of the proposed project's detention/retention requirements, the capacity of downstream offsite drainage facilities and assess the need to upgrade, mitigate, or replace those facilities. It is anticipated that feasible mitigation measure will be identified in the EIR to reduce this impact to a less-than-significant level.

e) Drainage patterns could be affected by development in the vicinity of waterways. The increase in impervious surfaces may introduce new sources of pollutants into the stormwater runoff at the site. Therefore, this impact is considered potentially significant and will be evaluated in the EIR. Impacts from erosion, siltation, and runoff are anticipated to be reduced with compliance with the NPDES permit; the City's Urban Stormwater Quality Management and Discharge Control Ordinance; and implementation of BMPs (see discussion under (a) above).

g) Consistent with the City's policies, no residential structures would be placed within the 100-year floodplain. Therefore, no impacts are anticipated from the proposed project.

h) The proposed project would not place any structures within a 100-year floodplain. The amount of fill and/or culverts that would be placed within the floodplain is expected to be minimal and is not expected to significantly increase the baseline flood elevation. However, placement of detention basins, bridges, and other infrastructure could potentially encroach into the floodplain. Therefore, the impacts from the proposed project are considered potentially significant and will be evaluated in the EIR. The EIR will include a drainage report that will assess potential impacts to floodplains. The EIR will include detailed evaluation of the proposed onsite detention facilities and required mitigation, if there is encroachment into the floodplain. The drainage report(s) would be reviewed and approved by the City. It is anticipated that feasible mitigation measures will be identified in the EIR to reduce these impacts to less-than-significant levels.

i) No people or structures would be exposed to a significant risk of loss, injury, or death as a result of construction under the proposed facilities. No levees or dams are in the project vicinity. Therefore, no impacts are anticipated from the proposed project.

j) No bodies of water are near the project area that could create a seiche or tsunami. Similarly, the proposed project would not be subject to, or create, mudflows, based on soil types and slopes found in the area. Therefore, no impacts are anticipated due to inundation by seiche, tsunami, or mudflow from the proposed project.

IX. Land Use and Planning

Would the project:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	X			
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	X			

Discussion:

a) The proposed project area is rural in nature. No established communities are located within the project boundaries. Therefore, the proposed project would not divide any established communities and no impacts from the proposed project are expected.

b) The project site currently has two applicable Placer County land use and zoning designations. The existing designated land uses are Agricultural-80 acre minimum and

Agricultural-20 acre minimum. The existing County zoning designations of the project site are Farm-Building-Site-20 acre minimum and Farm-Building-Site 80 acre minimum.

The proposed project would provide for a mix of land uses within the project site to create a new community with approximately 9,929 residential units and 255 acres of commercial and commercial mixed use areas, along with supporting public/quasi-public, parks, open space, and urban reserve uses. The proposed land uses, distribution, and acreages of the proposed development are listed in Table 1 of the NOP.

Even though the majority of the project site is within the City of Roseville's Sphere of Influence, the proposed project would substantially change the allowable land uses on site from those that are currently allowed under the Placer County General Plan and the Placer County Zoning Ordinance. The EIR will analyze the project's consistency with all applicable plans and policies to determine whether the proposed project has the potential to conflict with any applicable plan or policy. Therefore, the impacts are considered potentially significant and will be evaluated in the EIR.

c) There are no existing habitat conservation plans or natural community conservation plans in the project area. However, Placer County is currently pursuing the Placer County Conservation Plan (PCCP). Although the PCCP is not approved, the EIR will analyze the project for consistency with the goals and policies in the draft PCCP. Consistency with the PCCP may be undeterminable if it is not approved by the time environmental review for the proposed project has ended.

X. Mineral Resources

Would the project:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			X	
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?			X	

Discussion:

a, b) The California Geological Survey inventories and tracks mineral resources and mining activities throughout the state in compliance with the California Surface Mining and Reclamation Act of 1975. While Placer County contains extensive mineral resources (primarily sand, gravel, granite, clay, stone, gold and other heavy metals), none of the permitted extraction sites or known resources are in the area of the proposed project site. Therefore, impacts to mineral resources of the proposed project are expected to be less than significant.

XI. Noise

Would the project result in:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?		X		
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	X			
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

Discussion:

a, c) Construction of the proposed project would result in temporary noise from construction equipment. In addition, temporary groundborne vibration or noise may increase from construction events. The project would adhere to the City's Noise Ordinance, which prohibits construction activity from 7 p.m. to 7 a.m. on weekdays and 8 p.m. to 8 a.m. on weekends. Project operations could cause impacts due to incompatibility with respect to noise generation and noise sensitivity. Therefore, this impact is considered potentially significant and will be evaluated in the EIR. Noise modeling will be conducted for the EIR to analyze whether operational noise would exceed noise standards identified in the Noise Element of the City's General Plan, and to determine whether the citywide General Plan Transportation Noise Contours will be affected by the project. It is anticipated that mitigation measures will be identified in the EIR, if feasible and if needed, to minimize these impacts.

b, d) Although the project will comply with the City's noise ordinance, the ordinance does not specify an allowable noise level for construction activity within the allowable time periods. Therefore, even with implementation of the City's noise ordinance, potentially significant noise impacts could occur if construction activities occurred in the vicinity of sensitive noise receptors (i.e., schools and hospitals) during allowed construction hours. Therefore, impacts of the proposed project are considered potentially significant and will be evaluated in the EIR. It is anticipated that mitigation measures, if feasible and if needed, will be

identified to minimize these impacts, and may include preparation of a construction noise abatement program.

e) The proposed project is more than two miles from McClellan airfield. However, there is still a potential that noise from overflights from that facility could impact the project area. Therefore, the impacts of proposed project are considered potentially significant and will be evaluated in the EIR. The EIR will address noise from overflights, including potential impacts to future sensitive noise receptors within the proposed project area.

f) The project is not within or in the vicinity of a private airstrip. Therefore, no impacts from the proposed project are anticipated.

XII. Population and Housing

Would the project:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	X			
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?			X	
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?			X	

Discussion:

a) The proposed project would include development of both residential and commercial uses. The project would also extend existing infrastructure as well as construction of new infrastructure, including roads, sewer, and water supply systems. Based on these factors, the proposed project has the potential to induce substantial population growth either directly or indirectly. Therefore, growth inducement impacts associated with the proposed project are considered potentially significant and will be analyzed in the EIR.

b, c) The site is primarily undeveloped, with the exception of four large-lot single-family residences. The proposed project would not displace a significant number of housing or people, nor would it necessitate the construction of replacement housing elsewhere. Therefore, impacts related to housing or population displacement are considered less than significant.

XIII. Public Services

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

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?		X		
b) Police protection?		X		
c) Schools?		X		
d) Parks?		X		
e) Other public facilities?		X		

Discussion:

a–e) The proposed project would result in: (1) the need for new or expanded fire protection services, (2) an increase in police protection and public safety services, (3) the need for new schools, (4) a demand for parks, and (5) a requirement for other infrastructure and public facilities such as an electric substation, water and recycled water storage facilities, and roads. Therefore, these impacts are considered potentially significant and will be evaluated in the EIR. Such services and facilities are proposed as part of the design of the proposed project, and the EIR will evaluate the proposed project's ability to adequately provide these additional public services and facilities. It is anticipated that feasible mitigation measures will be identified, where necessary, to reduce impacts to less-than-significant levels.

XIV. Recreation

Would the project:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that physical deterioration of the facility would occur or be accelerated?		X		
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?		X		

Discussion:

a, b) The proposed project would provide approximately 9,995 dwelling units generating approximately 25,219 new residents. This will increase the demand for neighborhood and regional recreational facilities. Therefore, these impacts are considered potentially significant and will be evaluated in the EIR. The EIR will include an evaluation of whether the project's proposed park and recreation space complies with the City's General Plan policy requirements. It is anticipated that feasible mitigation measures, if needed, will be identified in the EIR to reduce these impacts to less-than-significant levels.

XV. Transportation/Traffic

Would the project:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	X			
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads and highways?	X			
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
e) Result in inadequate emergency access?			X	
f) Result in inadequate parking capacity?			X	
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?		X		

Discussion:

a, b) The proposed project would increase traffic volumes on City roadways and may increase traffic volumes on other regional roadways, including roadways in Placer County, Sacramento County, Sutter County, and the Cities of Lincoln and Rocklin, as well as State Route 65 and Highway 80. Based on these factors, traffic and transportation impacts from the proposed project are considered potentially significant and will be analyzed in the EIR.

The City's General Plan currently stipulates that the City shall maintain a level of service (LOS) C or better at a minimum of 70 percent of all signalized intersections in the city during the p.m. peak hour. "Levels of service" describe roadway operating conditions and is a qualitative measure of the effect of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs. Levels of service are designated A through F from best to worst, covering the entire range of traffic operations that might occur.

The EIR will include a traffic study that will model traffic conditions with and without the proposed project for the year 2025 to determine project-related LOS impacts within the City as well as areas outside the City. While it is likely that the proposed project would have significant LOS impacts, it is expected that mitigation measures will be identified that

provide improvements to certain intersections and roadways to reduce these impacts while accommodating future projected growth in the City through 2025.

c) The proposed project does not involve aircraft operations nor would it affect air traffic patterns. Therefore, no impacts are anticipated.

d, e) The proposed project roadways and intersection improvements would be in compliance with the City of Roseville's design standards and would avoid design hazards. In addition, the improvements would conform to the City's standards for compatibility with surrounding land uses. Compliance with these standards would also ensure and maintain the existing level of emergency access. Therefore, less-than-significant impacts are anticipated.

f) The proposed project will comply with the City's parking standards and will be designed to meet the City's alternative transportation programs. Therefore, less-than-significant impacts are anticipated.

g) The proposed project will be designed to support bus transit and bus rapid transit on the Watt Avenue corridor. Since SACOG's 2030 Metropolitan Transportation Plan designates Watt Avenue as a future Bus Rapid Transit (BRT) corridor, it is important that development along this corridor be consistent with transit-oriented design. The portion of Watt Avenue through the proposed project should be designed to accommodate BRT facilities. Based on these factors, this impact is considered potentially significant and will be evaluated in the EIR. It is anticipated that mitigation measures will be identified in the EIR to reduce these impacts to a less-than-significant level.

XVI. Utilities and Service Systems

Would the project:

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	X			
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	X			
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	X			
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	X			

Environmental Issue	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Result in a determination by the wastewater treatment provider which serves the project that it has adequate capacity to serve the project's projected demand in addition of the provider's existing commitments?		X		
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?		X		
g) Comply with federal, state, and local statutes and regulations related to solid waste?		X		

Discussion:

a, e) The proposed project is expected to generate approximately 2.18 million gallons per day of wastewater. Wastewater flows from the proposed project would be conveyed to the Pleasant Grove Wastewater Treatment Plant (PGWWTP), which is owned and operated by the City of Roseville for the benefit of the South Placer Wastewater Authority (SPWA). The proposed project is not currently within the 2005 service area boundary established by the SPWA. As a result, any influent that is proposed for treatment by the project would represent additional required treatment capacity, and could result in effluent discharges that exceed the limitations that have been established for the wastewater treatment plant by the Regional Water Quality Control Board. Therefore, these impacts are considered potentially significant and will be evaluated in the EIR. A technical study will be prepared for the EIR to further analyze wastewater treatment requirements of the proposed project.

b) The proposed project would require the construction of new water and wastewater conveyance facilities. In addition, existing wastewater and water treatment facilities may require expansion based on: (1) additional sewage generated from the proposed project, which would require additional treatment capacity at the Pleasant Grove Wastewater Treatment Plant, and (2) additional water supply demands from the proposed project, which could require additional treatment capacity on the Sacramento River and (or) at San Juan Water District's Treatment Plant. Therefore, this impact is considered potentially significant and will be evaluated in the EIR. Technical studies will be prepared for the EIR to further examine the wastewater treatment requirements as well as water supply options. The EIR will evaluate potential impacts related to the proposed conveyance facilities and expanding existing or constructing additional facilities.

c) The proposed project could require the construction of new storm water drainage facilities as well as an expansion of downstream offsite drainage facilities to accommodate the proposed project improvements. Therefore, this impact is considered potentially significant and will be evaluated in the EIR. The EIR will include detailed evaluation of the proposed onsite facilities and evaluation of the capacity of downstream offsite drainage facilities to assess the need to upgrade, mitigate, or replace those facilities.

d) The proposed project would require approximately 5,500 acre-feet of water per year (AF/yr). Additional surface water supplies, beyond existing entitlements, would be needed to serve the proposed project. Therefore, the impacts of the proposed project are considered potentially significant and will be evaluated in the EIR. The City prepared a

Feasibility Analysis for the proposed project in April 2007, which includes the framework for the project's water supply strategy. These water sources could include:

- Reallocation of water supplies made available through unit water demand factors based on Roseville water meter data;
- A surface water contract entitlement from other water purveyor(s), which could include the San Juan Water District;
- Recycled water supplies for nonpotable use (recycled water for commercial and multi-family landscaping, medians, and parks); and/or
- Potential future delivery from the Sacramento River Reliability Project (Sacramento River Diversion).

Additional technical studies will be prepared for the EIR to further analyze the water supply options. In addition, a Water Supply Assessment will be prepared in conformance with SB 610.

f, g) The proposed project would generate solid waste. The solid waste would be disposed of at the Western Regional Sanitary Landfill (WRSL), located in Placer County, California. Currently, the WRSL is permitted to accept up to 1,900 tons of refuse per day, and the average tonnage received is approximately 889 tons per day over a 7-day period. A technical study will be prepared for the EIR that details solid waste generation estimates from the proposed project. The EIR will evaluate whether the proposed project has the potential to exceed the permitted capacity of the WRSL and address whether the project has the potential to substantially reduce the lifespan of the WRSL. Therefore, the impacts are considered potentially significant and will be evaluated in the EIR. It is anticipated that if the proposed project does result in significant solid waste impacts, mitigation measures will be identified in the EIR to reduce these impacts to a less-than-significant level.

XVII. Mandatory Findings of Significance

Environmental Issue	Potentially Significant	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
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, substantially reduce the number or restrict the range of an endangered, rare or endangered species , or eliminate important examples of the major periods of California history or prehistory?	X			

Environmental Issue	Potentially Significant	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
b) Does the project have impacts which 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).	X			
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X			

Discussion:

a) The proposed project consists of urban development in an area that contains seasonal wetlands, creeks, and habitat for special-status species. Based on this information, impacts to biological resources are potentially significant and will be evaluated in the EIR for the proposed project.

b, c) The proposed project may result in cumulative impacts to land use (General Plan policy), agricultural resources, traffic and transportation, noise, air quality, and biological resources. These impacts may be cumulatively considerable and potentially affect the general public and environment. Therefore, the proposed project may be considered potentially significant and would require further analysis in the EIR.

Environmental Determination

In reviewing the site-specific information provided for this project, the City of Roseville has analyzed the potential environmental impacts created by this project and determined that at least one impact is considered to be significant. Therefore, **on the basis of the following initial evaluation,** we find that the proposed project **may** have a significant effect on the environment, and an **Environmental Impact Report** will be required to evaluate the following impacts:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

Climate change related to greenhouse gas emissions and water supply will be evaluated in the cumulative section of the EIR.

References

CDFG (California Department of Fish and Game, Wildlife and Habitat Data Analysis Branch). 2007. California Natural Diversity Data Base Report (CNDDB). Sacramento, California.

ECORP Consulting, Inc. 2006a. 90-Day report of findings regarding federally-listed branchiopods for Sierra Vista Specific Plan, Placer County, California. Prepared for: Sierra Vista Specific Plan Owner's Group. September 25, 2006.

ECORP Consulting, Inc. 2006b. Draft raptor species assessment for Sierra Vista Specific Plan, Placer County, California. Prepared for: Sierra Vista Specific Plan Owner's Group. September 25, 2006.

North Fork Associates, 2007. Draft Biological Resource Assessment for Sierra Vista Specific Plan Project, Placer County, California. July 6, 2007.

USFWS (U.S. Fish and Wildlife Service). 2007. Memo 1-1-07-TA-0821 regarding Conservancy fairy shrimp in western Placer County. Sacramento Fish and Wildlife Office.

APPENDIX B.
US ARMY CORPS OF ENGINEERS NOTICE OF INTENT

3140, via e-mail at *charles.lominac@osd.mil*, or via phone at (703) 571–0081.

Dated: March 20, 2008.

L.M. Bynum,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. E8–6421 Filed 3–27–08; 8:45 am]

BILLING CODE 5001–06–P

DEPARTMENT OF DEFENSE

Department of the Army; Corps of Engineers

Notice of Intent To Prepare a Draft Environmental Impact Statement (EIS) for the Potable Water Supply for Washington Parish Reservoir, Project

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DOD.

ACTION: Notice of intent.

SUMMARY: The study area comprises Washington Parish in southeast Louisiana. Washington Parish currently consumes approximately 40 million gallons of water daily, 70 percent of which is supplied by groundwater. Decreasing groundwater levels (quantity) and groundwater quality, in combination with forecasted growth within the Parish require alternative water supplies to be developed. The purpose of the project is to identify a new water supply to address the current and future potable water demands of Washington Parish. The Local Project Sponsor is the Washington Parish Reservoir Commission.

DATES: A public scoping meeting will be held on April 10, 2008 at 5:30 p.m.

ADDRESSES: The public scoping meeting will be held in Bogalusa, LA at the Bogalusa City Hall, 202 Arkansas Avenue, Bogalusa, LA 70427.

FOR FURTHER INFORMATION CONTACT: Questions about the proposed action and Draft EIS should be directed to: Karen Dove-Jackson at (601) 631–7136, Vicksburg District, Corps of Engineers, 4155 Clay Street, CEMVK–OD–FE, Vicksburg, MS 39183–3435.

SUPPLEMENTARY INFORMATION: Pursuant to Louisiana House Bill 216, 2003 Regular Session, the Louisiana Legislature created the Washington Parish Reservoir Commission as a State Entity. This law gives the Washington Parish Reservoir Commission the power to obtain land needed for the reservoir pursuant to the State of Louisiana's principle of eminent domain, and in accordance with the Lonisiana Laws and Revised Statutes for this principle.

1. The Washington Parish Reservoir Commissiou completed a site selection study (January 2005) to determine a recommended best source of future potable water for Washington Parish. The study concluded that creation of a surface water reservoir by damming Bogalusa Creek was the most desirable. The Washington Parish Reservoir Commission subsequently completed a preliminary engineering report (December 2006) that presented preliminary design, planning level costs estimates, and preliminary construction plans for a water supply reservoir. Based upon review of the site selection report, the Corps concluded that the proposed project had the potential for significant impacts to the human and natural environment. The National Environmental Policy Act (NEPA) requires the preparation of an EIS for proposals that are subject to federal funding, control, responsibility and permitting, and which have the potential for significant impacts. The proposed project would affect wetlands, which are regulated by the Corps, and require a permit to comply with Section 404 of the Clean Water Act. Because the proposed project would require federal involvement, it is subject to NEPA. Preliminary alternatives being considered include construction of a new surface water supply reservoir, construction of distribution systems to make available existing surface water supplies, and increased use of groundwater.

2. The Southern Hills Aquifer system supplies Washington Parish with potable water. The Southern Hills Aquifer system is one of the most heavily pumped aquifers in Louisiana, supplying 290 million gallons per day for consumption. Recent studies indicate that the Southern Hills Aquifer system is supplying more water annually than it can sustain, and water levels in the aquifer are dropping as much as one foot annually. In addition to aquifer water levels, the water quality of the aquifer is also declining.

3. A public scoping meeting will be held (see **DATES** and **ADDRESSES**). Significant issues identified during this scoping process will be analyzed in depth in the Draft EIS.

4. Upon completion, the Draft EIS will be distributed for agency and public review and comment. Additionally, a public meeting will be held to present results of the Draft EIS evaluations and the recommended plan.

5. The Draft EIS is estimated to be completed in September 2008.

Brenda S. Bowen,

Army Federal Register Liaison Officer.

[FR Doc. E8–6447 Filed 3–27–08; 8:45 am]

BILLING CODE 3710–PU–P

DEPARTMENT OF DEFENSE

Department of the Army; Corps of Engineers

Intent To Prepare an Environmental Impact Statement for the Proposed Sierra Vista Specific Plan Project, Corps Permit Application Number 200601050

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DOD.

ACTION: Notice of intent.

SUMMARY: The Sierra Vista Landowner Group proposes to implement a large-scale, mixed-use, mixed-density master planned community with residential, commercial, office, public/quasi-public, and open space land uses, and parks. The Sierra Vista Specific Plan would include approximately 1,148 acres of residential uses; 281 acres of commercial, office, and commercial-mixed uses; 162 acres of parks and paseos; 83 acres of public/quasi-public land uses; 31 acres of urban reserve; and 190 acres of roadways and landscape corridors. The Specific Plan would also include 244 acres of open space; of these, 38 acres would be graded as part of the project and the remaining 206 acres would be preservation areas.

The Specific Plan would include 9,995 dwelling units (in a mix of low, medium, and high densities) and approximately 2,419,113 square feet of retail and office uses. The project would also provide four elementary schools, one middle school, and a fire station. The proposed project is expected to generate about 25,219 new residents and 5,821 jobs. It is anticipated that construction would begin in spring 2010. The duration of construction would depend on market conditions; full buildout would likely be completed within 20 years from construction commencement.

The proposed project site is approximately 2,138 acres and contains 51.87 acres of waters of the United States. The project, as proposed, would result in direct impacts to approximately 37.74 acres of waters of the United States. These acreages do not include indirect impacts from the proposed action or impacts anticipated to result from offsite infrastructnre that may be determined to be required as part of the project through the Environmental Impact Statement (EIS) process.

DATES: A scoping meeting will be held on April 16, 2008 from 5 p.m. to 7 p.m.

ADDRESSES: The scoping meeting will be held at the City of Roseville Givic Center

(Meeting Rooms 1 and 2), 311 Vernon Street, Roseville, CA 95678.

FOR FURTHER INFORMATION CONTACT: Ms. Nancy Haley, (916) 557–7731, e-mail: *SierraVista@usace.army.mil.*

SUPPLEMENTARY INFORMATION: Interested parties are invited to submit written comments on the permit application on or before April 29, 2008. Scoping comments should be submitted within the next 60 days, but may be submitted at any time prior to publication of the Draft EIS. To submit comments on this notice or for questions about the proposed action and the Draft EIS, please contact Nancy Haley, 1325 J Street, (Room 1480), Sacramento, CA 95814–2922. Please refer to Identification Number 200601050 in any correspondence.

The Sierra Vista Landowner Group consists of eleven property owners. Each property owner has filed an application for a Department of the Army permit under Section 404 of the Clean Water Act. Because these applications are interrelated, the Corps is considering them in a comprehensive and combined manner. The joint purpose of these applications is to construct a large-scale mixed-use, mixed-density master planned community. To comply with the National Environmental Policy Act (NEPA), the Corps has decided to prepare an EIS to assess the potential impacts to waters of the United States from these combined applications. No project alternatives have been defined to date. The proposed project and the alternatives to its proposed size, design, and location will be developed through the EIS process.

Perennial streams, including Curry Creek; perennial marshes; seasonal wetland swales; seasonal wetlands, inclnding vernal pools; and ephemeral and intermittent streams are located throughout the proposed project site. Verified wetland delineations show that 51.87 acres of waters of the United States occur on the proposed project site. The proposed project will resnlt in direct impacts to approximately 37.74 acres of waters of the United States and will avoid approximately 14.13 acres of these waters of the United States for construction of the project. These acreages do not include indirect impacts from the proposed action or impacts anticipated to result from offsite infrastructure that may be determined to be required as part of the project through the EIS process.

The proposed site for the Sierra Vista Specific Plan Area is in unincorporated Placer County, CA, immediately west and south of the City of Roseville's existing city limits. The majority of the proposed project site is within the City of Roseville's Sphere of Influence (SOI), and approximately 447 acres of the proposed project site are situated west of the City's SOI boundary.

The proposed project site is approximately 6 miles west of Interstate 80 and State Route 65, 10 miles northeast of the City of Sacramento, 10 miles east of State Route 99, 5 miles west of downtown Roseville, and 4 miles east of the Sutter County line. The proposed project site is west of Fiddyment Road, north of Baseline Road to approximately 1/2 mile west of the Baseline Road intersection with Watt Avenue, and south of the West Roseville Specific Plan area.

The project site for the EIS does not include one 40-acre parcel situated within the Sierra Vista Specific Plan area. This parcel is owned by a nonparticipating landowner, and the parcel is not included in the proposed action subject to this NEPA process. At snch a time as the owner of the 40-acre parcel decides to develop that property, a separate environmental review would be required.

The Corps' public involvement program includes several opportunities to provide oral and written comments on the Sierra Vista Specific Plan project through the EIS drafting process. Affected federal, state, and local agencies, Indian tribes, and other interested private organizations and parties are invited to participate. Significant issues to be analyzed in depth in the EIS include impacts to waters of the United States, including vernal pools and other wetlands; agricultural resources; cultnral resources; threatened and endangered species; transportation; air quality; surface water and gronndwater; hydrology and water quality; socioeconomic effects; and aesthetics.

Vernal pool fairy shrimp (*Branchinecta lynchi*) have been identified as occnpying certain areas on the project site during past snrveys. Some of these areas are proposed by the Applicant for impact. The Corps will initiate formal consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act for proposed impacts to vernal pool fairy shrimp. USFWS may also consider adding additional federally listed species to the formal consultation process.

No known historic resources on the project site have been listed on or determined eligible for listing on the National Register of Historic Places (NFP) or the California Register of Historical Resources (CRHR). However, the Corps will initiate consultation with the State Historic Preservation Officer under Section 106 of the NHPA as outlined in the Corps' Interim Guidance to 33 CFR Part 325 Appendix C.

It is anticipated that the Draft EIS will be made available to the public between April and October 2009.

Dated: March 20, 2008.

James A. Porter,

Lieutenant Colonel, U.S. Army, Deputy District Engineer.

[FR Doc. E8–6444 Filed 3–27–08; 8:45 am]

BILLING CODE 3710–EH–P

DEPARTMENT OF DEFENSE

Department of the Navy

Notice of Public Hearing for the Draft Environmental Impact Statement for the Proposed Homeporting of Additional Surface Ships at Naval Station Mayport, Florida

AGENCY: Department of the Navy, DoD.

ACTION: Notice.

SUMMARY: Pursuant to section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as implemented by the Council on Environmental Quality Regulations (40 Code of Federal Regnlations Parts 1500–1508 the U.S. Department of the Navy (Navy) has prepared and filed with the U.S. Environmental Protection Agency (EPA) a Draft Environmental Impact Statement (DEIS) on March 28, 2008, which evaluates the potential environmental consequences of homeporting additional surface ships at Naval Station (NAVSTA) Mayport, Florida. A Notice of Intent for this DEIS was published in the **Federal Register** on November 14, 2006 (FR14NO06–25).

A puhlic hearing will he held to provide information and receive oral and written comments on the DEIS. A preferred alternative has not been selected or identified in the DEIS. The Navy seeks comments from the public or interested parties regarding the sufficiency of the DEIS and the choice of a preferred alternative. Federal, state, and local agencies and interested individuals are invited to be present or represented at the hearing.

Date and Address: One public hearing will be held. The hearing will be preceded by an open house session to allow interested individuals to review information presented in the DEIS DON representatives will be available during the open house session to provide clarification as necessary related to the DEIS. The open house session will occur from 4:30 p.m. to 6:30 p.m.

APPENDIX C.
US ARMY CORPS OF ENGINEERS PUBLIC NOTICE

Public Notice

Number: 200601050
Date: March 28, 2008
Comments Due: April 29, 2008

US Army Corps of Engineers

Sacramento District
1325 J Street
Sacramento, CA 95814-2922

SUBJECT: Notice of application for a Department of Army Permit under Section 404 of the Clean Water Act, Intent to Prepare an Environmental Impact Statement (EIS) and Notice of Public Scoping Workshops for the Sierra Vista Specific Plan project, as shown on the attached drawings.

AUTHORITY: This application is being evaluated under Section 404 of the Clean Water Act for the discharge of dredged or fill material in waters of the United States.

APPLICANTS:

Steve Schnable
Mourier Investments, LLC
1430 Blue Oaks Blvd., Suite 190
Roseville, California 95661
(916) 782-8879

Kyriakos Tsakapoulos
KT Communities
2251 Douglas Blvd., Suite 110
Roseville, California
(916) 774-6622

Jack Previte
CGB Investments
950 South Bascom Ave., Suite 1113
San Jose, California 95128
(408) 283-0628

Steve Schnable
Mourier Land Investment Corp.
1430 Blue Oaks Blvd., Suite 190
Roseville, California 95661
(916) 782-8879

Jeff Ronten
D.F. Properties, Inc.
2013 Opportunity Drive, Suite 140
Roseville, California 95678
(916) 782-2704

John Murray
Westpark LR, LLC
1700 Eureka Road, Suite 140
Roseville, California 95661
(916) 774-3400

Steve Thurtle
Richland Planned Communities, Inc.
2220 Douglas Blvd., Suite 290
Roseville, California 95661
(916) 782-3330

LOCATION: The 2,138-acre project site is situated in portions of Sections 26, 27, 34, 35, and 36, Township 11 North, and Range 5 East, Mount Diablo Base Meridian (MDBM) of the "Pleasant Grove, California" and "Roseville, California" 7.5-minute quadrangles (U.S. Department of the Interior, Geological Survey, 1981 and 1992, respectively) (*Figure 1, Project Site and Vicinity Map*).

PROJECT PURPOSE: The project purpose is to implement a large-scale, mixed-use, mixed-density master planned community in western Placer County.

PROJECT NEED: The project need is to help meet the City of Roseville's share of foreseeable regional housing demand and to accommodate commercial and office development in the Roseville area, based on Sacramento Area Council of Government's projections that the region will add approximately 2 million people by 2050.

PROJECT DESCRIPTION: The Applicant is proposing to construct a large-scale, mixed-use, mixed-density master planned community with residential, commercial, office, public/quasi-public, parks, and open space land uses, including two regional community centers. The proposed project area is approximately 2,138 acres and contains 51.87 acres of waters of the United States (*Figure 2, Existing Conditions Map).* The project, as proposed, would result in direct impacts to approximately 37.74 acres of waters of the United States and would avoid approximately 14.13 acres of waters of the United States. (*Figure 3, Conceptual Land Use Plan; Figure 4, Land Use Plan and Wetland Delineation*).

ADDITIONAL INFORMATION:

Environmental Setting. The study area supports nonnative annual grassland with flat to gently rolling topography. Wetlands and other waters are embedded within the annual grassland landscape. These aquatic features include wetland swale (19.65 acres), ephemeral stream (0.38 acre), intermittent stream (6.02 acres), perennial stream (2.36 acres), seasonal wetlands (9.19 acre), pond (2.63 acres), and vernal pools (11.64 acres). The seasonal wetlands, vernal pools, and swales are scattered throughout the site. Curry Creek flows from east to west, entering the property at the southeast, continuing south of Baseline Road and re-entering the property at the southwest section of the site. Two unnamed tributaries to Curry Creek meander through the center and very northern portions of the study area. These intermittent streams drain into Curry Creek offsite to the west. Surrounding properties include urbanized areas of newly-developing and/or planned residential and mixed-use development to the north, east, and south; and undeveloped land to the west.

Alternatives. The Applicants are in the process of evaluating alternatives to comply with Section 404(b)(1) of the Clean Water Act. These alternatives will consider other potential project locations within western Placer County that are available, practicable, and can achieve the stated project purpose as well as practicable measures to avoid and/or minimize impacts on site. Other alternatives may be developed during the review process for this application. All reasonable project alternatives, in particular those which may be less damaging to the aquatic environment, will be considered.

Mitigation. The Corps requires that Applicants consider and use all reasonable and practical measures to avoid and minimize impacts to aquatic resources. If the Applicants are unable to avoid or minimize all impacts, the Corps may require compensatory mitigation. The proposed project would result in the loss of approximately 37.74 acres of waters of the United States. The overall goal of the proposed Sierra Vista Specific Plan project is no net loss of wetland functions and values and to take actions as may be needed to avoid jeopardizing the continued existence of any federally listed species or causing adverse modification to any designated critical habitat. The Applicants propose to accomplish these objectives through a combination of habitat preservation and restoration/creation at offsite mitigation areas and/or purchasing preservation and restoration/creation credits from an agency-approved mitigation bank or banks.

Offsite Infrastructure Improvements. In addition to the onsite work described in the application, the City of Roseville (City) may ask the Applicants to construct certain offsite improvements. The nature of such offsite improvements and potential wetland impacts that may result from those improvements have not yet been determined. The Applicants have been in early consultation with the City regarding potential offsite infrastructure requirements.

OTHER GOVERNMENTAL AUTHORIZATIONS: Proposed activities fall under the jurisdiction of several resource agencies. Pursuant to Section 404 of the Clean Water Act, construction activities in waters of the United States are subject to the approval of the Corps. It is anticipated that the proposed activities will require authorization by a Department of the Army Standard Permit. Pursuant to Section 401 of the Clean Water Act, this permit will need to be certified by the Central Valley Regional Water Quality Control Board (CVRWQB). It is also anticipated that the proposed activity may affect federally listed endangered or threatened species or their critical habitat; consequently, the Corps will initiate consultation with the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act. Any mitigation required through a USFWS non-jeopardy Biological Opinion would be incorporated as a special condition in the Corps permit.

HISTORIC PROPERTIES: Eleven cultural resources have been identified on the project property. These consist of eight sites and three isolates. The eight sites include three refuse deposits (P-31-1255, CA-PLA-1898H, and CA-PLA-1989H), a site with two privies (CA-PLA-1900H), a farmstead with standing structures and associated dispersed material (CA-PLA-1897H), a house and barn foundation (CA-PLA-1988H), a windmill foundation (P-31-2873), and the Western Area Power Administration (WAPA) transmission lines (P-31-3280). The three isolates include farm equipment (P-31-2876), a generator and well pump (P-31-2877), and a burned red brick fragment (P-31-2878). Each of these sites has been evaluated for significance using the criteria for eligibility for inclusion in the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR). None of the eleven cultural resources within the project boundary appears to be eligible for inclusion in the NRHP or CRHR. The Corps will initiate consultation with the State Historic Preservation Officer under Section 106 of the NHPA, as outlined in the Corps Interim Guidance to 33 CFR Part 325 Appendix C.

ENDANGERED SPECIES: The proposed project will affect occupied habitat for the threatened vernal pool fairy shrimp (*Branchinecta lynchi*). The project area may also potentially support occupied habitat for the endangered vernal pool tadpole shrimp (*Lepidurus packardi*), threatened slender orcutt grass (*Orcuttia tenuis*), and endangered Sacramento orcutt grass (*Orcuttia viscida*). The Corps has determined that the proposed activity may affect federally listed endangered or threatened species or their critical habitat. The Corps will initiate consultation with the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act.

ESSENTIAL FISH HABITAT: The proposed project will not adversely affect Essential Fish Habitat (EFH) as defined in the Magnuson-Stevens Fishery Conservation and Management Act.

The above determinations are based on information provided by the Applicants and our preliminary review.

CONSIDERATION OF COMMENTS: Interested parties are invited to submit written comments on the permit application on or before April 29, 2008. Scoping comments should be submitted within the next 60 days, but may be submitted at any time prior to publication of the Draft EIS. To submit comments about the proposed action and the Draft EIS, please contact Nancy Haley, (916) 557-7731, email: SierraVista@usace.army.mil, 1325 J Street (Room 1480), Sacramento, CA 95814-2922. Please refer to Identification Number 200601050 in any correspondence.

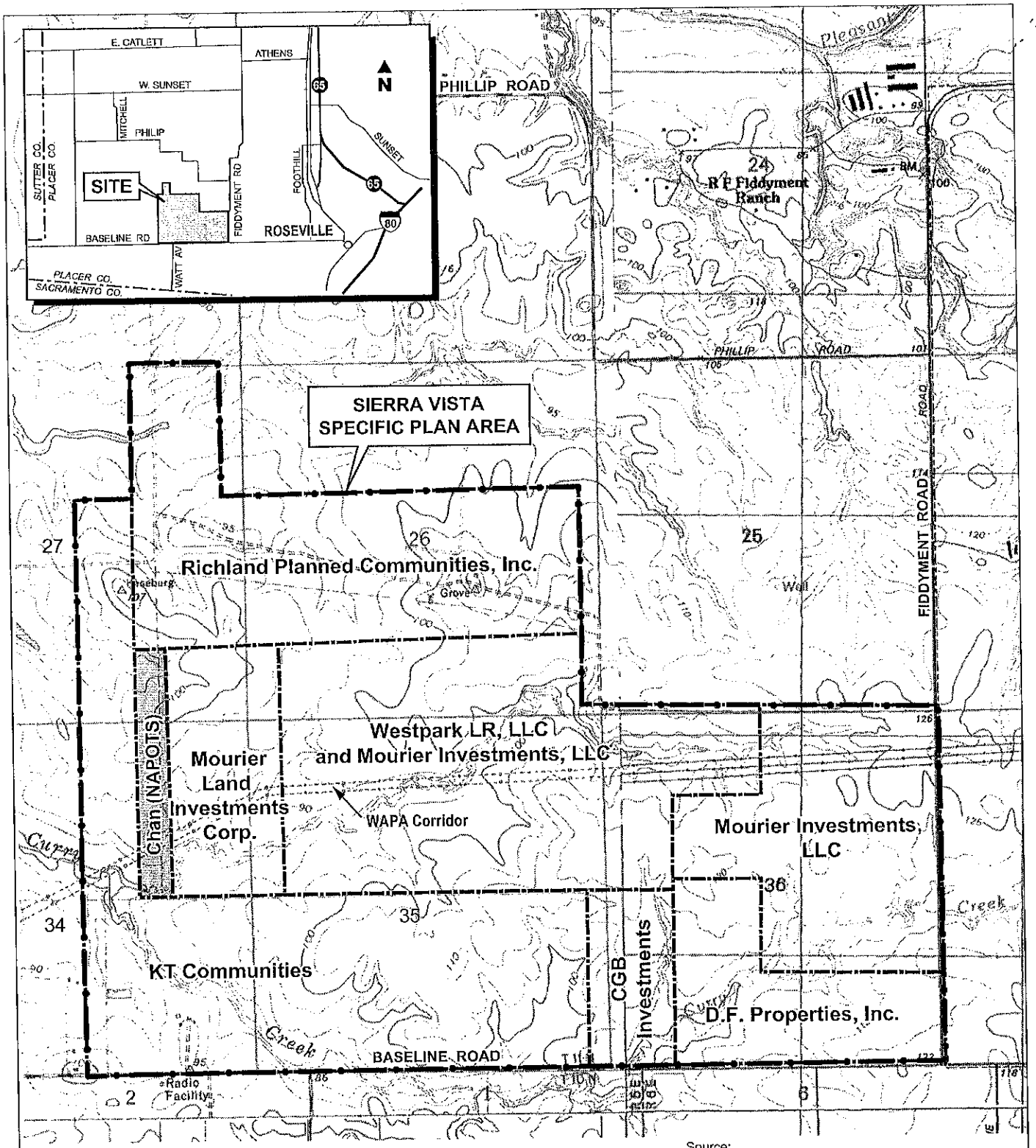
PUBLIC SCOPING. This public notice is being distributed to invite public participation in the scoping process for the preparation of an EIS under NEPA. This process is key to preparing a concise EIS and clarifying the significant issues to be analyzed in depth. Public concerns on issues, studies needed, alternatives to be examined, procedures, and other related matters will be addressed during scoping. The Corps plans to hold one public workshop to encourage participation in the scoping process for the EIS. The workshop will be held on April 16, 2008, at the City of Roseville Civic Center (Meeting Rooms 1 and 2), 311 Vernon Street, Roseville, California, from 5:00 p.m. to 7:00 p.m.

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the described activity on the public interest. That decision will reflect the national concern for both protection and use of important resources. The benefit that reasonably may be expected to accrue from the described activity must be balanced against its reasonably foreseeable detriments. All factors that may be relevant to the described activity will be considered, including the cumulative effects, among which are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership, and, in general, the needs and welfare of the people.

If additional information is required, please contact Nancy Haley, (916) 557-7731 or email at Nancy.A.Haley@usace.army.mil.

Thomas S. Chapman
Colonel, Corps of Engineers
District Engineer

Attachments: Figure 1. Project Site and Vicinity
Figure 2. Existing Conditions Map
Figure 3. Conceptual Land Use Plan
Figure 4. Land Use Plan and Wetland Delineation



Note:

NAPOTS: Not a part of this study

Source:
USGS Topographics maps, 7.5 minute series; quads:
Pleasant Grove (1981) and Roseville (1991), California

Sierra Vista Specific Plan Area

N

0 1000 2000

Scale in Feet

Public Notice #200601050

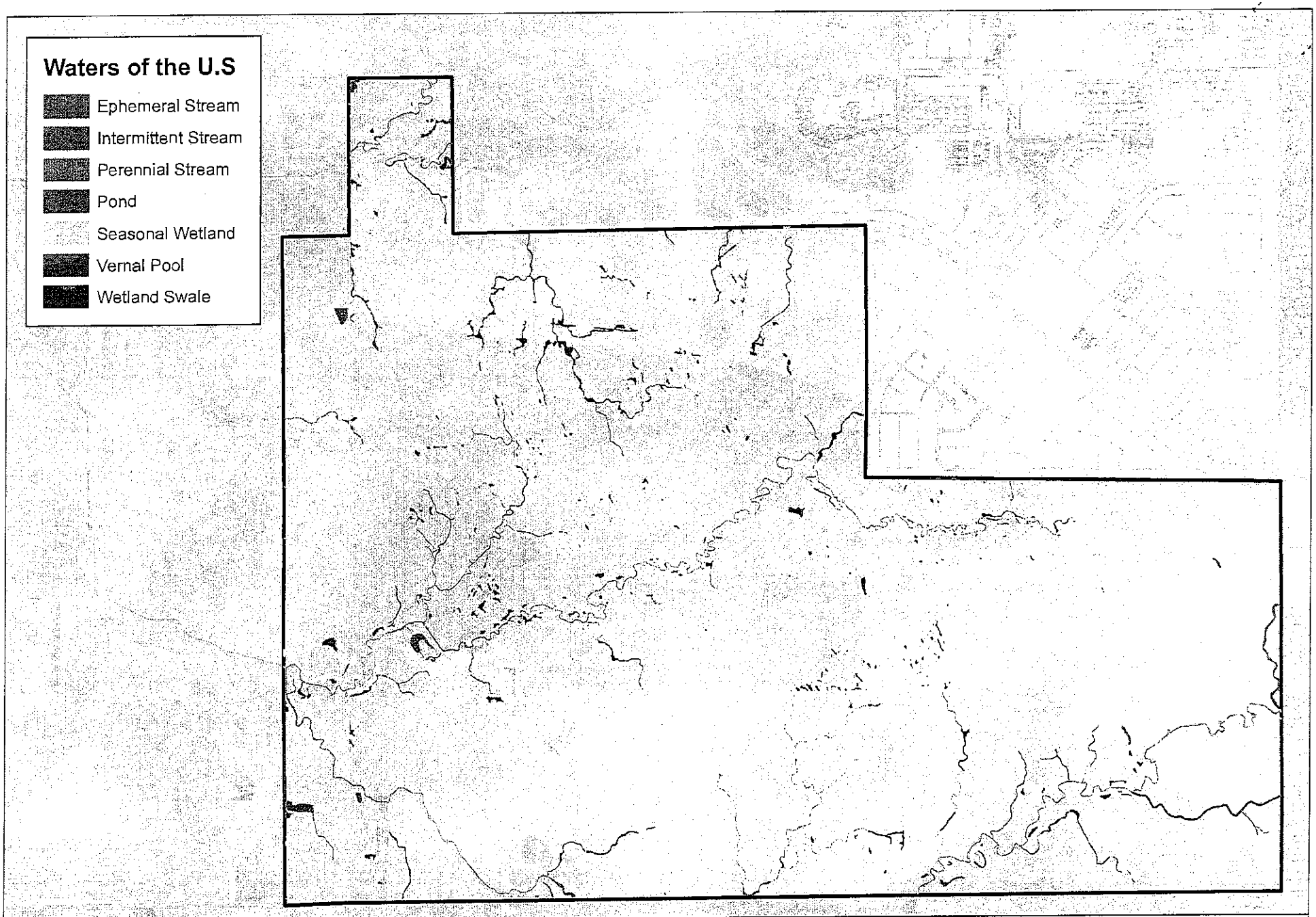
Figure 1

PROJECT SITE AND VICINTIY MAP

Sierra Vista Specific Plan

Placer County, California

3/26/08 vsa ..\T:\Sierra Vista\Graphics\Public Notice_march 08\F1_Project Site & vicinity_PN.ai



Sierra Vista Specific Plan Area

N

0 750 1,500

Scale in Feet

Aerial photo date: Oct 2007

Public Notice #200601050

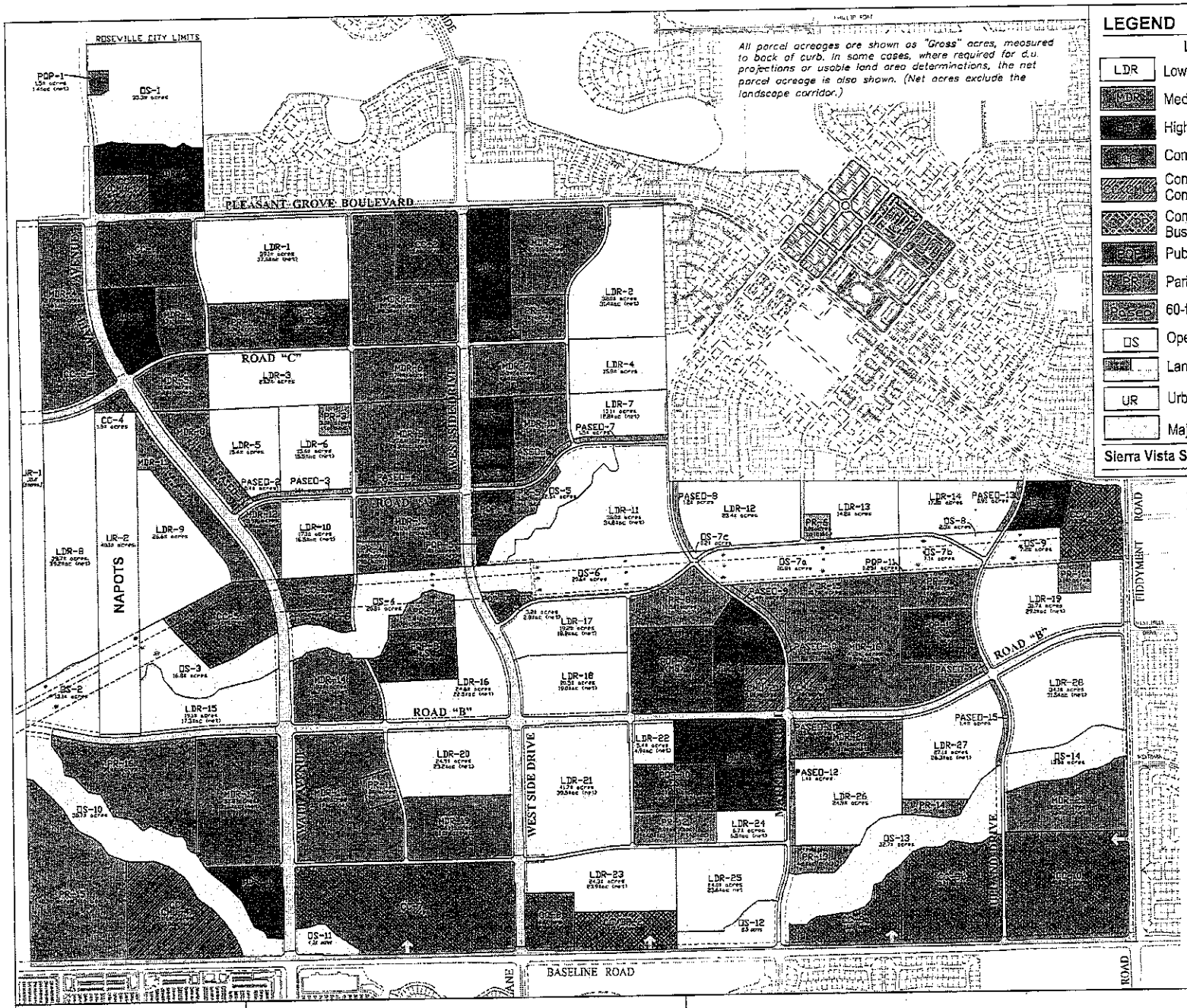
Figure 2

EXISTING CONDITIONS MAP

Sierra Vista Specific Plan

Placer County, California

3/25/08 vsa ..\T:\Sierra Vista\Graphics\Public Notice_march 08\F2_Existing Conditions Map_PN.ai



LEGEND

	LAND USE	Acres
LDR	Low Density Residential	635.9
MDR	Medium Density Residential	397.5
HDR	High Density Residential	114.4
CC	Community Commercial	215.5
CC/CMU	Community Commercial Mixed Use	42.5
CC/BP	Community Commercial Business Park	25.8
PQP	Public Quasi Public	83.1
PARK	Park	147.7
PASEO	60-ft wide Paseo	14.0
OS	Open Space	243.9
	Landscape Corridor	44.9
UR	Urban Reserve	70.9
	Major Roads	144.4
Sierra Vista Specific Plan		**2178 ±**

Source:
Sierra Vista Landowners Group;
MacKay & Somps, March 2008

Note:
UR-2 is not a part of this study (NAPOTS)

N

0 800 1600

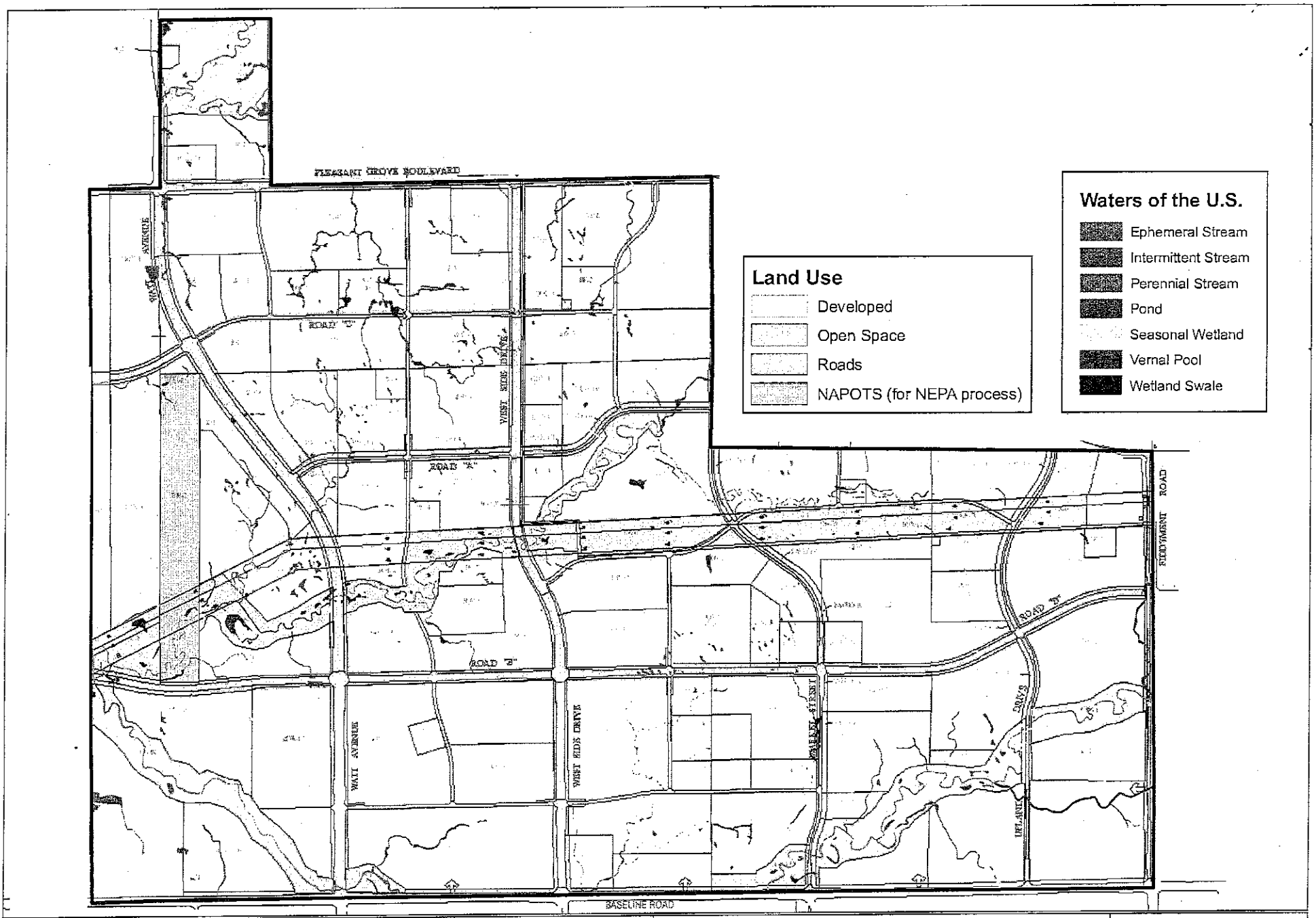
Scale in Feet

Public Notice #200601050

Figure 3

CONCEPTUAL
LAND USE PLAN
Sierra Vista Specific Plan
Placer County, California

3/25/08 vsa ..\T:\Sierra Vista\Graphics\Public Notice_march 08\F3_Conceptual landuse_PN.ai



Sierra Vista Specific Plan Area

N

0 750 1500

Scale in Feet

Public Notice #200601050

Figure 4

LAND USE & WETLAND DELINEATION MAP

Sierra Vista Specific Plan

Placer County, California

3/25/08 vsa ..\T:\Sierra Vista\Graphics\Public Notice_march 08\F4_Landuse-Wetland Delin_PN.ai

APPENDIX D.
MEETING AGENDA

AGENDA
JOINT EIR/EIS SCOPING MEETING
FOR THE
SIERRA VISTA SPECIFIC PLAN

5:00-5:20 p.m.: Open House with Exhibits

5:20-5:45 p.m: Introductions and Presentation

- Meeting Purpose
- Project Overview
- City of Roseville Process (CEQA)
- 404 Permit Process (NEPA)
- Environmental Review Process

5:45-7:00 p.m.: Questions and Answers

APPENDIX E.
PROCESS GRAPHIC

OPPORTUNITIES FOR PUBLIC INPUT IN THE

Environmental Review Process

CITY OF ROSEVILLE CALIFORNIA

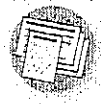
US Army Corps of Engineers®

NEPA

FEDERAL PROCESS

Determine Lead Agency (Army Corps of Engineers)

Notice of Intent



Develop Range of Alternatives

Prepare Draft EIS

EPA Filing/ Federal Register Notice

Circulate Draft EIS for Review

Prepare Final EIS

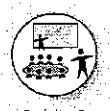
Record of Decision

Permit Decision

PUBLIC INPUT

Scoping

Public Hearing



Public & Agency Review/ Comment

Public & Agency Review EPA Filing/Federal Register Notice

CEQA

STATE PROCESS

Determine Lead Agency (City of Roseville)

Prepare Initial Study

Notice of Preparation

Develop Range of Alternatives

Prepare Draft EIR

Public Notice

Circulate Draft EIR for Review

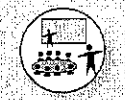
Prepare Final EIR

Review of Responses to Comments by Commenting Agencies

Notice of Determination

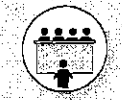
PUBLIC INPUT

Scoping



Presentations to Neighborhood Groups/Interested Parties

Public Hearing



Public, Agency & State Clearinghouse Review/Comment

City Council & LAFCO Decision

APPENDIX F.
FACT SHEET

SIERRA VISTA SPECIFIC PLAN
fact sheet

CITY OF ROSEVILLE CALIFORNIA

US Army Corps of Engineers ®

APRIL 2008

PROJECT OVERVIEW

The Sierra Vista Specific Plan is a proposed large-scale, mixed-use, mixed-density master planned community with residential, commercial, office, public/quasi-public, and open space land uses, and parks. The Sierra Vista Specific Plan would provide the following:

- 9,995 new dwelling units (in a mix of low, medium, and high densities)
- Approximately 25,219 new residents
- Approximately 2,419,113 square feet of retail and office uses
- Generation of approximately 5,821 jobs
- Four elementary schools and one middle school
- One fire station
- One church site
- Arterial, collector, and local roadways
- A comprehensive system of pedestrian and bike way paths
- Accommodation of Bus Rapid Transit along the proposed Watt Avenue right-of-way

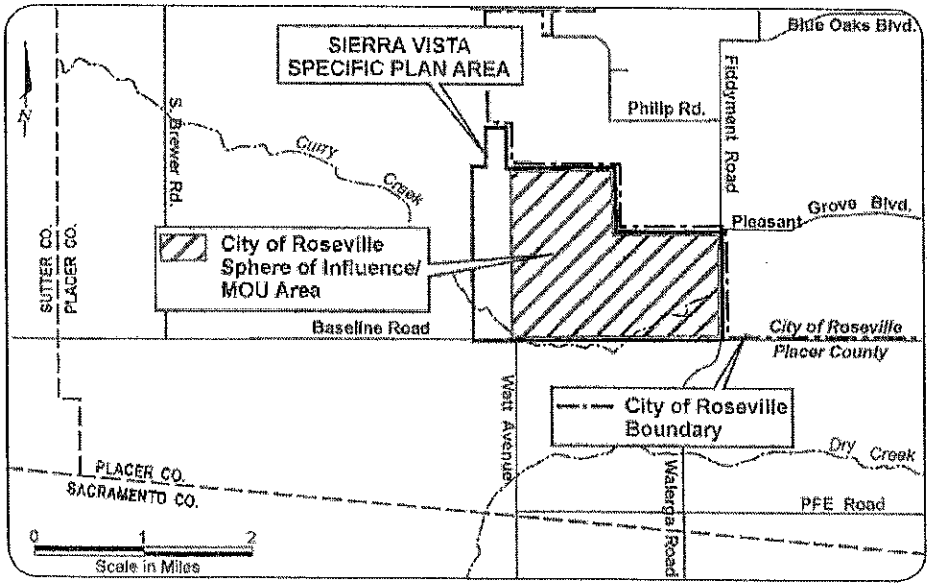
PROJECT LOCATION

The 2,178-acre project site is located adjacent to the City of Roseville in southwestern Placer County. The majority of the project site is located within the City of Roseville's Sphere of Influence (SOI) and a small portion of the project site is located west of the City's SOI boundary. The proposed project includes annexation of the project site by the City of Roseville (see Figure 1 below).

BLUEPRINT GROWTH

Given its proximity to existing urban areas, jobs, and infrastructure, the Sierra Vista Specific Plan is consistent with the Blueprint Project Preferred Growth Scenario adopted by the Sacramento Area Council of Governments (SACOG) in December 2004. In June 2005, the City of Roseville embraced SACOG's preferred Blueprint growth scenario by adopting Implementation Strategies to guide both infill and greenfield development projects in Roseville, consistent with SACOG's vision for the region.

Figure 1: Project Location Map



PROJECT SETTING

The majority of the proposed project site is undeveloped and has historically been used for agricultural or grazing activities. Current land uses include four large-lot, single- family residences; other smaller structures associated with ongoing dry farming agricultural production activities; and two small strawberry fields.

The project site supports nonnative annual grassland with flat to gently rolling topography. Seasonal wetlands, vernal pools, and swales are scattered throughout the site. Curry Creek and two unnamed tributaries are also present on the project site. Curry Creek flows from east to west, entering the property at the southeast, continuing south of Baseline Road and re-entering the property at the southwest section of the site. The two unnamed tributaries to Curry Creek meander through the center and very northern portions of the project site.

Surrounding properties include urbanized areas of newly-developing and/or planned residential and mixed-use development to the north, east, and south; and undeveloped land to the west.

ENVIRONMENTAL REVIEW PROCESS

The City of Roseville is the lead agency under the California Environmental Quality Act (CEQA) for the proposed project. The City is preparing an Environmental Impact Report (EIR) for the proposed project to address the required City approvals and entitlements. The United States Army Corps of Engineers is the lead agency under the National Environmental Policy Act (NEPA) for the proposed project.

SIERRA VISTA SPECIFIC PLAN
fact sheet

CITY OF ROSEVILLE CALIFORNIA

US Army Corps of Engineers ®

APRIL 2008

Each property owner has filed an application for a wetlands permit under Section 404 of the Clean Water Act. Because these applications are interrelated, the Corps is considering them in a comprehensive and combined manner. To comply with NEPA, the Corps has decided to prepare an Environmental Impact Statement (EIS) to assess the potential impacts to waters of the United States from these combined applications.

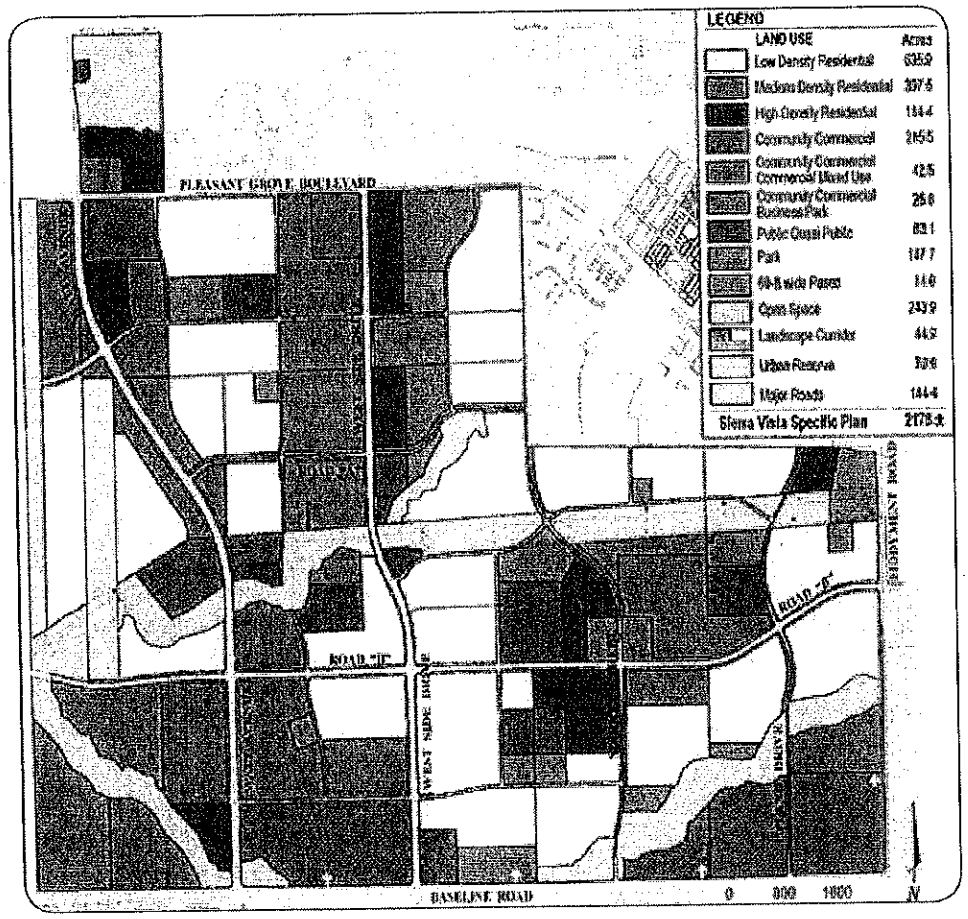
The EIR and EIS will each analyze construction and operation of the proposed project. These environmental documents will also evaluate offsite project components, including utility or roadway improvements that maybe required as part of the project.

As required by both CEQA and NEPA, alternatives to the proposed project will also be evaluated. Draft environmental documents are expected to be released for public comment in mid 2009.

APPLICANT

The proposed project Applicant is the Sierra Vista Landowner Group. In addition, one 40-acre parcel in the western portion of the project site is owned by a nonparticipating landowner and is not controlled by the Applicant.
With approval of the proposed project, this particular parcel would be annexed by the City and would be designated as Urban Reserve. This 40 acre parcel is not part of the proposed action for the purposes of NEPA since a wetland permit application has not been submitted for this parcel. When the owners of the 40-acre parcel decide to develop, they would be required to go through the zoning and entitlement process, wetland permitting process, and separate project-level environmental review.

Figure 2: Proposed Land Use Plan



PUBLIC INVOLVEMENT

There will be many opportunities for the public to provide input into this environmental review. For more information about the project and upcoming meetings, go to www.roseville.ca.us/planning.

OR CONTACT THE FOLLOWING:

CEQA and EIR Questions & Comments
Kathy Pease, Senior Planner
Planning & Redevelopment Dept.
City of Roseville
311 Vernon Street
Roseville, CA 95678
Phone: 916-774 5276
Email: kpease@roseville.ca.us

NEPA and EIS Questions & Comments
Nancy Haley
Sacramento District,
U.S. Army Corps of Engineers
1325 J Street (Room 1480)
Sacramento, CA 95814
Phone: (916) 557-7731
Email: SierraVista@usace.army.mil

APPENDIX G.
COMMENT CARD

CITY OF ROSEVILLE CALIFORNIA

US Army Corps of Engineers ®

JOINT PUBLIC SCOPING MEETING REGARDING PREPARATION OF
AN ENVIRONMENTAL IMPACT REPORT AND ENVIRONMENTAL IMPACT STATEMENT
FOR THE SIERRA VISTA SPECIFIC PLAN PROJECT

WEDNESDAY, APRIL 16, 2008

COMMENT FORM

The City of Roseville and the U.S. Army Corps of Engineers would like your comments regarding the preparation of an Environmental Impact Report (EIR) and an Environmental Impact Statement (EIS) for the Sierra Vista Specific Plan. Please specify whether your comments pertain to the EIR, EIS, or both. Write your comments below and turn in this form at the end of the scoping meeting, or mail it to Denise Heick, URS Corporation, 221 Main Street, Suite 600, San Francisco, CA 94105-1917, who is collecting comments for the City of Roseville and the U.S. Army Corps of Engineers. You may also fax this form to URS at 415-882-9261. Your comments are due no later than April 29, 2008, by 5:00 p.m. Thank you!

YOUR INFORMATION:

Name: _____

Address: _____

City: _____ State and Zip: _____

Phone: _____ Email: _____

Do you want to be notified when the Draft EIR and EIS are available for public review? YES NO

COMMENTS:

_____

_____

_____

_____

_____

CITY OF ROSEVILLE CALIFORNIA

US Army Corps of Engineers ®

FROM:

PLACE POSTAGE HERE

TO: Denise Heick
URS Corporation
221 Main Street, Suite 600
San Francisco, CA 94105-1917

APPENDIX H.
LIST OF ATTENDEES

Sierra Vista Scoping Meeting
Sign In Sheet
April 16, 2008

Name	Agency	Address	E-Mail	Add to Mailing List?
Sean Houck	RBF Consulting		shouck@rbf.com	Yes
TOM KOLLEN	RICHLAND		TOM@RICHLAND COMMUNITIES.COM	YES
Sean Hungerford	Dripenbrock		shungerford@dripenbrock.com	
JOHN & DONNA DEARING		2160 BENTON LOOP ROSEVILLE, CA 95747		YES
Neil Smyth				

APPENDIX I.
POWERPOINT PRESENTATION

US Army Corps
of Engineers ®

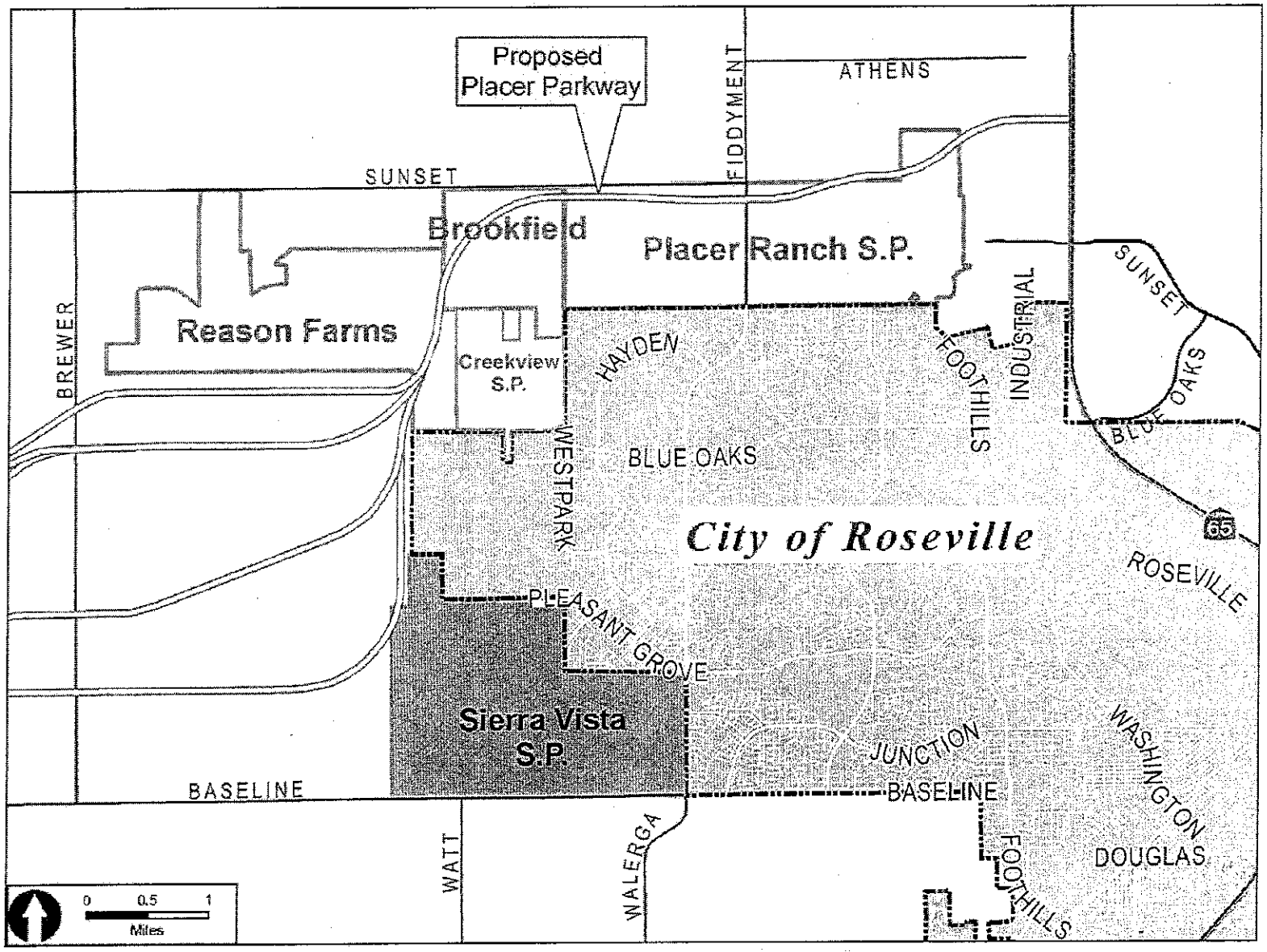
CITY OF ROSEVILLE CALIFORNIA

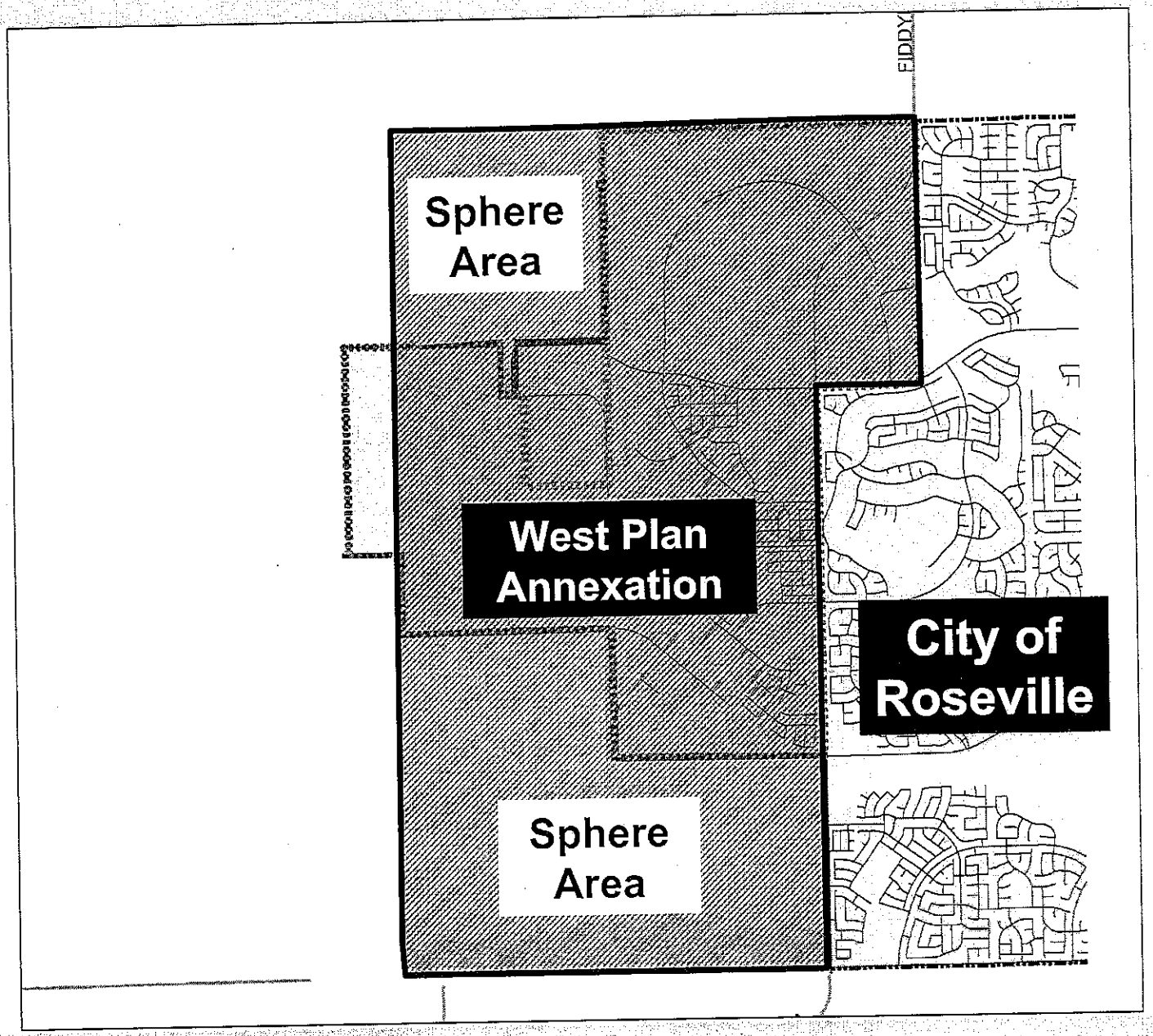
Sierra Vista Specific Plan Scoping Meeting

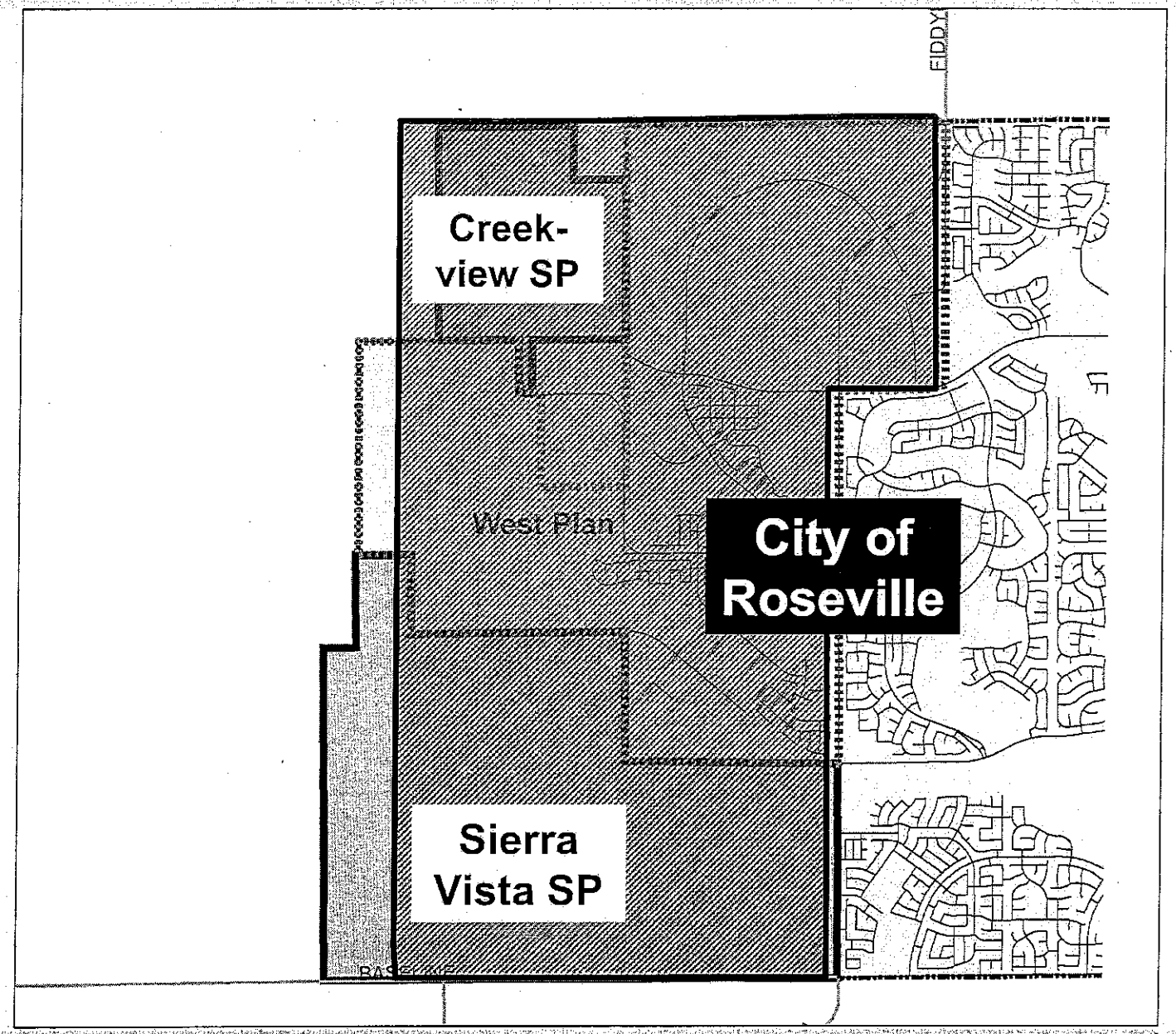
April 16, 2008

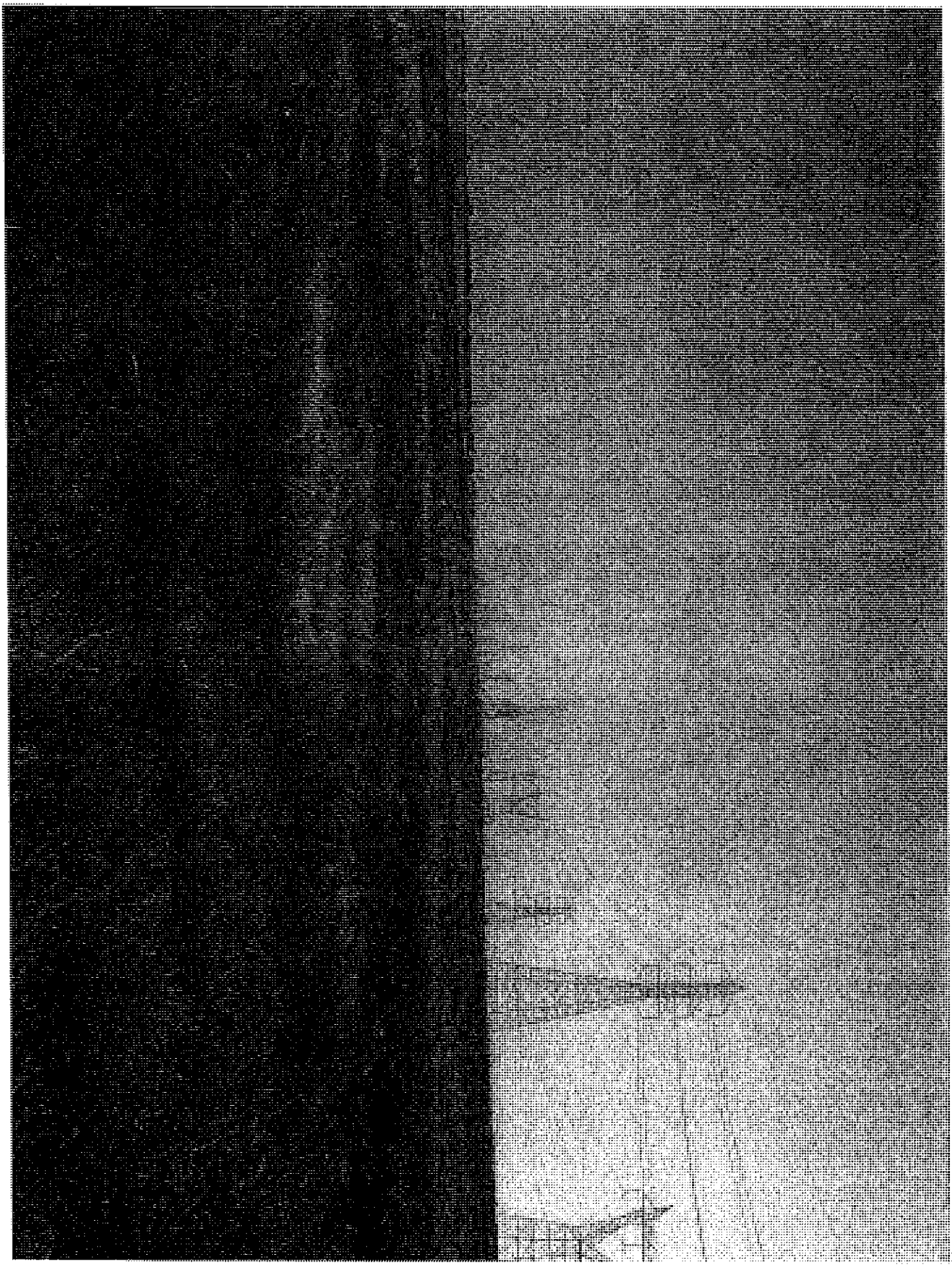
Why Are We Here?

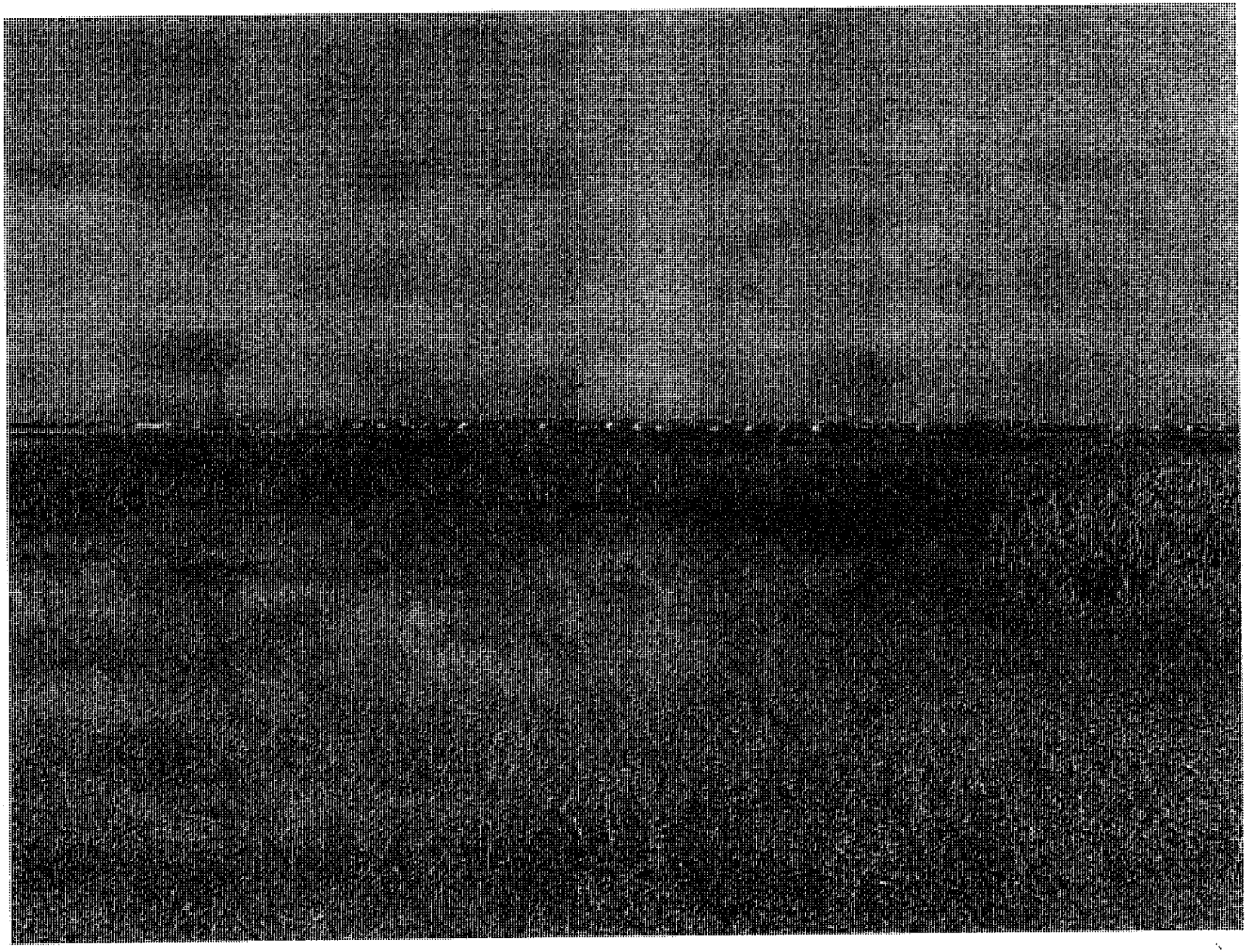
- Introduce the proposed project
- Outline the environmental review process
- Provide comment on the scope of EIR and EIS

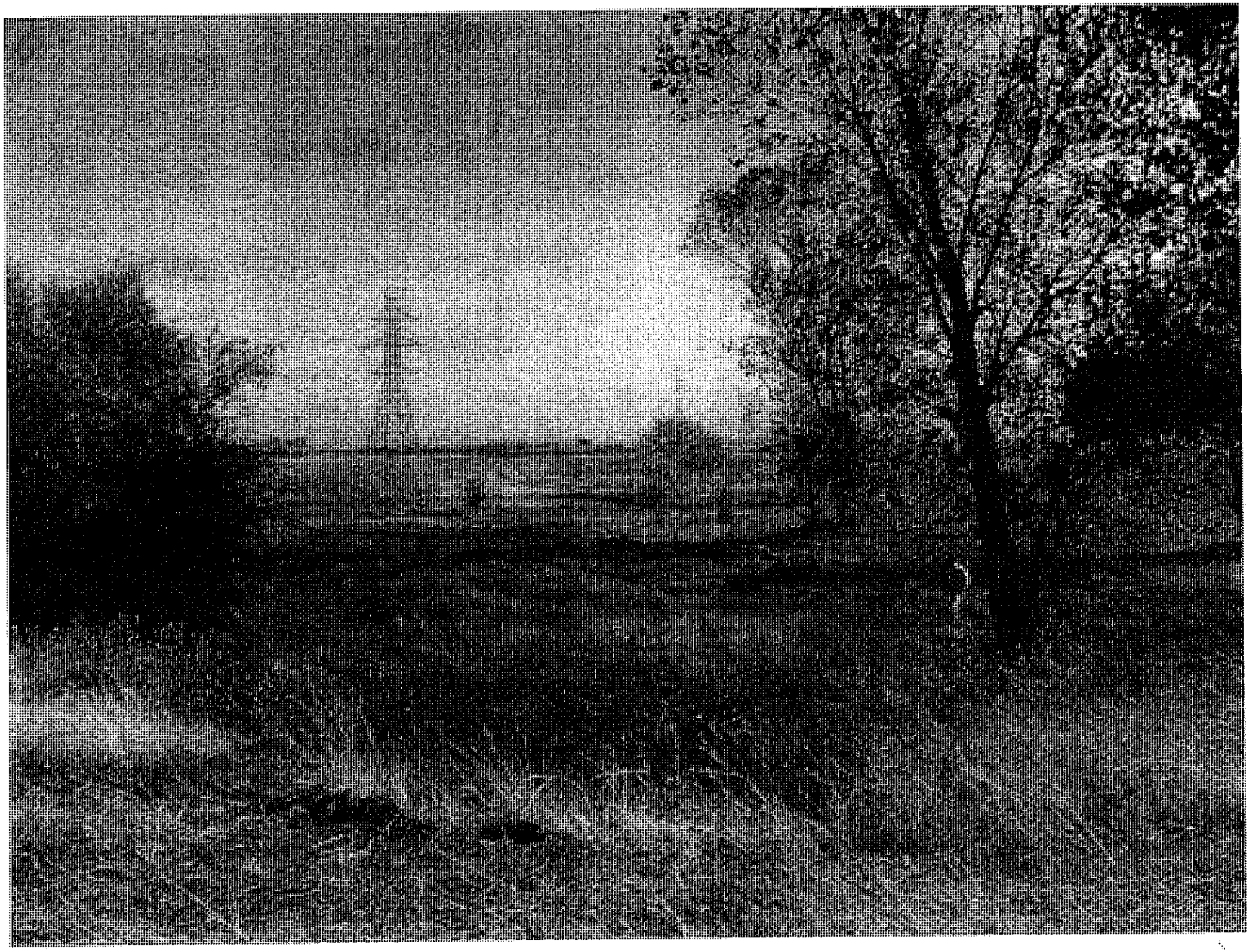

Proposed
Placer Parkway
ATHENS
FIDDYMENT
SUNSET
Brookfield
Placer Ranch S.P.
Reason Farms
BREWER
Creekview
S.P.
HAYDEN
FOOTHILLS
INDUSTRIAL
SUNSET
BLUE OAKS
BLUE OAKS
WESTPARK
City of Roseville
65
ROSEVILLE
PLEASANT GROVE
Sierra Vista
S.P.
JUNCTION
WASHINGTON
BASELINE
BASELINE
WATT
WALERGA
FOOTHILLS
DOUGLAS
0
0.5
1
Miles


EIDDY
Sphere Area
West Plan Annexation
City of Roseville
Sphere Area

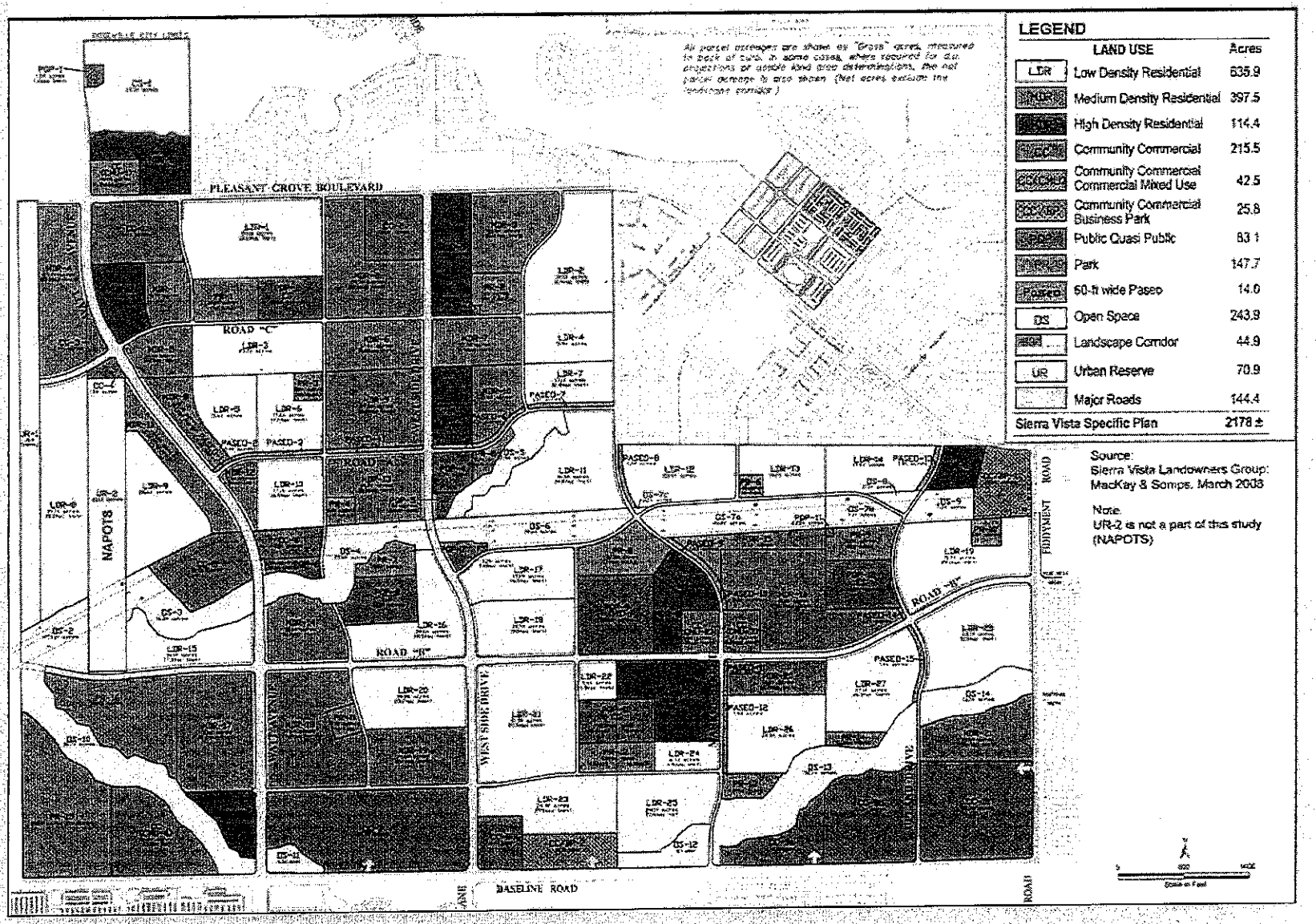

EIDDY
Creek-
view SP
West Plan
City of
Roseville
Sierra
Vista SP
BASELINE

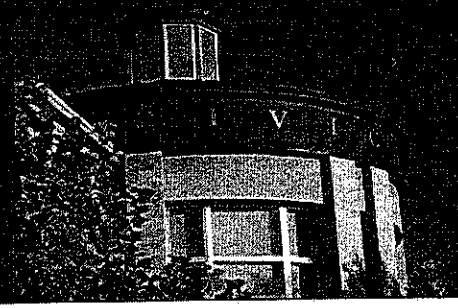






Conceptual Land Use Plan





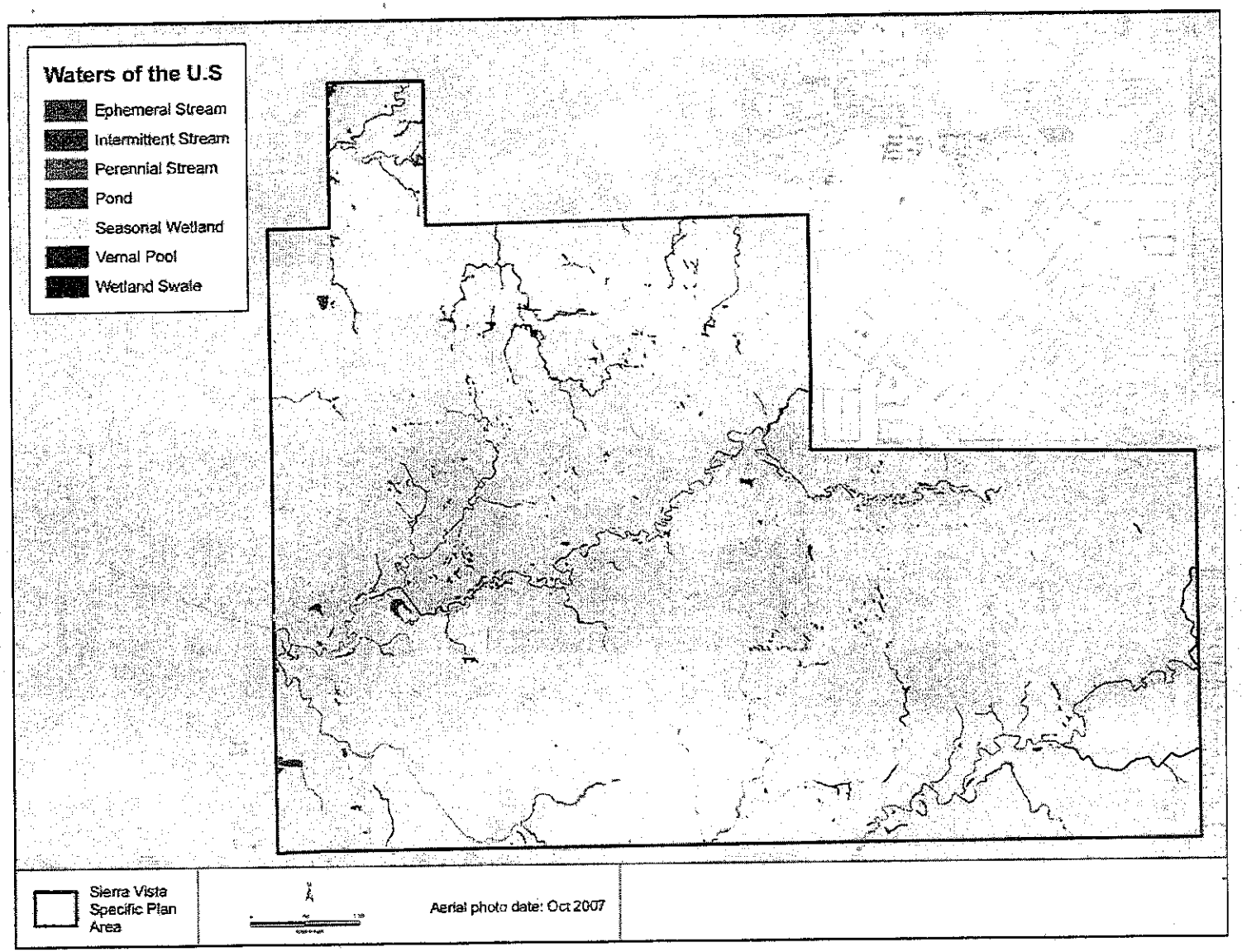
CEQA Approvals

- Annexation and Sphere of Influence Amendment
- General Plan Amendment
- Adoption Specific Plan and Design Guidelines
- Pre-zoning/Zoning Amendment
- Development Agreement

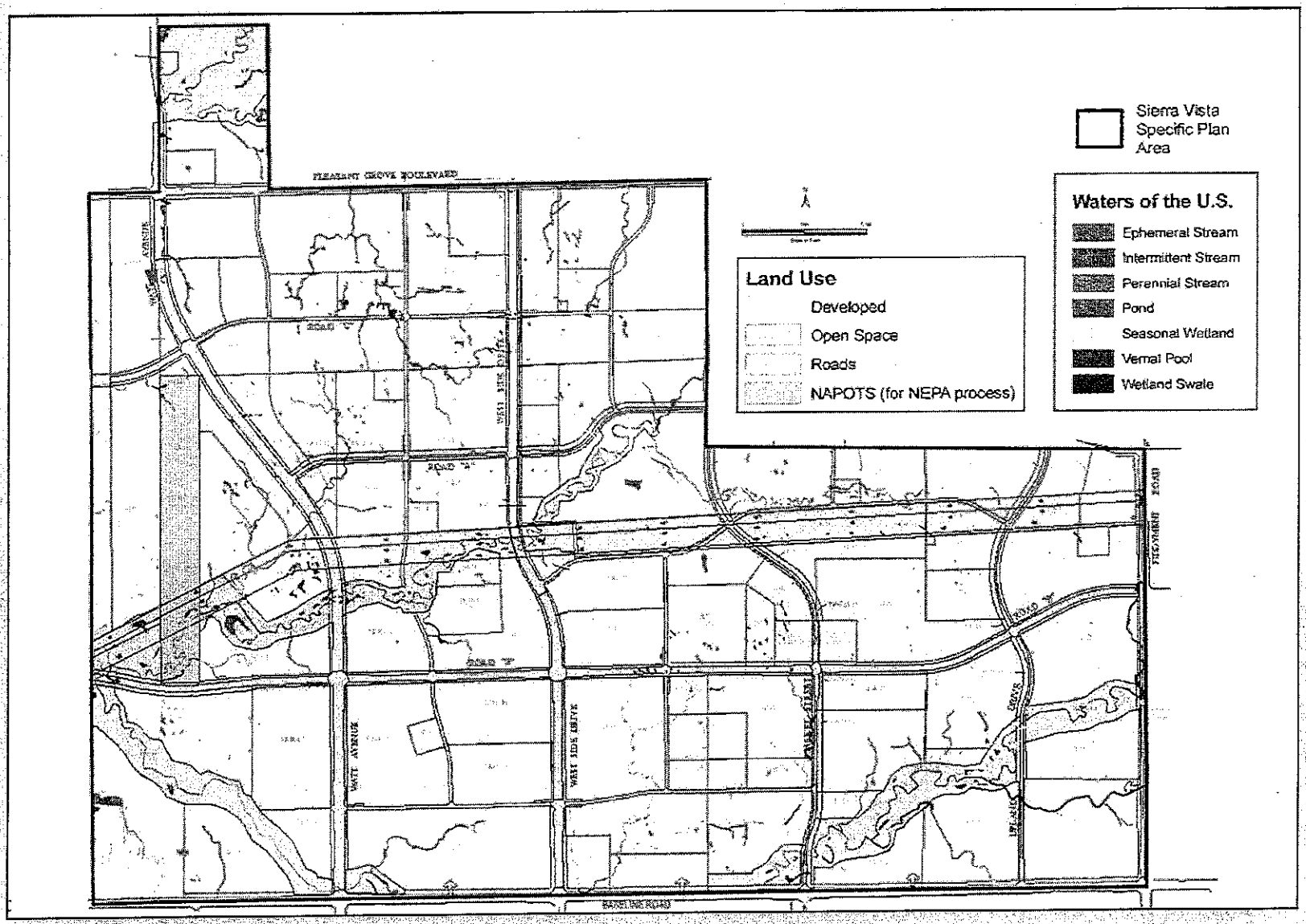
US Army Corps
of Engineers ®

NEPA
SECTION 404 PROCESS

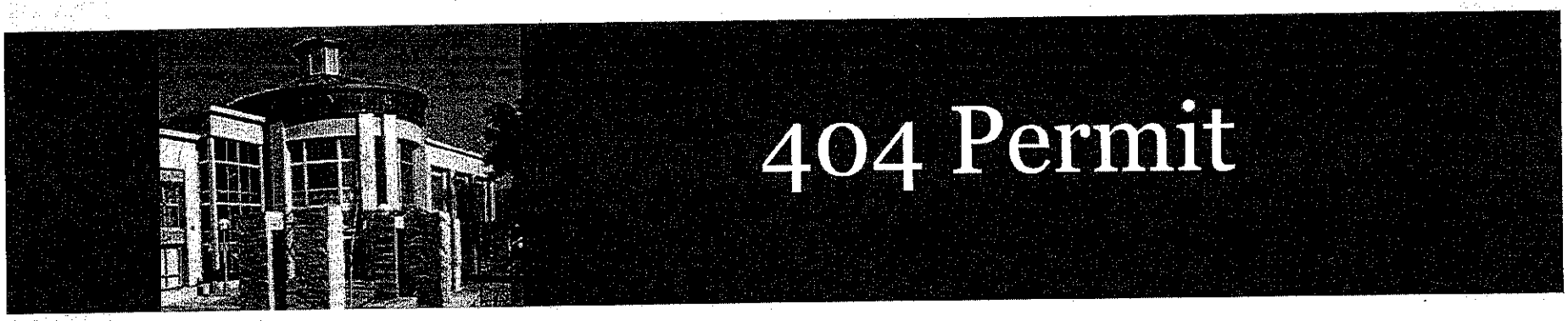
Existing Conditions



Land Use and Wetland Delineation



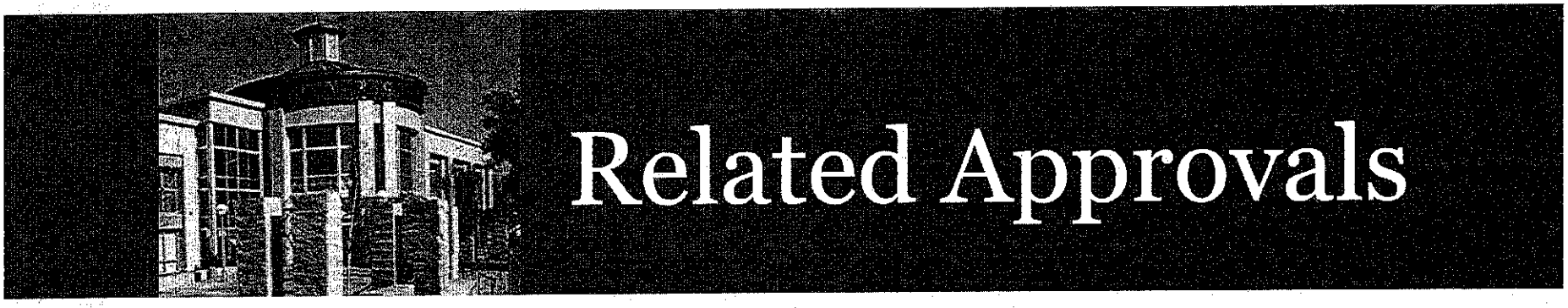
City of Roseville, California



404 Permit

404 Permit

- Issued by the Corps
- Regulates fill in waters of the U.S.

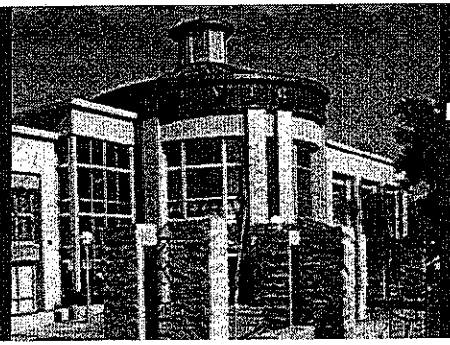


Related Approvals

- Endangered Species: Section 7 (USFWS)
- Cultural Resources: Section 106 (SHPO)
- Water Quality: Section 401 (RWQCB)

Environmental Review Process – Purpose

- Informational document
- Assesses environmental impacts of the proposed project and alternatives
- Identifies ways to minimize or mitigate impacts



Two Environmental Documents

- Environmental Impact Report (EIR)
- Environmental Impact Statement (EIS)

EIR/EIS Analyses

- Land Use
- Population and Housing/Socioeconomics
- Geology and Soils
- Hydrology and Water Quality
- Biological Resources
- Cultural Resources
- Visual Resources
- Hazards and Hazardous Waste
- Transportation and Circulation
- Air Quality
- Noise
- Public Services and Utilities

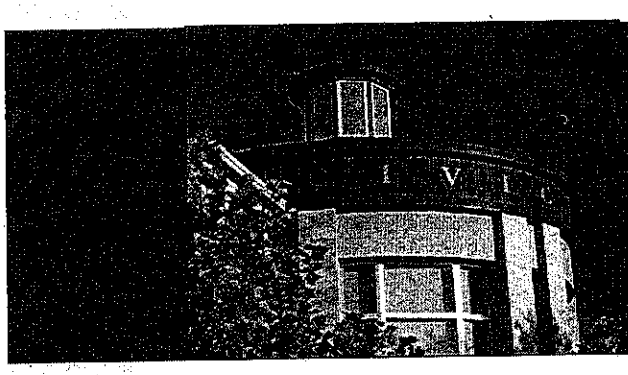
Project Alternatives

EIR

- ***Alternatives to be determined***
- ***Analyzed at lesser detail than the proposed project***

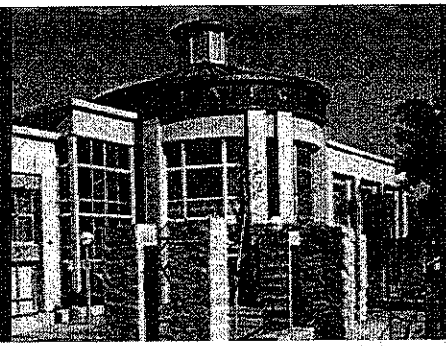
EIS

- ***Alternatives to be determined***
- ***Analyzed at the same level of detail as the proposed project***



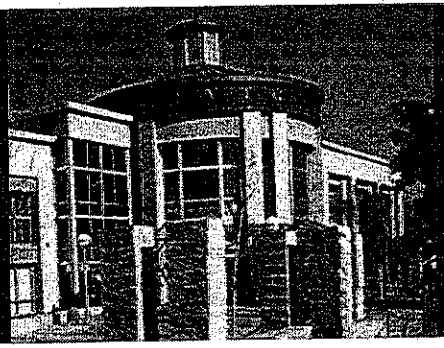
Environmental Review Process

EIR	EIS
Notice of Preparation	Notice of Intent
Scoping	Scoping
Circulate Draft EIR	Circulate Draft EIS
Public and Agency Review/Comment	Public and Agency Review/Comment
Final EIR	Final EIS
Notice of Determination	Record of Decision



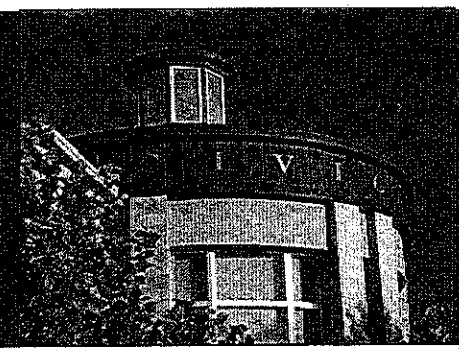
Public Disclosure

- Opportunities to receive information
- Opportunities to provide input



Sierra Vista Specific Plan EIR and EIS

Questions on Presentation or the approach to the EIR and EIS Analyses?



Where to Obtain Project Information

EIR

Planning & Redevelopment
311 Vernon Street
Roseville, CA 95678
Telephone: (916) 774-5276
City website –
www.roseville.ca.us

EIS

Nancy Haley
Army Corps of Engineers
Sacramento District
1325 J Street (Room 1480)
Sacramento, CA 95814
Telephone: (916) 557-7731
SierraVista@usace.army.mil

APPENDIX J.
OFFICIAL TRANSCRIPT OF MEETING COMMENTS

(An officially certified transcript from Paulson Reporting & Litigation services has been sent separately to the City of Roseville)

PAULSON

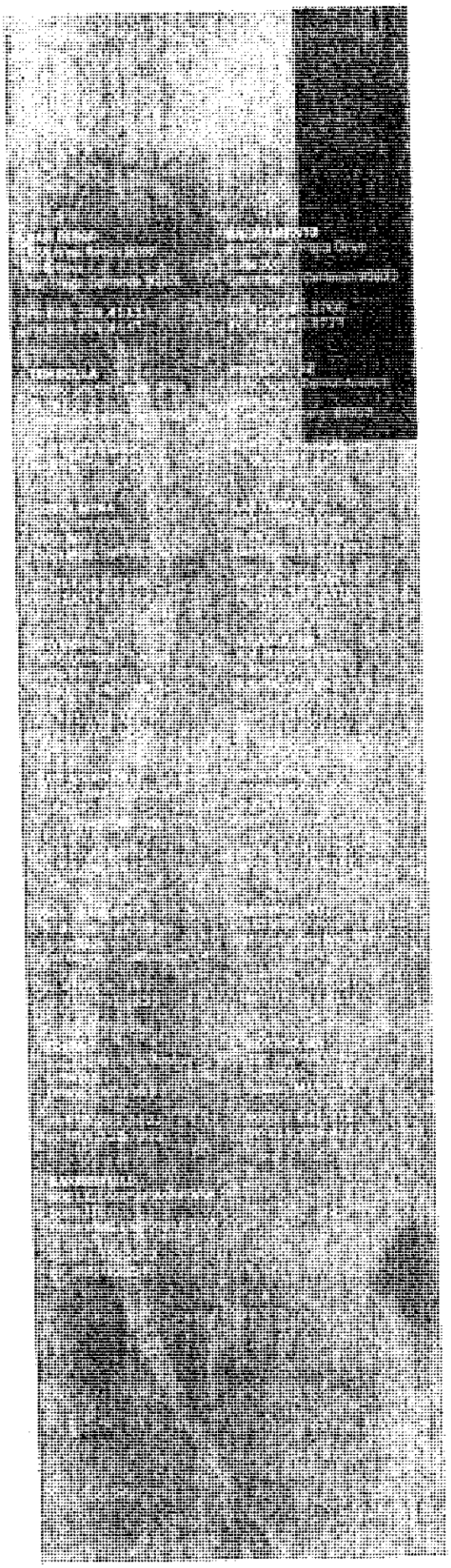
JOINT EIR/EIS SCOPING MEETING FOR THE SIERRA VISTA SPECIFIC PLAN

PUBLIC COMMENTS

April 16, 2008
5:00 to 7:00 PM

City of Roseville
311 Vernon Street
Roseville, California

REPORTED BY: ANGELA T. KOTT, CSR 7811



JOINT EIR/EIS SCOPING MEETING
FOR THE SIERRA VISTA SPECIFIC PLAN
PUBLIC COMMENTS
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5:00 to 7:00 PM

City of Roseville
311 Vernon Street
Roseville, California

REPORTED BY: ANGELA T. KOTT, CSR 7811

MS. KAYS: This is your chance to ask your questions and make comments and we're going to take note of them. If you do this right now, I would ask you to state your name and if you're with an organization give us that organization and state it very clearly for the record.

Any questions?

Yes?

MR. DEARING: Yes. My name is John Dearing. I'm a resident of West Park right across the street from this development. Question: What's the timeline on the EIS/EIR process?

MS. HEICK: We're thinking that probably the draft document will be completed in roughly a year, maybe a little less for the Environmental Impact Report, maybe a little bit more for the Environmental Impact Statement.

We try to keep the processes as concurrent as we can. And that just kind of depends on how things work out because we're just in the very initial stages, but that's the current timeline. And then another six months or so after that for a final document.

MS. KAYS: Anyone else?

We've got to have more than that. And again, you can ask questions during the open house or even ask questions and make comments in the comment cards.

No one else?

Okay. Well, I think we have one last slide, Denise. Okay.

CERTIFICATE OF REPORTER

I, ANGELA T. KOTT, a Certified Shorthand Reporter, hereby certify that the foregoing proceedings were taken in shorthand by me, at the time and place therein stated, and that the said proceedings were thereafter reduced to typewriting, by computer, under my direction and supervision;

I further certify that I am not of counsel or attorney for either or any of the parties nor in any way interested in the event of this cause, and that I am not related to any of the parties thereto.

DATED: , 2008.

ANGELA T. KOTT, CSR #7811

APPENDIX K.
SUBMITTED COMMENTS ON THE NOTICE OF PREPARATION (EIR)

SOUTH PLACER
REGIONAL
TRANSPORTATION
AUTHORITY

City of Lincoln • City of Rocklin • City of Roseville • Placer County

April 29, 2008

Kathy Pease, Senior Planner, AICP
City of Roseville Planning & Redevelopment
311 Vernon Street
Roseville, CA 95678

Re: Sierra Vista Specific Plan – Notice of Preparation Comments

Dear Ms. Pease:

Thank you for the March 27 Notice of Preparation (NOP) for the Draft Environmental Impact Report (DEIR) for the Sierra Vista Specific Plan. I appreciate the opportunity to provide NOP comments.

Placer County Transportation Planning Agency (PCTPA), on behalf of the South Placer Regional Transportation Authority (SPRTA) is working to complete the Placer Parkway Corridor Preservation Project and Tier 1 Environmental Impact Statement/Environmental Impact Report (Tier 1 EIS/EIR). The proposed project lies in the study area of the Placer Parkway Corridor Preservation Project.

Placer Parkway

Concept

Placer Parkway is a high-priority regional transportation project. It would connect rapidly growing areas of western Placer County at State Route (SR) 65 to planned development in south Sutter County at SR 70/99.

The concept of the Placer Parkway has been considered for over a decade. Placer County's 1994 General Plan depicts a plan line for it. Later, PCTPA and Sacramento Area Council of Governments (SACOG) Boards adopted preliminary planning documents for the Parkway (2000 Conceptual Plan and 2001 Project Study Report). The project is also identified in the 2027 Placer County Regional Transportation Plan and SACOG's 2035 Metropolitan Transportation Plan. See the PCTPA web site – www.pctpa.org.

Basic Placer Parkway concepts developed through this preliminary planning work and being carried forward in the Corridor Preservation project are:

- The transportation facility will be in a corridor varying from 500'- wide in the east/west segments and 1,000'-wide between Pleasant Grove Rd. (Sutter County) and Fiddyment

Rd. This corridor width could be revisited based upon performance standards to be developed in Tier 2.

- There will be a number of Parkway interchanges (SR 65 & SR 70/99, Fiddyment, Foothills, etc.). Only one potential interchange, at a future extension of Watt Ave. or other nearby roadway extension, is proposed between Pleasant Grove Rd. to Fiddyment Rd. This potential interchange is not a part of the project; however, the impacts of the Placer Parkway with and without such a connection are being studied.

- The corridor area on either side of the future transportation facility is to be a no-development buffer (buffer). Because no decision on the ultimate alignment has been decided, encroachment into the corridor area on either side of the future transportation facility should be avoided.

Corridor Preservation Project

The Corridor Preservation project has two phases:

- Phase 1 – identify feasible corridor alignment alternatives.
- Phase 2 – complete the Tier 1 EIS/EIR.

Phase 1. On September 28, 2005, the SPRTA Board identified five 'build' corridor alignment alternatives, in addition to the No Project alternative, to be analyzed in the Tier 1 EIS/EIR (see attached map). This action was based on a two and a half year technical and public participation program.

A portion of Alternative 1's 1,000-foot wide corridor crosses over the proposed specific plan area – just west of the Watt Ave./Pleasant Grove Blvd. intersection. The NOP (Figure 3) illustrates that this area is being proposed for Medium Density Residential and Urban Reserve uses.

Phase 2. There is no 'preferred' or 'recommended' corridor alignment for the Placer Parkway, or will there be until the Tier 1 EIS/EIR is completed. The Tier 1 EIS/EIR must equally analyze all reasonable alternatives. The Draft Tier 1 EIS/EIR was released in June 2007.

Based on recent SPRTA Board direction, an expanded analysis on the potential impacts of hypothetical additional interchanges and buffer adjustments, not proposed by SPRTA, is being developed for the Draft Tier 1 EIS/EIR. This new portion will be 're-circulated' for public input.

Federal and State clearances for the corridor preservation environmental work may be ready by summer 2009. Once the preferred corridor is determined, key pieces of land can be acquired to preserve right-of-way for the Parkway.
The approximately 350'-wide transportation facility will eventually be located within the Parkway corridor. The roadway's precise location within the corridor will be determined by a project-level environmental review.

NOP Comments

The NOP does not reference the proposed Placer Parkway.

The DEIR should:

1. Indicate that a portion of a Placer Parkway corridor alignment alternative would cross over the proposed specific plan site.

2. Analyze the impacts of the corridor through this area. If the corridor is not to be accommodated, the DEIR should clearly cite this intent and analyze how it would affect the Placer Parkway. The Tier I analysis does not analyze impacts of a reduced buffer and/or potential impacts should the alignment through the Sierra Vista Specific Plan not be eliminated. The SVSP project should analyze the impacts of any proposed encroachment within the corridor, as impacts resulting from this encroachment were not analyzed in the Placer Parkway EIR/EIS.

3. Address how the proposed specific plan could stage or phase development in order to avoid conflict with the Placer Parkway development process.

4. Evaluate potential detrimental health risks for sensitive land uses that may be within 500' of the corridor alternative and the compatibility of these uses.

5. Based on Placer Parkway projected traffic volumes, assess the potential for exceedences of land use compatibility noise thresholds to avoid placing noise-sensitive land uses adjacent to the corridor alternative.

PCTPA recognizes the concurrent development of proposals such as Sierra Vista Specific Plan along with the Parkway's Corridor Preservation Tier 1 EIS/EIR creates a challenging situation for all involved. PCTPA has been engaged in on-going consultation with counties, cities, federal, state, and regional agencies, and landowners to avoid or minimize conflicts.

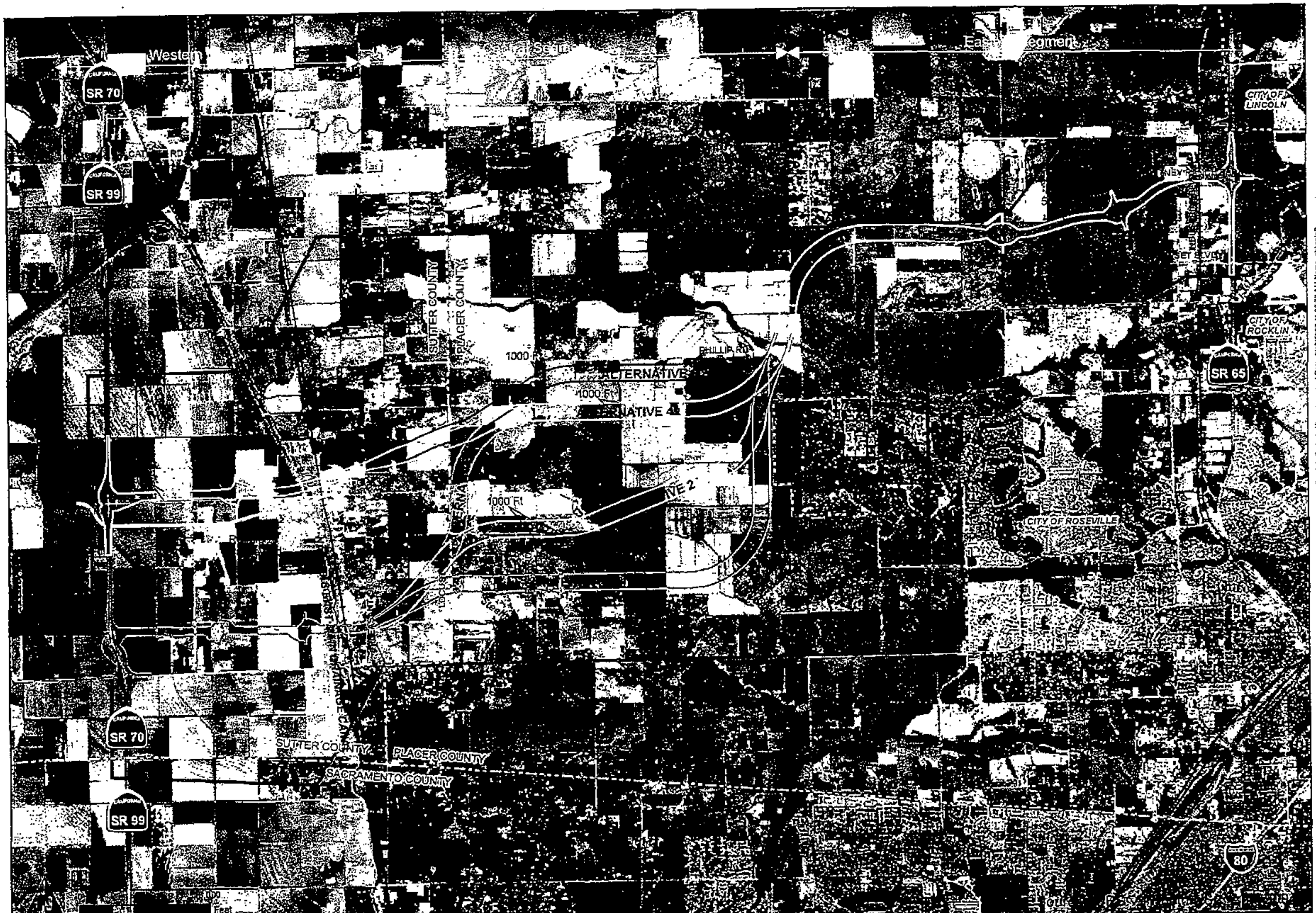
PCTPA appreciates the City of Roseville's cooperation and involvement in the Placer Parkway planning and environmental process. If you have any questions, please call Celia McAdam at 530.823.4030 or me at 530.823.4033.

Sincerely,

Stan Tidman

Stan Tidman, Senior Planner

ST:ss
Enclosures
Copies: Celia McAdam, PCTPA Executive Director
Gary Sweeten, Federal Highway Administration
Rick Dondro, Placer County Public Works
Larry Combs, Sutter County Administrative Officer
Denise Heick, URS Corporation



Alternative 1
Alternative 2
Alternative 3
Alternative 4
Alternative 5
Study Area Boundary
County Boundary
City Boundary

PLACER PARKWAY

Tier 1 EIS/EIR

Project Alternatives

Figure 2-1

June 2007

Pacific Gas and Electric Company
Auburn Land Services Office
343 Sacramento St.
Auburn, Ca. 95603

Direct: (530) 889-3131
Fax: (530) 889-3392
Email: JEN8@pge.com

April 29, 2008

City of Roseville Planning & Redevelopment
Attn: Kathy Pease, Senior Planner, AICP
311 Vernon St.
Roseville, CA 95678

RE: Notice of Preparation of a Draft Environmental Impact Report
Seirra Vista Specific Plan Joint EIR/EIS

Dear Kathy Pease:

Thank you for the opportunity to comment on the above referenced report. PG&E has the following comments.

Dedicate all public/common areas as a Public Utility Easement (PUE) and a standard 12.5 foot PUE for underground facilities and appurtenances adjacent to all public ways, private drives and/or Irrevocable Offer of Dedication.

Due to such a large development project the developer may need to reserve a space with a width of approximately 20 feet by 80 feet for a future easement to be granted to Pacific Gas and Electric Company. This space will consist of gas regulator station to supply the development with such a large capacity. This will need to be coordinated with PG&E to decide the best location for the regulator lot's placement.

We would also like to note that continued development consistent with the City's General Plans will have a cumulative impact on PG&E's gas systems and may require on-site and off-site additions and improvements to the facilities which supply these services. Because utility facilities are operated as an integrated system, the presence of an existing gas or electric transmission or distribution facility does not necessarily mean the facility has capacity to connect new loads.

Expansion of distribution and transmission lines and related facilities is a necessary consequence of growth and development. Upgrades in addition to a new regulator station to accommodate additional load on the gas system could include facilities such as odorizer stations, valve lots, distribution and transmission lines.

The developer will be responsible for the costs associated with the relocation of existing PG&E facilities to accommodate their proposed development. Because facility

relocation's require long lead times and are not always feasible, the developer should be encouraged to consult with PG&E as early in their planning stages as possible.

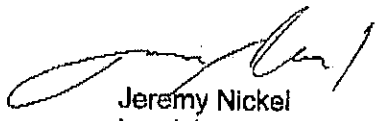
We would like to recommend that environmental documents for proposed development projects include adequate evaluation of cumulative impacts to utility systems, the utility facilities needed to serve those developments and any potential environmental issues associated with extending utility service to the proposed project. This will assure the project's compliance with CEQA and reduce potential delays to the project schedule.

We also encourage that information is include about the issue of electric and magnetic fields (EMF) in the report. It is PG&E's policy to share information and educate people about the issue of EMF.

Electric and Magnetic Fields (EMF) exist wherever there is electricity - in appliances, homes, schools and offices, and in power lines. There is no scientific consensus on the actual health effects of EMF exposure, but it is an issue of public concern. If you have questions about EMF, please call your local PG&E office. A package of information which includes materials from the California Department of Health Services and other groups will be sent to you upon your request.

PG&E remains committed to providing timely, reliable and cost effective gas and electric service to the public. Please contact me if you have any further questions regarding our comments. We would also appreciate being copied on future correspondence regarding this subject as this project develops.

Sincerely,



Jeremy Nickel
Land Agent
(530) 889-3131
jen8@pge.com

cc:

Robert McAndrew
Ed Wong
Leo Stewart
Kathy Caringi
Richard Raulino
Russ Schoen
Mark Esguerra
Gerge Karkazis
Bryan Barr

1709 San Jose Way
Roseville, CA 95747
April 25, 2008

Senior Planner
City of Roseville Planning & Redevelopment
311 Vernon Street
Roseville, CA 95678

Dear Kathy Pease;

I am responding to your call for written comments regarding the impact of the Sierra Vista Plan Project.

As an adjacent homeowners to the proposed site we are concerned about the environmental impact of the nearby Salmon habitat which could be affected by construction runoff. We are also concerned about the impact to a beaver habitat on the proposed site. A beaver dam is visible from Baseline Road about a quarter mile west from Fiddyment Road.

Largely, we are concerned about the project undercutting the house values in our neighborhood. We've already lost 35% of the value of our home due to the slumping housing market in Roseville. We believe we would face financial ruin, along with our neighbors, if homes sites are prepared for another 26,000 residents at the Sierra Vista Project. There is already a large supply of such homes in West Park. I believe this project needs to be delayed until the markct rebounds for the sake of all Roseville residents. Thank you for listening to my concern.

Sincerely,

Jonathan Brines
Susan Brines
Roseville Homeowners

SIERRA CLUB
FOUNDED 1892

MOTHER LODE CHAPTER
801 K STREET, SUITE 2700
SACRAMENTO, CA 95814
TEL. (916) 557-1100 EXT. 119 FAX: (916) 557-9669
info@mlc.sierraclub.org – www.motherlode.sierraclub.org

April 24, 2008

Kathy Pease
Planning and Development Dept.
City of Roseville
311 Vernon St.
Roseville, CA 95678

RE: Notice of Preparation for EIR – Sierra Vista Specific Plan

Dear Ms. Pease,

On behalf of the Mother Lode Chapter of the Sierra Club, thank you for the opportunity to comment on the NOP for preparation of the Sierra Vista Specific Plan Environmental Impact Report.

The NOP notes that the site is approximately 2,178 acres. The project would develop 1,934 of those acres as residential, commercial, parks and other urban uses. 244 acres would be in open space, but only a smaller portion would be preserved in its natural state since the total acreage includes a WAPA corridor which could have significant disturbance. As noted in the NOP, high value aquatic resources dominate the site: "Curry Creek, a perennial stream, seasonal wetland swales, and seasonal wetlands, are located throughout the project site."

The project will impact vernal pool resources and special-status species.
Of particular note are the vernal pool resources present on the project site. Surveys conducted by Placer County in conjunction with Placer Legacy and the Placer County Conservation Plan identified 871 acres of vernal pool complex grasslands on the site. The U.S. Fish and Wildlife Service (USFWS) has recognized that the entire 2,178 acre site is essential to the recovery of vernal pool species. The "Recovery Criteria" in the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* identifies the Sierra Vista site as occupying a portion of the "Priority Core Area" for vernal pool tadpole shrimp and vernal pool fairy shrimp. Under the Recovery Plan, 85% of these core areas must be protected, as well as 80% of species occurrences.

The current project design fails to avoid onsite vernal pools and related uplands.
The City is engaged in obtaining federal permits to fill significant wetlands and both directly and indirectly impact vernal pools and associated listed species. As currently designed, the project fails to avoid onsite vernal pool complexes. The Conceptual Land Use Plan (March 2008) reveals that the limited acreage of unimpacted open space would be along narrow linear stream courses, leaving inadequate uplands to ensure the long-term functionality of the few vernal pools that would be avoided.

CEQA mitigations should be aligned with those required to obtain federal permits.
In order to obtain a Section 404 permit under the Clean Water Act from the US Army Corps of Engineers and a favorable Biological Opinion from the US Fish and Wildlife Service, either major design changes will have to be made that avoid significant impacts to wetlands and vernal pools, or mitigation with substantial offsite preservation must occur. Onsite avoidance or mitigation through offsite preservation in ratios that are sufficient to meet the goals of the Vernal Pool Recovery Plan should be incorporated into the CEQA document. Otherwise, inefficient and lengthy delays occur when CEQA mitigations are markedly different from those required to obtain federal permits.

Mitigations for impacts to sensitive habitat should be consistent with the City's MOU with USFWS.
In anticipation of the impacts that Roseville annexations would have on sensitive habitats, the City of Roseville and the USFWS crafted an MOU. This agreement was coupled with federal permits that were granted for the expansion of the Pleasant Grove Wastewater Treatment Plant, which enabled urban development in areas critical to the recovery of vernal pool species. The MOU commits the City of Roseville to "develop and implement a long-term habitat conservation program (HCP), or its equivalent, to minimize the effects of future development on federally listed species." Fundamental to habitat conservation planning is the preservation of large linked preserves that are based on the conservation of existing resources, rather than the creation or restoration of vernal pool wetlands. CEQA mitigations for Sierra Vista should reflect the spirit and intent of the MOU.

In the absence of an HCP, mitigation ratios must be consistent with the Vernal Pool Recovery Plan.
If the City of Roseville fails to "develop and implement a long-term habitat conservation program (HCP), or its equivalent," offsite mitigation must be in ratios consistent with the 85% rate of preservation in the USFWS Vernal Pool Recovery Plan. Given that the proposed project would directly or indirectly compromise 100% of the vernal pool habitat onsite (due to direct impacts and incompatible adjacent uses), offsite preservation should reflect the 6.6:1 ratio implicit in the 85% guideline. Thus, given that 871 acres of vernal pool complex habitat have been identified onsite in recent biological surveys, offsite preservation should total 5,748.6 acres of existing vernal pool complex grassland.

The project must incorporate mitigations for climate change impacts.
With the passage of AB32 and SB 97, greenhouse gas emissions must be addressed under CEQA. The EIR for Sierra Vista must evaluate the project's climate change impacts, and adopt all feasible measures to mitigate those impacts.

I appreciate the opportunity to comment on the NOP for the Sierra Vista Specific Plan EIR. Please keep me informed of any notices and documents related to this project. I can be reached at the address on the letterhead, or terry.davis@sierraclub.org and 916 557-1100 ext. 108.

Sincerely,

Terry Davis

Terry Davis
Conservation Program Coordinator

SUTTER COUNTY
COMMUNITY SERVICES DEPARTMENT

Planning – Lisa Wilson, Planning Division Chief
Animal Control
Building Inspection
Environmental Health

Director – Larry Bagley
Assistant Director – Randy Cagle
Fire Services – Dan Yager
Emergency Services – John DeBeaux

April 29, 2008

Kathy Pease, Senior Planner
Planning and Redevelopment Department
City of Roseville
311 Vernon Street
Roseville, CA 95678

Re: Notice of Preparation for Sierra Vista Specific Plan

Dear Ms. Pease:

Thank you for the opportunity to comment on the Notice of Preparation for the Sierra Vista Specific Plan proposed west of the City of Roseville.

The portion of south Sutter County immediately adjacent to Placer County is predominantly agriculture with scattered homes, ranches and agriculturally-related businesses.

Further to the west, in the Natomas Basin portion of south Sutter County, the County is currently processing an application for the Sutter Pointe Specific Plan project in south Sutter County. Sutter Pointe is proposed as a 7,500-acre mixed use community with a heavy emphasis on job creating uses. The proposed plan includes approximately 2,900 acres of residential uses with a maximum of 17,500 dwelling units. The plan area will also include 3,600 acres of employment uses with an anticipated 50,000,000 square feet of building.

Unless mitigated properly, additional development in western Placer County will likely have significant impacts on the existing residents, farmers and businesses in south Sutter County, as well as the Sutter Pointe project, if approved.

Stormwater Runoff.

Stormwater runoff from western Placer County flows into small streams toward south Sutter County. The Sierra Vista Specific Plan is in the Curry Creek watershed. Curry Creek flows west from Placer County into Sutter County where it is captured by the Natomas East Main Drain Canal north of Sankey Road and ultimately diverted into the Sacramento River. During large storm events, water in Curry Creek overflows its banks, flooding homes and

ranches. The flood waters also run through the "Sankey Gap" into the Sutter County portion of the Natomas Basin, where Sutter Pointe is proposed. The Sierra Vista Specific Plan EIR should address the effects of post-project run-off on south Sutter County.

Transportation.

Traffic from development in western Placer County currently uses Sutter County roads and State Route 99/70 for access to Sacramento and other destinations south. The Sutter County roads are undersized to accommodate the amount of traffic currently using the roads. As part of Sutter Pointe project, Sutter County roads will be widened and an interchange built at State Route 99/70. The Sierra Vista Specific Plan EIR should address the effects of the project on south Sutter County roads and the state facilities used by traffic from Sierra Vista including State Route 99/70, and the interchange at State Route 99/70 and Riego Road.

We look forward to the opportunity to discuss coordination between the two projects with you and/or the project applicants.

Sincerely,

Doug Libby, AICP
Principal Planner

DL:kf

P:\Planning\Projects - Misc\Sierra Vista Specific Plan - Placer County\4-29-08 comments to NOP.doc

"Pease, Kathy"
<KPease@roseville.ca.us>
04/08/2008 06:55 AM

To <Kathy_Rushmore@URSCorp.com>, <Denise_Heick@URSCorp.com>, <jeffjones@surewest.net>
cc
bcc
Subject FW: Sierra Vista Specific Plan EIR NOP

From: Al Sawyer [mailto:ASawyer@co.sutter.ca.us]
Sent: Monday, April 07, 2008 5:35 PM
To: Pease, Kathy
Cc: Doug Libby; Janet Bender
Subject: Sierra Vista Specific Plan EIR NOP
Importance: High

Kathy, please accept the following responsible agency comment from Sutter County Public Works reference the subject project:

"Full impact on Sutter County roads, specifically Riego Rd and its intersection with SR 99/70, must be included in the report."

Al Sawyer, P.E.
Assistant Public Works Director
(530) 822-7450

Department of Energy
Western Area Power Administration
Sierra Nevada Customer Service Region
114 Parkshore Drive
Folsom, California 95630-4710

APR 18 2008

RECEIVED
APR 23 2008
Planning & Redevelopment Department

Ms. Kathy Pease
Senior Planner
City of Roseville
311 Vernon Street
Roseville, CA 95678

Dear Ms. Pease:

Thank you for the opportunity to comment on the Notice of Preparation of an Environmental Impact Report for the proposed Sierra Vista Specific Plan, Annexation, Sphere of Influence Amendment, and General Plan Amendment Project. The United States Department of Energy, Western Area Power Administration (Western), does not have any objections to the proposed use where the project crosses Western's Cottonwood-Roseville, Roseville-Elverta/Roseville-Fiddyment-Elverta 230-kilovolt transmission line easements provided the project does not interfere with the easement rights and are in accordance with the enclosed General Guidelines. All improvement plans within the easements must be submitted to Western for review and approval for a License Agreement prior to construction. In addition, the following restrictions apply:

1. Structures are not allowed on the easement. Structures, by way of example, not by limitation, shall mean buildings, sheds, mobile homes, signs, storage tanks, septic systems, swimming pools, tennis courts, basketball courts, gazebos, or similar facilities.

2. All vegetation on the easement shall not exceed a maximum height of 12 feet at maturity.

3. Excavation is not permitted within 20 feet of any tower footings and the ground to conductor clearance must be maintained at a minimum of 30 feet at all times.

4. Wells and mining operations are not allowed within the easement.

5. Western shall review fence plans affecting the easement area prior to installation. If fences are placed across the easement, 14-foot wide gates are required for access along the easement.

6. Thirty (30) feet of unobstructed access is to be maintained around the towers.

If you have any questions, please contact Ms. Susan Sinclair at (916) 353-4600.

Sincerely,

Heidi R. Miller
Realty Specialist

Enclosure

WESTERN AREA POWER ADMINISTRATION
GENERAL GUIDELINES CONCERNING THE USE OF
ELECTRIC TRANSMISSION LINE RIGHTS-OF-WAY

RE: Roseville-Elverta/Roseville-Fiddyment and Cottonwood-Roseville 230-kV Transmission Lines

Western Area Power Administration (Western) owns a 250-foot easement along the length of the referenced transmission line. Western's rights within the easement include the right to construct, reconstruct, operate, maintain, and patrol the transmission line.

Rights usually reserved to the landowner include the right to cultivate, occupy, and use the land for any purpose that does not conflict with Western's use of its easement. To avoid potential conflicts, it is Western's policy to review all proposed uses within the transmission line easement. We consider (1) Safety of the public, (2) Safety of our Employees, (3) Restrictions covered in the easement, (4) Western's maintenance requirements, and (5) Protection of the transmission line structures and (6) Road or street crossings.

The outline below lists the considerations covered in the review. Please note that some items may overlap. This outline has been prepared only as a guide; each right-of-way encroachment is evaluated on an individual basis.

1. Safety Of The Public

   A. Approval depends, to a large extent, on the type and purpose of the development. Western takes our obligation to public safety very seriously. To insure our obligation, any use of the easement that will endanger the public will not be allowed or strongly discouraged (e.g., kite flying is prohibited).

   B. Metal fences must be grounded in accordance with applicable safety codes.

   C. Lighting standards shall not exceed a maximum height of 15 feet and not placed directly under the conductors (wires). All lighting standards must be grounded.

   D. All vegetation on the easement shall not exceed a maximum height of 12 feet at maturity.

   E. Structures are not allowed on the easement. Structures include, but are not limited to, buildings, sheds, swimming pools, basketball courts, tennis courts, gazebos, etc.

   F. No ground elevation changes are allowed which would reduce the ground to conductor clearance below 30 feet.

2. Safety Of Our Employees

Vegetation and encroachments into our right-of-way requires our crews to take action, which places them at risk. Therefore, any vegetation or encroachments that present a risk to our employees will not be allowed.

3. Restrictions Covered In The Easement

The easement prohibits the following: (1) any use that will interfere with or damage the equipment of the United States, (2) digging or drilling of a well, (3) erecting buildings or structures, (4) placing or piling up material within the easement boundaries. The easement gives Western the right to remove trees, brush or other objects interfering with the safe operation and maintenance of the line.

4. Maintenance Requirements

A. Berms shall not be placed next to the base of the transmission line tower.

B. Any proposed improvements to the easement (including grading, parking lot, lighting, landscaping, fences, etc.), must be reviewed by Western to assure that they will not interfere with the safe operation and maintenance of the transmission line.

C. A 14-foot gate is required in any fences that cut off access along our easement.

D. Thirty (30) feet of unobstructed access is to be maintained around towers.

5. Protection Of The Transmission Line Structure (Towers, Guy Wires, etc.)

A. If the proposed use increases the possibility of a motor vehicle hitting the transmission line structure, an appropriate guard rail shall be installed to protect the structure (e.g., parking lots or roads).

B. Trench digging, which would weaken or damage the structure, is prohibited.

C. No ground elevation changes are allowed within 20 feet of the structure, and in no case shall the conductor to ground clearance be reduced below code limitation.

6. Roads Or Street Crossings

Western's policy is to have roads or streets cross the easement at right angles, or as nearly at right angles as possible, so that a minimum area of the road or street lies within the transmission line easement.

Requests for permission to use the transmission line right-of-way should be submitted to: Western Area Power Administration, Sierra Nevada Regional Office, Attn: Realty Officer, 114 Parkshore Drive, Folsom, CA 95630.

DEPARTMENT OF TRANSPORTATION
DISTRICT 3
703 B STREET
P. O. BOX 911
MARYSVILLE, CA 95901-0911
PHONE (530) 741-5151
FAX (530) 741-5346
TTY (530) 741-4509

Flex your power!
Be energy efficient!

April 18, 2008

Ms. Kathy Pease
City of Roseville
311 Vernon Street
Roseville, CA 95678

Dear Ms. Pease:

Thank you for the opportunity to review and comment on the Notice of Preparation of an Environmental Impact Report for the Sierra Vista Specific Plan, Annexation, and General Plan Amendment project. Our comments are as follows:

- A Drainage Design Report should be completed. No drainage plans, drawings, calculations, or hydrologic/hydraulic reports were received with the application. In order to adequately evaluate impacts upon the State's right-of-way and drainage facilities, a detailed drainage plan with "pre-construction" and "post-construction" hydraulic calculations should be supplied for our review. Please request these calculations and send them to Caltrans District 3 at the above address in Marysville for review prior to final project approval

    - The project has the potential to create significant negative hydrologic, hydraulic, and water quality impacts. The development of this site will increase impervious surface area through the construction of roads, driveways, homes, garages, and other various structures with a corresponding increase in surface water (storm water) runoff. This project will decrease surface water detention, retention, and infiltration. Any cumulative impacts arising from the effects of this development on surface water runoff discharge should be minimized through project drainage mitigation measures.

- A Traffic Impact Study (TIS) should be completed and include an analysis of impacts to the State Highway System. The TIS should consider all possible traffic impacts to all ramps, interchanges / intersections and mainline segments of Interstate-80, State Route 65, and State Route 99. Cumulative impacts from this project and other projects in the area should also be studied. A copy of the TIS guide can be downloaded at:
http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.p

df . We would appreciate the opportunity to review the scope of the TIS before the Study begins.

- Please provide the following in the TIS: (for general plan amendment or update)
  - Existing Conditions: current year traffic volumes and peak-hour LOS analysis of the effected State highway facilities.
  - Proposed Project Only With Select Link Analysis: Trip generation and assignment for build-out of general plans.
  - General Plan Build-out Only: Trip assignment and peak hour LOS analysis. Include current land uses and other pending general plan amendments.
  - General Plan Build-out Plus Proposed Project: Trip assignment and peak hour LOS analysis. Include proposed project and other pending general plan amendments.

Please provide our office with copies of any further actions regarding this development. If you have any questions regarding these comments, please do not hesitate to contact Cassandra Eaton, of my staff, at (530) 634-7612.

Sincerely,

William C Hon
for

NICHOLAS DEAL, Chief
Office of Transportation Planning – East

City of Lincoln

600 Sixth Street
Lincoln, CA 95648
www.ci.lincoln.ca.us

Main City Phone
916-434-2400

City Manager's Office
916-434-2490

Community Development
916-434-2470

Parks & Recreation
916-645-5298

Public Works
916-434-2450

Administrative Services
916-434-2430

Fire
916-434-9568

Library
916-434-2410

Police
916-645-4040

April 9, 2008

RECEIVED
APR 14 2008
Planning & Redevelopment Department

Kathy Pease
Senior Planner, AICP
City of Roseville Planning & Redevelopment
311 Vernon Street
Roseville, Ca. 95678

Re: Notice of Preparation of a Draft EIR – Sierra Vista Specific Plan

Dear Ms. Pease:

Thank you for the opportunity to provide comments regarding the scope and content of the proposed environmental documentation for the Sierra Vista proposal. The City of Lincoln would be interested in having following addressed in the environmental document.

Traffic Circulation.

The City of Lincoln recently completed its General Plan update which proposes to expand the boundaries of its sphere of influence and the areas planned for urban development. In addition there are several other projects that are being proposed in the unincorporated portions of the County for development, Placer Vineyards, the Regional University, and development of the Curry Creek area. The traffic modeling for the Sierra Vista Specific Plan project should include a cumulative analysis that incorporates the City of Lincoln's land use information from its General Plan update and all of the proposed projects within the unincorporated portion of the County. The City would request that the cumulative traffic analysis evaluate the potential need to extent and upgrade Dowd Road as a potential transportation improvement to handle north south traffic movements within the region and a link to Watt Avenue.

I hope these comments will assist you in the preparation of the environmental impact report. Should you require additional information regarding these comments or have questions concerning them, please do not hesitate to contact me at your convenience.

Sincerely,

Rodney Campbell
Director Community Development

COUNTY OF PLACER
Community Development Resource Agency
John Marin, Agency Director

PLANNING
Michael J. Johnson, AICP
Director of Planning

April 29, 2008

Paul Richardson
Planning Director
City of Roseville
311 Vernon Street
Roseville, CA 95678

SUBJECT: Request for Comments – Notice of Preparation for the Sierra Vista Specific Plan

Dear Mr. Richardson:

Thank you for providing Placer County the opportunity to review and provide comments on the Notice of Preparation for the Sierra Vista Specific Plan. County staff has reviewed the Notice of Preparation, and the County submits the following comments for your consideration. Please note that while some of the comments from the Land Use section are similar to comments in the Traffic and Circulation section, the County concluded it was valuable to include the comments within both sections so that the environmental document prepared for the Sierra Vista Specific Plan includes a discussion in each respective section.

Land Use

- The County has a general concern with the amount of commercial land uses identified for the Base Line Road frontage of the property, and the impact these land use designations may have on allowing Base Line Road to operate as an expressway. The environmental document prepared for the project should consider alternative land uses along Base Line Road to assure that the use of traffic signals is minimized and through-traffic on Base Line Road is allowed to move without impediments.

- More information needs to be provided about the proposed "Events Center" located in the southwest corner of the Specific Plan. With the limited information provided, the County is concerned that this may be more than the typical Community Park.

    - What types of uses are proposed with the "Events Center"?

- What levels of traffic are associated with the proposed uses?
- Is there a potential for multiple events to be occurring at the same time?
- What impact will the proposed uses have on the traffic operations on Base Line Road?
- It appears that the only access to the "Events Center" is from Base Line Road. Is there the potential for any other roadway access to this property?

The environmental document should address these issues regarding the proposed "Events Center".

Biological Assessment

- To assure roadways are in the best/correct locations, the environmental document needs to include a "swath survey" of east-west roadways that extend into Placer County/Curry Creek area to assure that there are no "fatal flaws" with the proposed extension of these roadways to the west.

Utilities

- Consistent with Board direction to provide for Curry Creek, the environmental document should evaluate options for extending utilities to the west into the Curry Creek area.

- While not necessarily an environmental issue, the County remains concerned with the potential for "franchise fees" and how such fees may (or may not) be utilized with the proposed project.

Transportation and Circulation

- The environmental document prepared for the Specific Plan should analyze an alternative with additional access to land use fronting on Base Line Road as follows:

  1) PR-15 and CC (CMU-4) – provide a secondary access to Road B and/or Watt Avenue by crossing the creek in OS-10
  2) CC/BP-2 – provide access to the north through LDR-23 in a way that does not impact that residential area
  3) Add a local service road (east-west) between Market Avenue and Upland Drive on the north side of the commercial. The road will need to cross the creek in OS-13
  4) Add a local service road (east-west) between Upland Drive and Fiddyment Road on the north side of CC-10

- The environmental document should develop and analyze Alternative Land Use scenarios to evaluate the traffic impacts on Base Line Road. Provide a comparison of alternative land use scenarios and the project proposal to demonstrate that the project proposal minimizes impacts to through traffic on Base Line Road. For instance:

  A. Using the same amount of acreage for each proposed land use category, relocate and reconfigure non-residential land use along Base Line Road. The concept would be to have larger contiguous commercial sites and less of a linear approach along Base Line Road. As discussed at our City-County coordination meetings, the purpose is to utilize Base Line Road

as an expressway with fewer access points, traffic signals and thus reduce the friction associated with strip commercial land use.

1) CC 9 and 10 – move this commercial to along Road B in the vicinity of Watt Avenue and/or West Side Drive
2) CC/BP 2 – move to Watt Avenue, West Side Drive or Road B
3) CC (CMU 4) and PR-15 – move to the north

B. An alternative with the proposed land uses, but fewer traffic signals along the project frontage on Base Line Road to provide increased highway capacity for through traffic.

C. An alternative with the commercial land uses relocated to all front onto Watt Avenue or West Side Drive or Road B.

D. An alternative with the commercial land uses fronting onto Road B, but with an extension of Road B connecting to Baseline Road.

- If the City of Roseville is proposing to modify the current Sphere of Influence boundary to include Base Line Road and annex the road into the City, the EIR should state this as a proposed action.

- Discuss roadway connections to the west property line for both Road B and an unnamed road to the north. What is the plan for future connections and how can the County insure that these connections will occur in the future when needed?

- The alignment of Road B near the west property line is at the confluence of two creeks and a major power line. This alignment and alternatives should be studied to insure feasibility and a LEDPA alignment. This work should look some distance off-site to the west.

- The alignment of Road B is currently shown to terminate at Fiddyment Road directly opposite Westhills Drive. If full access to Westhills Drive were permitted to allow for a continuation of the east-west connection to Junction Boulevard, would the level of service on Base Line Road be affected? If access is restricted or eliminated, what possible traffic impacts would occur?

- The environmental document should discuss accommodating future Bus Rapid Transit (BRT) facilities within the projects boundaries and how the proposed facilities are compatible with the ultimate regional facilities.

- Off-Site Transportation Mitigations:

  1) Analyze the impacts and determine the fair-share costs of County roadway improvements, including the Watt Avenue Bridge over Dry Creek.

2) The traffic study should include an analysis of phased improvements to Base Line Road both on the project frontage as well as off-site to the west. The traffic study should provide a description of road and intersection improvements to be constructed with each phase of the project development. If no specific project phases are proposed, the description should detail traffic volume triggers for specific improvements.

3) The environmental document should discuss this project's participation in regional fee programs such as Tier 2, SPRTA, the Highway 65 JPA, and the Roseville County Fee.

The County looks forward to working together with the City to process the Sierra Vista Specific Plan application. Should you have any questions regarding the information contained in this letter, please do not hesitate to call me directly at (530) 745-3099.

Sincerely,

MICHAEL J. JOHNSON, AICP
Director of Planning

cc: Tom Miller, County Executive Officer
Anthony La Bouff, County Counsel
Holly Heinzen, Assistant County Executive Officer
Scott Finley, Deputy County Counsel
John Marin, Community Development Resource Agency Director

State of California—Business, Transportation and Housing Agency ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL
California Highway Patrol
9440 Indian Hill Road
Newcastle, CA 95658
(916) 735-3344
(800) 735-2929 (TT/TDD)
(800) 735-2922 (Voice)

April 16, 2008

File No.: 220.10284.11784.SCH#2008032115

Ms. Kathy Pease, Senior Planner, AICP
City of Roseville Planning and Redevelopment Department
311 Vernon Street
Roseville, CA 95678

Dear Ms. Pease:

Recently, the California Highway Patrol (CHP) Auburn Area had the opportunity to review the Notice of Preparation for the Sierra Vista Specific Plan, Annexation, Sphere of Influence Amendment and General Plan Amendment Project Draft Environmental Impact Report SCH#2008032115. We believe the growth discussed will have a major impact on the mission of the CHP of providing safety and service to the public as they use the highway transportation system within Placer County. The project as outlined will substantially increase traffic volume and impact the State highways and roadways within the southern portion of Placer County, primarily Interstate 80 (I-80), State Route 65 (SR-65), west of Fiddyment Road, north of Baseline Road to approximately ½ mile west of the intersection of Watt Avenue, and south of the West Roseville Specific Plan.

The effect this project will have on the Auburn CHP Area could be significant in the number of residents it will attract. The proposed plan encompasses approximately 2,178 acres of land currently in the City of Roseville and western Placer County. The plan calls for the construction of 9,995 dwelling units, with a possible increase of 25,219 new residents and 2,419,113 square feet of retail and office uses, resulting in approximately 5,821 jobs. The project would also provide sites for construction of four elementary schools, one middle school and a fire station. This project will contribute a significant amount of traffic volume on regional roadways and intersections that would exceed their current capacity.

The Auburn CHP Area office is responsible for more than 800 square miles of area in west Placer County, which includes I-80, S.R. 49, S.R. 193, S.R. 65, and over 1,100 miles of county roadways. We are committed to providing the maximum amount of service and traffic enforcement allowable with our current staffing levels. This project will impact our ability to provide traffic law enforcement services, unless additional staffing is allocated to patrol this project.

There are no immediate plans to augment the workforce in the Auburn CHP Area Office, nor are there any major roadway projects to significantly increase the traffic capacity of I-80 or SR-65. This is an area that should be discussed as this project, along with several other major developments within the immediate vicinity, will have a major impact on traffic.

In order for the Auburn CHP Area to adequately patrol the area surrounding the Sierra Vista Specific Plan development, we will need thirty two additional officers to accommodate this project. The additional thirty two officer positions are based on the Placer County Sheriff's Department's staffing formula for providing law enforcement services within Placer County. The PSCO formula is 1.3 personnel per 1,000 residents (1.3:1,000). PSCO is responsible for the same geographic area as the Auburn CHP Area. PSCO is responsible for handling the enforcement of criminal investigations and incidents while the Auburn CHP Area is responsible for handling enforcement of traffic investigations, traffic control and other related traffic incidents within Placer County. Using PSCO's staffing formula; the Auburn CHP Area will need four additional officers to provide traffic enforcement, accident investigation, motor services, and vehicle theft incidents.

I-80, which bisects the City of Roseville, is currently operating at or near maximum capacity. During certain times of the day, I-80 is beyond capacity resulting in gridlock or near gridlock as traffic flows at a seriously reduced speed in both directions. Furthermore, SR-65, which is located on the north edge of Roseville, has already experienced a major increase in usage due to the growth from the cities of Lincoln, Roseville, Rocklin and unincorporated Placer County. Any significant increase in growth will further adversely affect these major routes of travel.

We thank you for allowing our comments regarding the Draft Environmental Impact Report for the Sierra Vista Specific Plan. Through cooperative partnerships with local, county and State entities the CHP will continue to monitor the growth within western Placer County and the surrounding cities for its impact on the CHP's mission.

Sincerely,

RICK WARD, Captain
Commander
Auburn Area

cc: Assistant Chief Sal Segura, Valley Division
Captain Joe Whiteford, Special Projects Section

Kathy Pease, Senior Planner, AICP
City of Roseville Planning & Redevelopment
311 Vernon Street Roseville, Ca 95678
(916) 774-5276 FAX 774-5129
Kpease@roseville.ca.us

April 28, 2008

US Army Corps of Engineers
Attn: Nancy Haley
1325 J Street, Room 1480
Sacramento, Ca 95814-2922
(916) 557-7731
SierraVista@usace.army.mil
Nancy.A.Haley@usace.army.mil

Dear Ms. Pease and Ms. Haley,

Subject: Comments on Notice of Preparation of a Draft Environmental Impact Report & Environmental Impact Statement (Id. Nr. #200601050) for the Sierra Vista Specific Plan - (Annexation, Sphere of Influence, & GP Amendment).

Thank you for the opportunity to comment on the NOP for the Sierra Vista Specific Plan.

My major concern is that new growth should fully fund the required infrastructure and services needed for their new development and the related impacts/upgrades to existing infrastructure and services. Please identify under all topics/elements whether the new development's required portions are fully funded, the source of the funding mechanisms, and any deficiencies and the amount or portion that will be needed.

STATE HIGHWAYS & ROADWAYS

A recent Press Tribune article stated the Lincoln By-Pass used all Placer's share of State Funding for the next 15 years. Please clarify and expand on the impacts this will have on all pending and/or proposed projects in our area/region that require State Funding. Identify how SVSP will impact those projects.

Please identify availability of Federal Funding for the various impacted pending and/or proposed projects that qualify for Federal Funding.

As I understand it, the current County impact fees for Hwy 65 only cover improvements to the Interchanges. Please address if this is correct and if the current impact fees will fully fund all the improvements or was there an assumption there would be State Funding to assist with the improvements.

It is also my understanding; improvements to the merge/connection from Hwy 65 to Hwy 80 and from Hwy 80 to Hwy 65 ramps will be needed and are being planned. Please verify and clarify how this is being funded; and, how much of it will be funded from what sources? If there is not a local fee impact program for these improvements, why not?

Also, the widening of Hwy 65 and how it will be funded needs to be addressed. Since portions of Hwy 80 and Hwy 65 in the Roseville area are the most congested, it is recommended a State Highway Impact Fee mitigation program be developed and implemented for widening and the merge/connection ramps. It is understood this is a regional problem and new development cannot fully fund all of the required improvements. Lincoln, Rocklin and Loomis should be involved to work toward a multi-jurisdictional regional solution. However, a lot of the large population growth has been occurring in the Roseville area which brings up the need to implement a State Highway Impact Fee Program now to cover all of the above concerns.

Please identify all current traffic impact fee programs and how much is being collect for which projects and if the fees will cover the total projects. Please have the appropriate agencies perform the analysis and/or nexus studies to develop the State Highway Fee program. Please note El Dorado County developed a State Highway Impact Fee to improve Hwy I-80.

The concern for a State Highway Impact Fee Program in Roseville and Placer County has been raised in several documents and at various hearings. This should be done in Roseville and Placer County now before anymore projects are approved. As an example, this same concern was raised in writing as long ago as the West Roseville Specific Plan approval. Without a State Highway Impact Fee Program, the opportunity to collect Fees on over 8,000 units has been lost along other recent project approved units.

Shouldn't major projects that impact the state highways be limited until the source of funding and the mechanisms are in place to accommodate reasonable regional growth? Or what protections will be put in place to collect these fees?

The need for widening and/or new highways is driven by new development and should be paid for by new development. An adequate nexus study could address the existing residents and pass through traffic versus the new residents issue.

OTHER ELEMENTS & ROADWAY PROJECTS

How is this project, the growth inducing and cumulative impacts addressed in a regional approach to planning?

There needs to be a concurrency aspect that assures that all of the needed infrastructures will be in place at the time of the start of a construction area or phase contained in the plan. Will this be included in the plan?

One example, was SVSP a foreseeable project considered with the adopted South Sutter County Specific Plan and also being considered with the potential Placer Parkway approval? I'm using this example as a way to try to address and link the need to fund various roadway projects. My point is, I know this project is being considered in the review for the Placer Parkway project approval and currently limited fees are now being collected for the Placer Parkway. However I do not know what Sutter County considered when they approved their projects and if they developed fees for their approvals. Therefore, when it comes time to address Placer Parkway regionally (and my other comments below), how the Placer Parkway route/alternative is being selected is a concern. What impact does Sutter County have in the route/selection if they did not consider Roseville/Placer County projects and start collecting fees for the Placer Parkway? To future clarify my point; Placer Parkway should consider the amount of Roseville residents it can serve. The route/alternative selection shouldn't be based on the need to serve Sutter County if it hasn't even started a fee program for the Parkway (there should be a broad range issues considered in the selection process).

Please identify the Placer Parkway Alternatives and their locations in relation to this project and other projects in the area including pending and proposed projects. Identify the number of units in each project along with population projections. Please include Sacramento and Sutter County projects with their projections.

Does one of the Placer Parkway Alternatives go through this project? How will the Right of Ways/ROW be protected? Considering the proximity to the Placer Parkway will there be any parallel roads to support traffic circulation? Please identify the funding for the Placer Parkway. As I understand it, the current fees only cover the Environmental Review. Fees are not yet being collected for the purchase of right of ways, design and construction of the Parkway. Please verify this information and develop a fee program to fully fund a 6 lane Parkway and include a requirement for this project to pay into that program.

Could the Placer Parkway better serve the region as another "Freeway/Highway" linking various areas regionally? I feel moving the Parkway project forward would be essential to eliminate the Health and Safety Risks of the increase in Truck Route traffic on Blue Oaks Blvd. Please address the increase in truck emissions versus car emissions; and what impact that has on the Air Quality in the area of Blue Oaks and that of the new Placer Parkway.
In particular, address the increase in poor air quality on Blue Oaks due to truck traffic versus just car traffic in the vicinity of the Senior Community of Sun City Roseville. Can Mitigation include an Air Quality Monitoring Station in this area funded by various new projects in this area?

New Highways and links are needed in this Region. Roseville is now a Metropolis. If I recall correctly, once the population reaches 100,000 it is considered a metropolitan zone. Roseville has embraced the smart growth concept with recent project approvals. It is now to time to look for ways accommodate the new population projections with an adequate transportation system. With these population numbers beginning to compete with the Bay and LA Areas, we need to look for more Highways and links to them. The Bay and LA areas have numerous freeways surrounding them. Even the Sacramento freeway system also circles the downtown area with numerous connections. The north side of Sacramento created the Hwy 80 by-pass to move traffic toward Reno and Roseville.

Roseville currently is limited in the Highway circulation patterns. My concern is the amount growth in West Roseville and that region without consideration of major traffic solutions, including highway systems, will create worse congestion and worse air quality than is currently experienced in the Douglas, Sunrise and Cirby areas.

Please identify the overall total units and population projections in this area including Sacramento and Sutter. Please verify if this number is over approximately 150,000 people or more. If this number is anywhere over 100,000 people, please use several examples of where this many people is stuck in what I would term in-fill without a freeway system as part of the circulation element?

If Roseville is to be considered a "Destination City" for the current massive growth projections in this developing region, it appears the only prominent way to get into Roseville is Baseline, Pleasant Grove and Blue Oaks Blvd feeding onto the freeway and E Roseville Parkway as the only available arterial for connection into Roseville. This will not only over burden Hwy 65/80 but Roseville Parkway as well. Please address this.

Please address medical and fire emergency response times. In particular, Blue Oaks and Pleasant Grove are the major roads that feed onto E Roseville Parkway to get to Health Care Facilities of Sutter and Kaiser. How will the Health and Safety issues be addressed without a loss in level of service?

Circulation patterns should consider parallel roads especially in (but not limited to) the area of Baseline Road, Watt Avenue and potentially Placer Parkway.

Where are park and ride locations?

TRANSPORTATION WORKSHOP/PRESENTATION

Due to the large projects and growth that will be experienced in this area/region, I would like to suggest before anymore pending/proposed projects get through the DEIR phase, the City and County conduct a public out-reach program on the amount of traffic that will be created in this area.

RAIL AND LIGHT RAIL

Why aren't Rail and/or Light Right being considered and Planned for in the future? Sacramento is planning a route to the International Airport; it seems this would be the time to start planning for Lt Rail to connect to Sacramento and the International Airport. With all the growth and the Universities planned for this area this seems like the right time to start planning for rail/light rail and collect funds for those improvements sometime in what I realize would be a distant future. Route consideration could be from Sacramento/International Airport to I-5, R-70/99 to Baseline Road and/or Placer Parkway and to areas of the Universities and large developments in this area.

Please address the long term possibility of High Speed Rail. Consider long term, how Rail/Lt. Rail in this area might connect with High Speed Rail.

Please further address Bus Rapid Transit and its potential routes and expanded availability from this area to the International Airport. Mitigation should included funding the additional "Electrical or Non-Fuel type" buses to serve this area.

HIGH DENSITY - SACOG'S BLUEPRINT PROJECT

This project is 2,178 acres with approximately 9,995 units while the Blueprint project of Placer Vineyards is 5,230 acres with 14,132 units. Placer Vineyards was originally proposed with over 21,000 units and yet it was approved with the 14,132 units as complying with the increased density of the Blueprint Program. So why is this project so dense? Please discuss this, giving examples of Roseville's overall density and that of Placer Vineyards and other pending and more current proposals. Compare and provide this density relationship on current density in Roseville and all pending and proposed projects in area.

Suggest a Project Alternative that reduces the density to be more in line with the Placer Vineyards or another project that complies with the Blueprint yet has lower density (whichever has lower density).

WATER

Like the West Roseville Specific Plan, Mitigation should include instant hot water on all units including Apartments.

It is stated additional surface water supplies will be needed to serve the SVSP. Potential sources are identified but have not been determined and/or secured. This needs to be clearly defined in the DEIR. Please discuss the term "Paper Water" and the law and the requirements in law to provide the source of water for new development.

In addition, three onsite injection/extraction groundwater wells would be part of the water infrastructure system. This raises the concern and makes it clear that additional surface water supplies need to be identified and/or secured before project approval because groundwater has already been used in Roseville.
Please address the current lack of surface water and use of groundwater. As an example, Sun City Roseville was recently supplied groundwater. Please address how much groundwater and for how long was it supplied to Sun City Roseville. If this project is approved, does that mean Sun City Roseville will be on groundwater more often due to lack of surface water? Wasn't groundwater to be used in case of emergencies due to lack of surface water? Please verify and explain. What other areas have been provided groundwater; and how much, for how long? What are the potential impacts to Sun City Roseville?

Several years ago, I heard something about a study or finding that the drop in the water table in the Sacramento area caused a compression that has not recovered. Please verify and/or discuss if this is correct.

Please identify where the injection/extraction of groundwater is currently being used and for how long. What has any mitigation monitoring found? What mitigation monitoring program will be used for the wells?
How will groundwater levels be protected from draw-down long term if more groundwater is used to support development?

How will a long term groundwater injection/extraction process impact Waters of the U.S., the wetlands and other

sources of surface water such as Curry Creek and intermittent streams, etc.?

POST OFFICE

The cumulative impacts from all the proposed and potential projects in this area will be creating a demand for more mail services.
Currently the Post Office has only 2 Roseville locations; both are too busy and crowded. With the amount of growth including several universities being planned in this area of Roseville, are there any plans for an additional Post Office location? I have heard the Main Post Office on Vernon is moving to Washington. A clerk at that location told me a couple of clerks will continue to stay in a small office on Vernon Street and the Washington location will have just a few clerks and will be mostly for mail distribution. Also, the Washington location will be constructed under potentially affordable housing units. Please verify and clarify this information. In addition to a need for another Post Office location, adequate size of facilities and staff is a concern for services. I recognize a City or County does not have control over these types of Federal decisions, but isn't it appropriate for the City to notify the Post Office of the projected growth in the area and the need for service and request information on their plans? Could mitigation include a fee program to purchase land as a public facility to house an additional Post Office Location?

POLICE SUB-STATION

With all the growth in area, please contact the police department about a need for a police sub-station in this area of Roseville to ensure response times are the best they can be - as this is a "Health and Safety Concern". Can a fee program be developed for all the pending/ proposed and potential projects in the area to fund the land, facilities and staff needed to serve this area? Can or should the County Sheriff Department be contacted for any interest in a shared/joint-use facility?

PARKS

Request a dog park be included in the project site.

GENERAL PLAN UPDATE/AMENDMENTS

It seems with most all project approvals, there are always General Plans Amendments processed at the same time. This seems very confusing. The cumulative impacts to Roseville will potentially include growth boundaries, Sphere of Influence adjustments, and annexations. Doesn't it make sense to process one separate General Plan Amendment and address as many of these potential amendments and changes as possible. I bring this up now because this project is located where all this new growth will occur. An example is the need for another Post Office location and a Police Sub-Station. Polices in a separate General Plan Amendment could address the need to accommodate these facilities with funding coming from the new development that will need these services. How many General Plan Amendments are allowed per year under OPR Guidelines and Policies or Public Law? How many General Plan Amendments have been processed in each of the last 3 years?

CONCLUSION

Although this is economically a difficult time and there seems to be a concern in the area too many development fees will drive out new development. I feel we are in a highly desirable prime area. The proximity to the Capital and the International Airport is making Roseville an outstanding choice for development opportunities. Any options to stimulate the economy should not degrade our quality of life and any level of service.

Thank you for the opportunity to provide comments and consider them in development of the DEIR.

Sincerely,

Jan McKinsey
8085 Stagecoach Circle
Roseville Ca 95747
(916) 783-9211

APPENDIX L.
SUBMITTED COMMENTS ON THE NOTICE OF INTENT (EIS)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

May 27, 2008

Ms. Nancy Haley
U.S. Army Corps of Engineers
1325 J. Street, 14th Floor
Sacramento, CA 95814

Subject: Notice of Intent to Prepare an Environmental Impact Statement (EIS) for the Sierra Vista Specific Plan Project, Placer County, California.

Dear Ms. Haley:

The U.S. Environmental Protection Agency (EPA) has reviewed the Notice of Intent to Prepare an Environmental Impact Statement (EIS) for the Sierra Vista Specific Plan Project (SVSP) pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. These comments were also prepared under the authority of, and in accordance with, the provisions of the Federal Guidelines (Guidelines) promulgated at 40 CFR 230 under Section 404(b)(1) of the Clean Water Act (CWA). Our detailed comments are enclosed.

The SVSP is a proposed development of the Sierra Vista Landowners Group (SVLG) that could result in almost 10,000 residential units and is expected to result in over 25,000 new residents and nearly 6,000 new jobs at a currently undeveloped 2,138 acre site adjacent to the City of Roseville. EPA is very concerned with the significant impacts to approximately 73 percent of the existing aquatic resources at the site including vernal pools, wetlands and other waters, and the apparent lack of avoidance of these important resources. Please refer to our attached April 28, 2008, CWA Section 404(q) letter which describes these concerns in detail. We recommend the EIS include a thorough description and analysis of alternatives that avoid impacts to waters of the U.S. and other environmental resources on the site, including threatened and endangered species and their habitats. We encourage the Corps and SVLG to utilize Smart Growth principles and Green Building techniques and to maximize water conservation measures. The enclosed detailed comments also describe our concerns with potential impacts due to increased water demands, air quality impacts, increased traffic and, induced-growth. We also provide comments concerning the amount of potential cumulative impacts due to developments in the area that have been constructed in recent years or are in various stages of development.

Due to the potential significant impacts of the SVSP, EPA encourages the Corps and SVLG to actively coordinate with EPA and other environmental resource agencies prior to the release of the EIS for public review. When the EIS is released for review, please send one hard copy and two CD copies to the address above (mailcode: CED-2) at the same time the EIS is

formally filed with EPA Headquarters. If you have any questions, please contact me at 415-972-3846 or Paul Amato, the lead reviewer for this project. Paul can be reached at 415-972-3847 or amato.paul@epa.gov.

Sincerely,

Connell Dunning

for Nova Blazej, Manager
Environmental Review Office

Enclosure:
EPA Detailed Comments
EPA's April 28th, 2008, 404(q) Letter

Cc: Nela Luken, City of Roseville Planning Department
Kathy Pease, City of Roseville Planning Department
Mr. Michael Johnson, Placer County Planning Department
Mr. Patrick Gillum, Central Valley Regional Water Quality Control Board
Mr. Jeff Finn, California Department of Fish and Game
Mr. Ken Sanchez, U.S. Fish and Wildlife Service

EPA'S DETAILED COMMENTS ON THE NOTICE OF INTENT TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT FOR THE SIERRA VIST SPECIFIC PLAN PROJECT, MAY 27, 2008

Project Purpose and Need

The purpose and need statement in the Environmental Impact Statement (EIS) should be clearly stated and briefly describe the underlying purpose and need to which the U.S. Army Corps of Engineers (Corps) is responding in proposing alternatives, including the proposed action (40 C.F.R. 1502.13.) The statement of purpose and need should explain why the Corps and Sierra Vista Landowner Group (SVLG) are undertaking the proposed Sierra Vista Specific Plan Project (SVSP) and the objectives that the action is Intended to achieve. A clear purpose and need statement is important under the National Environmental Policy Act (NEPA) and to EPA's review in that it should be directly linked to the proposed alternative designs and clarify the potential impacts of a range of reasonable alternatives for the proposed SVSP.

Alternatives

The EIS should clearly describe and assess a reasonable range of alternatives, including the no action alternative. Because of the large footprint of the proposed SVSP and the potential for significant impacts to several environmental resources, the Corps and SVLG should consider a range of alternatives that avoid impacts to resources to the maximum extent practicable. EPA strongly encourages the SVSP proponents to conduct an assessment of the environmental resources at the proposed SVSP site and preserve areas with higher functions and values in perpetuity. The results of this analysis should be described in the EIS, including how the alternatives have been developed to avoid and protect environmental resources at the site.

Smart Growth and Green Building Principles

Environmental impacts of the proposed SVSP alternatives can be reduced through modifications to the SVSP footprint and configuration, integration of Smart Growth and Green Building principles. For example, high density, transit oriented and bicycle and pedestrian-friendly villages reduce the need for residents to drive to services and amenities thus reducing the amount of greenhouse gas emissions such as carbon dioxide. Integrating solar power and other sources of renewable energy generation also reduce greenhouse gas emissions. Building materials selected from sustainable sources such as lumber from sustainably managed forests, lumber alternatives, and building products made from recycled materials reduce the impacts from natural resource demands. Several green building resources are available and EPA encourages CSI to commit to maximizing the implementation of these practices at the proposed SVSP in addition to the already adopted standards. The EIS should specifically identify all renewable energy and green building commitments that will be integrated into all alternatives.

More information on Smart Growth and Green Building can be found in publications at EPA's websites at www.epa.gov/smartgrowth and www.epa.gov/greenbuilding/index.htm. Information about the Leadership in Energy and Environmental Design (LEED) for Neighborhood Development Rating System can be found at the US Green Building Council website at http://www.usgbc.org/. These, and other systems to integrate the principles of smart

growth, urbanism and green building neighborhood design into neighborhood development, should be considered in all project alternatives.

Waters of the U.S.

EPA provided extensive comments, dated April 28, 2008, describing our substantial concerns with significant impacts to waters of the U.S (see attached). In our letter, we described why we consider vernal pool complexes at the SVSP site to be aquatic resources of national importance (ARNI) consistent with the 1992 Memorandum of Agreement between EPA and the Corps per Clean Water Act (CWA) Section 404(q). The letter also describes our concerns with insufficient avoidance of fill of approximately 72.8% of all waters on the SVSP site, significant cumulative impacts given past and reasonably foreseeable development in the SVSP area, and a limited supply of opportunities for appropriate vernal pool compensatory mitigation. We incorporate the April 28, 2008, letter into our NEPA scoping comments as an attachment to this letter. The Corps and SVLG should contact Paul Jones, EPA Water Division at (415) 972-3470, for further discussion of these concerns.

Groundwater

The SVSP has the potential to result in significant impacts to groundwater in the SVSP Area. The EIS should clearly describe existing groundwater conditions, any potential impacts to groundwater quantity and quality, and avoidance measures to prevent impacts from the SVSP. EPA is especially concerned with groundwater in the SVSP Area due to the relationship between existing conditions and the extensive vernal pool complex and other aquatic resources that exist due to these conditions. Any direct, indirect and cumulative impacts to groundwater that may occur as a result of the SVSP should be clearly assessed in the EIS in light of these relationships.

Water Availability

The EIS should describe existing and/or proposed sources of water supply for the SVSP and direct, indirect and cumulative impacts to water resources that may occur. The proposed SVSP could result in over 25,000 new residents and nearly 6,000 new jobs in the area, resulting in significant increases in water demands for an indefinite period of time. EPA strongly encourages the Corps and SVLG include in the EIS a description of all water conservation measures that will be implemented to reduce water demands for the proposed SVSP, both during and after construction. SVSP design should maximize conservation measures such as appropriate use or recycled water for landscaping and industry, xeric landscaping, a water pricing structure that accurately reflects the economic and environmental costs of water use, and water conservation education. An estimate of the water resource benefits that result from each mitigation and conservation measure proposed should be included in the EIS. Water saving strategies can be found in the EPA's publications *Protecting Water Resources with Smart Growth* at www.epa.gov/piedpage/pdf/waterresources_with_sg.pdf, and *USEPA Water Conservation Guidelines* at www.epa.gov/watersense/docs/app_a508.pdf.

In addition, the EIS should describe water reliability for the SVSP and clarify how existing and/or proposed sources will be affected by climate change. At a minimum, EPA

expects a qualitative discussion of impacts to water supply and adaptability of the SVSP to these changes, as part of the EIS impacts analysis.

Biological Resources

EPA is very concerned with the level of significant impact from the proposed SVSP to biological resources. As described in EPA's attached April 28, 2008, letter, the SVSP lies within the California Floristic Province, and potentially supports habitat for state and federally listed species, including vernal pool fairy shrimp, vernal pool tadpole shrimp, northwestern pond turtle, Swainson's hawk, burrowing owl, prairie falcon, golden eagle, and tri-colored blackbird. The EIS should provide a description of baseline biological conditions, including habitats and species and a description of direct, indirect and cumulative impacts to these habitats and species. The EIS should provide information on species and habitats protected under the Federal Endangered Species Act and the California Endangered Species Act, and describe how impacts will be avoided, minimized and mitigated. Include all neighborhood design measures proposed to reduce impacts and highlight how each measure will be effective in avoiding and minimizing impacts. The EIS should also describe coordination with the U.S. Fish and Wildlife Service and California Department of Fish and Game to reduce and mitigate impacts to all listed species and their habitats at the SVSP site.

Air Quality and Traffic

The EIS must adequately assess air quality impacts of the SVSP and minimize these impacts through adequate mitigation measures. The proposed project area falls within the Sacramento Metropolitan air basin, which is designated nonattainment for national ambient air quality standards (NAAQS) including ozone (O3). Specifically, the air basin is designated serious nonattainment for 8-hour O3 and severe nonattainment for 1-hour O3. For ozone-related questions, the Corps is encouraged to contact Mr. John Kelly at (415) 947-4151 or by email at kelly.johnj@epa.gov.

The EIS should provide a discussion of the baseline air quality conditions in the SVSP area and a description of federal and state air quality regulations, and a rigorous assessment of direct, indirect, and cumulative effects of the proposed SVSP on air quality. The analysis of air quality impacts should include direct, indirect and cumulative impacts from construction and post construction conditions, including increased traffic. The Corps should describe in the EIS specific commitments to mitigate emissions that will prevent further degradation of air quality in the basin. In short, the cumulative impacts analysis should consider all new sources of emissions that are likely to result from the federal action of permitting the proposed SVSP. An estimate of the air quality benefits that result from each mitigation measure proposed should be included in the EIS. The EIS should also describe coordination with EPA, California Air Resources Board, and the Placer County Air Pollution Control District to reduce air quality impacts in the air basin.

The EIS should describe whether the SVSP will or will not meet general conformity requirements with the associated state implementation plans for the air basin. If the federal action is determined to potentially interfere with the attainment of Clean Air Act NAAQS, the Corps is required to conduct a conformity analysis to determine the likelihood and extent of

interference. For conformity-related questions, the Corps is encouraged to consult with EPA and should contact Ms. Karina O'Connor at (775) 833-1276 or by email at oconnor.karina@epa.gov.

While the proposed project area is not designated nonattainment for particulate matter (PM), Sacramento County immediately to the south is currently designated moderate nonattainment for PM less than 10 microns (PM10) and may be designated for PM2.5 later this year. To prevent degradation of air quality from construction-caused PM10 in Placer County and any cumulative impacts to Sacramento County, EPA suggest the following fugitive dust control measures be adopted to reduce impacts to existing air quality conditions:

Fugitive Dust Source Controls:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

Mobile and Stationary Source Controls:

- Reduce use, trips, and unnecessary idling from heavy equipment.
- Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels and to perform at verified standards applicable to retrofit technologies. Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications.
- Prohibit any tampering with engines and require continuing adherence to manufacturers recommendations
- If practicable, lease newer and cleaner equipment meeting the most stringent of applicable Federal or State Standards.
- Utilize EPA-registered particulate traps and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site.

Administrative controls:

- Identify where implementation of mitigation measures is rejected based on economic infeasibility.
- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. (Suitability of control devices is based on: whether there is reduced normal availability of the construction equipment due to increased downtime and/or power output, whether there may be significant damage caused to the construction equipment engine, or whether there may be a significant risk to nearby workers or the public.)

- Utilize cleanest available fuel engines in construction equipment and identify opportunities for electrification. Use low sulfur fuel (diesel with 15 parts per million or less) in engines where alternative fuels such as biodiesel and natural gas are not possible.
- Develop a construction traffic and parking management plan that minimizes traffic interference and maintain traffic flow.

The EIS should identify sensitive receptors in the project area, such as schools, daycare centers, nursing homes, and hospitals and specify the means by which impacts to these receptors will be minimized due to both construction and long term land use associated with the new development . For example, locate construction equipment and staging zones away from sensitive receptors away from fresh air intakes and buildings and design neighborhoods such that activity centers (ball fields, etc.) and sensitive receptors are not proximate to emissions sources, such as highways.

Due to the scale of the proposed SVSP and the amount of new residents and jobs in the area, it is reasonable to anticipate increased traffic and congestion in the local surface streets, freeways and highways. The EIS should include a traffic analysis to determine how the proposed SVSP will affect traffic in the region and contribute to cumulative air quality impacts. Mitigation measures to minimize idling near sensitive receptors should be identified.

Induced Growth

The EIS should describe how the proposed SVSP could result in environmental impacts due to induced-growth. Construction of a new development the size and anticipated population of the SVSP could result in increased pressure for more development, increased transportation infrastructure and other essential services in the area. Taken into account with the other proposed projects in the project area, induced growth impacts could be significant. EPA's recommendation is to make both the methodology and the assumptions in the growth inducing analysis as transparent as possible to the public and decision makers. To do this, EPA recommends that Corps and SVSP:

(1) Identify which land use model will be used, discuss its strengths and weaknesses, and describe why it was selected.

(2) Identify the assumptions used in the model and why those assumptions were selected. For example, describe which method will be used to allocate growth to analysis zones, its strengths and weaknesses, and why that method was selected.

(3) Ground truth the results of the land use model by enlisting local expertise involved in land use issues, such as local government officials, land use and transportation planners, home loan officers, and real estate representatives. Use their collective knowledge to validate or modify the results of the land use model.

(4) Use the results of the growth inducing analysis to inform transit options, neighborhood design, and recommendations for land use as well as mitigation measures to reduce environmental impacts.

Cumulative Effects

The proposed SVSP is one of several developments in the area that have occurred in the recent past or are proposed and under various stages of development. As a result, it is critical that the cumulative effects analysis be comprehensive and rigorous, and that it consider an appropriate scope of activities, and spatial and temporal scales when assessing project effects. EPA suggests referring to the Council on Environmental Quality 1997, guidance *Considering Cumulative Effects Under the National Environmental Policy Act* fouud at http://www.nepa.gov/nepa/ccenepa/ccenepa.htm, and 1999 EPA guidance, *Consideration of Cumulative Impacts in EPA Review of NEPA Documents* found at http://www.epa.gov/compliance/resources/policies/nepa/cumulative.pdf. In addition, we recommend referring to the EPA, California Department of Transportation, and Federal Highway Administration Guidance for Preparers of Cumulative Impact Analysis found at http://www.dot.ca.gov/ser/cumulative_guidance/purpose.htm. While this guidance was developed for transportation projects, the principles and the 8-step process in this guidance can be applied to other types of projects, both within and outside of California. We recommend the principles and steps in this guidance to other agencies as a systematic way to analyze cumulative impacts for their projects.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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APR 2 8 2008

Colonel Thomas C. Chapman
District Engineer, Sacramento District
U.S. Army Corps of Engineers
1325 J Street, 14th floor
Sacramento CA, 95814-2922

Subject: Sierra Vista Specific Plan (PN 200601050), Placer County, California

Dear Colonel Chapman:

We have reviewed the public notice (PN 200601050) of March 28, 2008, regarding an application for a Department of the Army permit and Notice of Intent to prepare an Environmental Impact Statement (EIS) for the proposed Sierra Vista Specific Plan (SVSP) in Placer County, California. EPA supports the efforts of the partners involved in this project area to produce a unified approach through this single PN and the subsequent EIS. We believe this approach will facilitate consideration of cumulative effects and identification of appropriate avoidance and mitigation needs. We are providing the attached comments under the authority of, and in accordance with, the provisions of the Federal Guidelines promulgated under Section 404(b)(1) of the Clean Water Act (CWA) at 40 CFR 230 (the Guidelines).

According to the PN, the proposed SVSP is a mixed-use master planned community with residential, commercial, open space, and recreational land uses. The proposed 2,138 acre project site is located within the sphere of influence and directly adjacent to the urban boundary of the City of Roseville in an unincorporated portion of south western Placer County. At full build-out, the SVSP is expected to provide approximately 10,000 residential units in a "mixed-use, mixed-density master planned community with residential, commercial, office, public/quasi-public parks, and open space land uses, including two regional community centers."

There are approximately 51.87 acres of waters of the US within the project site, including portions of Curry Creek, wetlands, and vernal pools. The applicants propose to fill approximately 37.74 acres of these interconnected waters. Figure 4 of the PN illustrates varying degrees of avoidance of aquatic resources, but provides insufficient information to inform a detailed analysis of each individual site.

Vernal pool complexes, comprised of interconnected pools, wetlands and other waters are high value aquatic resources that provide habitat for federally threatened and endangered species. Some of the species that vernal pool complexes support occur only in California. High rates of biodiversity and endemism within vernal pool ecosystems and the large-scale destruction and

degradation of these ecosystems have increased the importance of the vernal pools and interconnected aquatic resources that remain. Statewide, as much as 85% of the original distribution of vernal pool complexes has been lost to development, and up to 33% of the crustacean species that are endemic to vernal pool habitat (e.g., fairy shrimp) may have already become extinct due to habitat destruction.[1] Between 1994 and 1997 Placer County lost approximately 500 acres of vernal pools per year,[2] and the County's continuing high rate of development threatens remaining vernal pool complexes. Due to the high ecological value and increasing rarity of these systems, EPA considers these vernal pool complexes to be aquatic resources of national importance (ARNI).

Based on information provided in the PN, it does not appear that the proposed project complies with the Guidelines' requirements for avoidance and minimization (40 CFR 230.10). Generally, the Guidelines limit issuing permits to only those projects that avoid waters to the maximum extent practicable. Regulated waters cover approximately 2.4% of the project site; however, the applicants' propose to permanently impact over 72% of the aquatic resources in the project area. Given the low percentage of waters on-site and the high percentage of proposed fill to these waters, it seems likely that more can be done to avoid direct discharges of fill material to waters. EPA believes that project alternatives having fewer impacts to aquatic resources are available and viable and should be examined in the EIS. The PN indicates that the applicants' propose to place four parcels into open space, largely along Carson Creek and its tributaries and under a power line right of way. Although aquatic resources are distributed widely across the site, it seems reasonable that a practicable project alternative can be developed to avoid considerably more than 14.13 acres of the 51.87 acres of onsite waters of the US.

Staff from EPA and the Army Corps of Engineers met monthly with the City of Roseville, staff from natural resource agencies, and individuals representing the project since March 2007 to discuss the SVSP's potential impacts and conflicts. EPA supports the efforts of the Army Corps of Engineers and applicants to consolidate the analysis of projects having the same infrastructure needs into one Environmental Impact Statement for purposes of fulfilling NEPA requirements and providing a base of information to support a CWA Individual Permit action. We communicated our concern regarding a lack of avoidance and compliance with the Guidelines early in the process. The value of on-site aquatic resources and the potential for further avoidance of impacts to these resources support the use of CWA regulatory tools to ensure compliance with the Guidelines. We also recommend that the applicants' coordinate closely with Placer County officials to bring their project into alignment with ongoing development of the Placer County Conservation Plan. We look forward to working collaboratively with the applicants' and the Corps through the NEPA and CWA process to reduce project impacts to a level that would make the project comply with these two acts. There will be additional comments regarding the Scope of the EIS following this letter.

At this time, however, the EPA finds that this project, as currently proposed, **may have** substantial and unacceptable impacts to aquatic resources of national importance. Direct project

[1] King, J. L. (1996). Loss of Diversity as a Consequence of Habitat Destruction in California Vernal Pools. Ecology, Conservation, and Management of Vernal Pool Ecosystems, Sacramento, California Native Plant Society.
[2] CDFG (1998) Changes in Great Valley Vernal Pool Distribution from 1989 to 1997. Report to CDFG, Author Robert F. Holland. http://www.dfg.ca.gov/whdab/wetlands/vp_holland/report_index.htm.

impacts to vernal pools and interconnected aquatic resources would reduce the site's abundance and diversity of native habitat, terrestrial wildlife, and aquatic species and would contribute to the cumulative losses of vernal pools which currently exceed 85% of historic distribution. The magnitude of proposed fill to these valuable resources is unacceptable considering that jurisdictional waters cover such a small percentage of the project site. Therefore, we recommend denial of the project, as currently proposed. This letter follows the field level procedures outlined in the August 1992 Memorandum of Agreement (MOA) between the Environmental Protection Agency and the Department of the Army, Part IV, paragraph 3(a) regarding Section 404(q) of the Clean Water Act.

We look forward to working with your staff and the applicant to resolve the important environmental issues surrounding the proposed project. If you wish to discuss this matter further, please call me at (415) 972-3572 or David Smith, supervisor of the Wetlands Regulatory Office, at (415) 972-3464.

Sincerely,

Alexis Strauss, Director
Water Division

cc: Ms. Nancy Haley
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Mr. Jeff Finn
California Department of Fish and Game
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Detailed EPA Comments
PN 200601050 for the proposed Sierra Vista Project

I. Project Site

The PN 200601050 describes SVSP as a mixed-use master planned community with residential, commercial, open space, and recreational land uses. Participating landowners make up the vast majority of the 2,138-acre SVSP site. The proposed project is located in the southwest portion of unincorporated Placer County, directly adjacent to the City of Roseville and within the Roseville sphere of influence. Currently, SVSP plans to provide approximately 10,000 residential units.

II. Elevation of Individual Permit Decisions under CWA 404(q) MOA

Pursuant to the 1992 Memorandum of Agreement between the Environmental Protection Agency (EPA) and the Department of the Army per Clean Water Act ("CWA") Section 404(q), it appears that authorization of the proposed project may result in unacceptable adverse effects to aquatic resources of national importance (ARNIs). The wetlands in question are considered special aquatic sites under the Guidelines, and the vernal pool complexes on the project site support a diversity of unique plants and animals.

Aquatic Resources of National Importance

Placer County lies within the California Floristic Province, a "biodiversity hotspot"[3] recognized internationally for its high levels of species endemism, in part due to the presence of vernal pools and associated aquatic resources. Statewide, as much as 85% of vernal pools have been lost to development, and up to 33% of the original crustacean species that depend upon vernal pool habitat (e.g., fairy shrimp) may have already become extinct due to habitat destruction[4]. The mosaic of aquatic and terrestrial habitats on the project site are potential habitat for State and federally-listed species such as vernal pool fairy shrimp, vernal pool tadpole shrimp, northwestern pond turtle, Swainson's hawk, burrowing owl, prairie falcon, golden eagle, and tri-colored blackbird.[5] The high rates of endemism within vernal pool ecosystems and the large-scale destruction and degradation of these ecosystems have increased the importance of the landscapes that remain. Between 1994 and 1997 Placer County lost approximately 500 acres of vernal pools per year,[6] and it appears this vigorous pattern of loss has continued as Placer is one of California's fastest growing counties.

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[3] http://www.biodiversityhotspots.org/xp/Hotspots/hotspotsScience/hotspots_defined.xml and http://www.biodiversityhotspots.org/xp/Hotspots/california_floristic/

[4] King, J. L. (1996). Loss of Diversity as a Consequence of Habitat Destruction in California Vernal Pools. Ecology, Conservation, and Management of Vernal Pool Ecosystems, Sacramento, California Native Plant Society.

[5] Placer Vineyards Specific Plan Revised Draft Environmental Impact Report. March 2006. Section 4, pages 4.4-11 through 4.4-14. http://www.placer.ca.gov/CommunityDevelopment/EnvCoordSvcs/PVineyards.aspx

[6] CDFG (1998) Changes in Great Valley Vernal Pool Distribution from 1989 to 1997. Report to CDFG, Author Robert F. Holland. http://www.dfg.ca.gov/whdab/wetlands/vp_holland/report_index.htm.

The SVSP site is a relatively large and intact mosaic of vernal pool and grassland habitat. According to the PN, the site is characterized by integrated waters and wetlands including approximately 11.64 acres of vernal pools, 9.19 acres of seasonal wetlands, 19.65 acres of wetland swale, 2.63 acres of pond, 2.36 acres of perennial streams, 6.02 acres of intermittent streams, and 0.38 acres of ephemeral streams. The primary aquatic features that comprise vernal pool complexes (vernal pools, seasonal wetlands, and seasonal wetland swales) account for approximately 78% of the on-site waters, while linear features, associated wetlands, and ponds make up the remainder.

The US Fish and Wildlife Service (FWS) designated all of the land on the SVSP site as core recovery habitat for vernal pool fairy shrimp[7], which is a strong indication of the importance of this site to the maintenance of listed vernal pool species. Core areas are the specific sites the FWS considers necessary to recover endangered or threatened species and should be the initial focus of protection measures such as preservation. The vernal pool habitat on the SVSP site is occupied by vernal pool fairy shrimp. Preservation of habitat occupied by vernal pool fairy shrimp is a primary element of the FWS recovery strategy because vernal pool species are primarily threatened with extinction due to habitat loss and fragmentation. The vernal pools complexes on the SVSP site appear to serve an important role in the recovery of the endangered vernal pool fairy shrimp for US FWS.

This area of Placer County has a limited supply of opportunities for vernal pool compensatory mitigation and is considered an important part of a large-scale conservation plan for Placer County's aquatic and natural resources. If current efforts focused on protecting aquatic resources at the regional level are to succeed, avoidance of aquatic resources in a conservation strategy that provides for the long-term viability of aquatic resources is vital.

Substantial and Unacceptable Impacts

The proposed project impacts to vernal pools and integrated aquatic features are substantial and unacceptable based on the magnitude of fill, lack of sufficient avoidance, historical losses of these wetland types in the area, habitat fragmentation, and inadequate compensation opportunities. Project construction will result in the permanent loss of approximately 37.74 acres of waters and wetlands. The current proposal includes filling approximately 72.8% of all on-site waters including a high percentage of the vernal pools on the property. Similar to other types of wetlands and streams, vernal pools are dependent on interconnected water sources and immediately adjacent upland areas to function as wetlands and retain value as aquatic habitat. The filling of these aquatic resources:

- permanently destroys habitat for aquatic species and wildlife including endangered and special status species,
- causes a potentially irreversible loss of biodiversity, ecosystem stability, and valuable aquatic resources (see section on Significant Degradation), and
- may lead to decreased floodwater retention, increased sediment transport and runoff.

[7] US Fish and Wildlife Service (2005) Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon.

In addition, many of the seasonal wetlands and streams proposed for direct fill may impact avoided pools by altering the sediment and water supply through increasing impervious surfaces and burying streams into pipe culverts. The proposal to forego avoidance and fill almost 73% of on-site aquatic resources is unacceptable given that all or nearly all the waters could be avoided by realigning the planned open space.

Perhaps the most compelling reason the proposed impacts are both substantial and unacceptable, is the importance of the habitat on the SVSP site to the recovery of aquatic endangered species. The Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon lists habitat fragmentation as the single largest threat to the survival and recovery of listed species addressed in the Recovery Plan. The SVSP proposes to destroy most of the 11.64 acres of vernal pools and fragment an approximately 2000-acre landscape of vernal pool complexes. Figure 1 shows proposed development in western Placer County and the distribution of vernal pool core Recovery Areas identified by FWS. FWS recommends preserving 85% of the core areas identified in western Placer County, and the applicants have been unable to propose offsetting project impacts to aquatic habitat for endangered species by compensating within the core area. EPA has identified two other projects shown in Figure 1, Placer Vineyards and Lincoln 270, as candidates for elevation through the 404(q) process for similar reasons.

III. Clean Water Act Compliance

The purpose of the Section 404(b)(1) Guidelines is to restore and maintain the chemical, physical, and biological integrity of waters of the United States. These goals are achieved, in part, by prohibiting discharges of dredged or fill material that would result in avoidable or significant adverse impacts on the aquatic environment. The burden to demonstrate compliance with the guidelines rests with the permit applicant. The Guidelines contain four main requirements each of which must be complied with to obtain a Section 404 permit:

1. Section 230.10(a) prohibits a discharge if there is a less environmentally damaging practicable alternative to the proposed project. These alternatives are presumed for non-water dependent activities in special aquatic sites.

2. Section 230.10(b) prohibits discharges that will result in a violation of the water quality standards or toxic effluent standards, jeopardize a threatened or endangered species, or violate requirements imposed to protect a marine sanctuary.

3. Section 230.10(c) prohibits discharges that will cause or contribute to significant degradation of the waters of the United States. Significant degradation may include individual or cumulative impacts to human health and welfare; fish and wildlife; ecosystem diversity, productivity and stability; and recreational, aesthetic or economic values.

4. Section 230.10(d) prohibits discharges unless all appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.

The applicant proposes to fill wetlands and vernal pools, aquatic resources considered special aquatic sites which are afforded a higher level of protection by CWA regulations. The Guidelines consider the degradation or destruction of special aquatic sites to be among the most severe environmental impacts that cause a potentially irreversible loss of valuable aquatic resources (40 CFR 230.1(d)).

Alternatives Analysis– 40 CFR 230.10(a)

Compliance with the Guidelines requires the applicant to clearly demonstrate that the "preferred" alternative is the Least Environmentally Damaging Practicable Alternative (LEDPA) that achieves the overall project purpose. In addition, the Guidelines presume the existence of project alternatives that do not include discharges of fill material to special aquatic sites when the project is not water dependent (40CFR230.10(a)(3)).

Alternatives
The applicants have been evaluating alternatives with input from natural resource agencies. Information describing these alternatives will be provided to the Corps in order to complete the CWA and NEPA processes. We provide the following guidance to support the evaluation of on-site and off-site alternatives. Identification of the LEDPA is achieved by performing an alternatives analysis that estimates the direct, secondary, and cumulative impacts to jurisdictional waters resulting from a set of on- and off-site project alternatives. As the project purpose ("large-scale, mixed-use, mixed-density master planned community") is not water-dependent, the applicant bears the burden of proof to rebut the Guidelines presumption that alternatives are available and capable of being done that do not include discharging dredged or fill material to special aquatic sites. The alternatives analysis should evaluate alternatives that fully avoid fill, avoid placement of fill in the vernal pool complexes on the western portion of the site, and provide for conservation consistent with the conservation footprint options being considered in the PCCP process. An evaluation of the long-term viability of avoided resources in onsite preserve designs for various alternatives can inform the LEDPA determination.

The analysis of project impacts should be commensurate with the magnitude of impacts to aquatic resources. Fewer impacts to aquatic resources require a less comprehensive alternatives analysis. Greater consideration should be given to onsite alternatives that optimize avoidance of aquatic resources. This project clearly rises to the threshold of significant impacts; therefore, the applicants need to perform, and the Corps should analyze carefully, an exhaustive alternatives analysis.

Impact Assessment

The alternatives analysis must evaluate direct, secondary[8], and cumulative[9] impacts for onsite and offsite alternatives for the proposed project. Secondary effects include: (1) changes in the hydrology and sediment transport capacity of Curry Creek and associated tributaries resulting from filling tributaries and wetlands; (2) increases in impervious surfaces and the corresponding increases in the volume and velocity of polluted stormwater; (3) decreases in water quality from the impairment of ecosystem services such as water filtration, groundwater recharge, and the attenuation of floods; (4) disruption of hydrological and ecological connectivity between aquatic resources filled, altered, or degraded on-site and off-site wetlands and vernal pools; and (5) decreases in biodiversity and ecosystem stability.

Cumulative impacts include past, present, and reasonably foreseeable direct and secondary impacts to the aquatic environment. Historical impacts on aquatic ecosystems include California's rapid population growth and resulting losses of approximately 95% of the State's wetlands[10] and up to 85% of the vernal pools. Tens of thousands of acres of land supporting vernal pools and related ecosystems are threatened by numerous proposed developments in western Placer County. SVSP and other proposed development areas potentially impact 50% of the remaining vernal pool complexes in western Placer County.[11] Pending and reasonably foreseeable projects include, but are not limited to, the Placer Parkway, Creekview Specific Plan, Placer Vineyards Specific Plan, Placer Ranch Specific Plan, Brookfield Property, Regional University, Curry Creek Community Plan, and any development associated with the City of Roseville Retention Basin. Figure 1 illustrates the intense development pressure in western Placer County and indicates a strong potential for cumulative adverse impacts to intact vernal pool landscapes.

LEDPA

As stated in the cover letter, the proposed project does not appear to be the LEDPA due to the lack of avoidance of aquatic resources and the magnitude of proposed fill.

Significant Degradation – 40 CFR 230.10(c)

The Guidelines prohibit granting a permit for a project that causes or contributes to significant degradation of aquatic resources. Effects contributing to significant degradation include significantly adverse effects resulting from the discharge of fill material into regulated waters such as: (1) loss of fish and wildlife habitat (40 CFR 230.10(c)(3)), (2) reduction of biological productivity caused by smothering wetland habitat (40 CFR 230.41), and (3) impairment or destruction of endangered species habitat (40 CFR 230.30(2)).

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[8] Secondary effects are defined by the Guidelines as effects on an aquatic ecosystem that are associated with a discharge of dredge or fill materials but do not result from the actual placement of the dredged or fill material (40 CFR 230.11(h)).

[9] Cumulative effects are defined by the Guidelines as changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material (40 CFR 230.11(g)).

[10] Dahl, T.E. 1990. Wetland losses in the United States 1780's to 1980's. U.S. Fish and Wildlife Service, Washington, D.C.

[11] GIS data collected by Placer County.

SVSP may cause or contribute to significant degradation of on site aquatic resources because discharging fill material into approximately 38 acres[12] of special aquatic sites will smother and kill aquatic life, permanently destroy habitat for wildlife dependent on these aquatic features, and subsequently reduce onsite ecosystem diversity, productivity, and stability. The proposed fill will destroy habitat for wildlife dependent on the onsite aquatic resources. Vernal pool complexes in the SVSP area are considered important concentration areas for waterfowl and shorebirds using the Pacific Flyway.

Vernal pools and their associated aquatic features support some of the most biologically diverse aquatic ecosystems in California and the United States.[13] The vernal pools on the SVSP site are located within the core recovery area for the vernal pool fairy shrimp (*Branchinecta lynchi*) and considered to be critical habitat for preservation by FWS. Destroying vernal pools, integrated aquatic resources, and associated upland habitat represents a potentially irreversible loss of core area preservation, biodiversity and valuable aquatic resources (40 CFR 230.1(d)), is considered a significant adverse effect by the Guidelines (40 CFR 230.41), and therefore may cause or contribute to significant degradation. Similarly, the mosaic of aquatic and terrestrial habitats on the project site are potential habitat for state special status species such as Northwestern pond turtle, Swainson's Hawk, burrowing owl, prairie falcon, golden eagle, and tri-colored blackbird.[14] Destruction of these habitat resources for endangered and threatened species would be considered significantly adverse by the Guidelines and therefore may cause or contribute to significant degradation.

Minimization– 40 CFR 230.10(d)

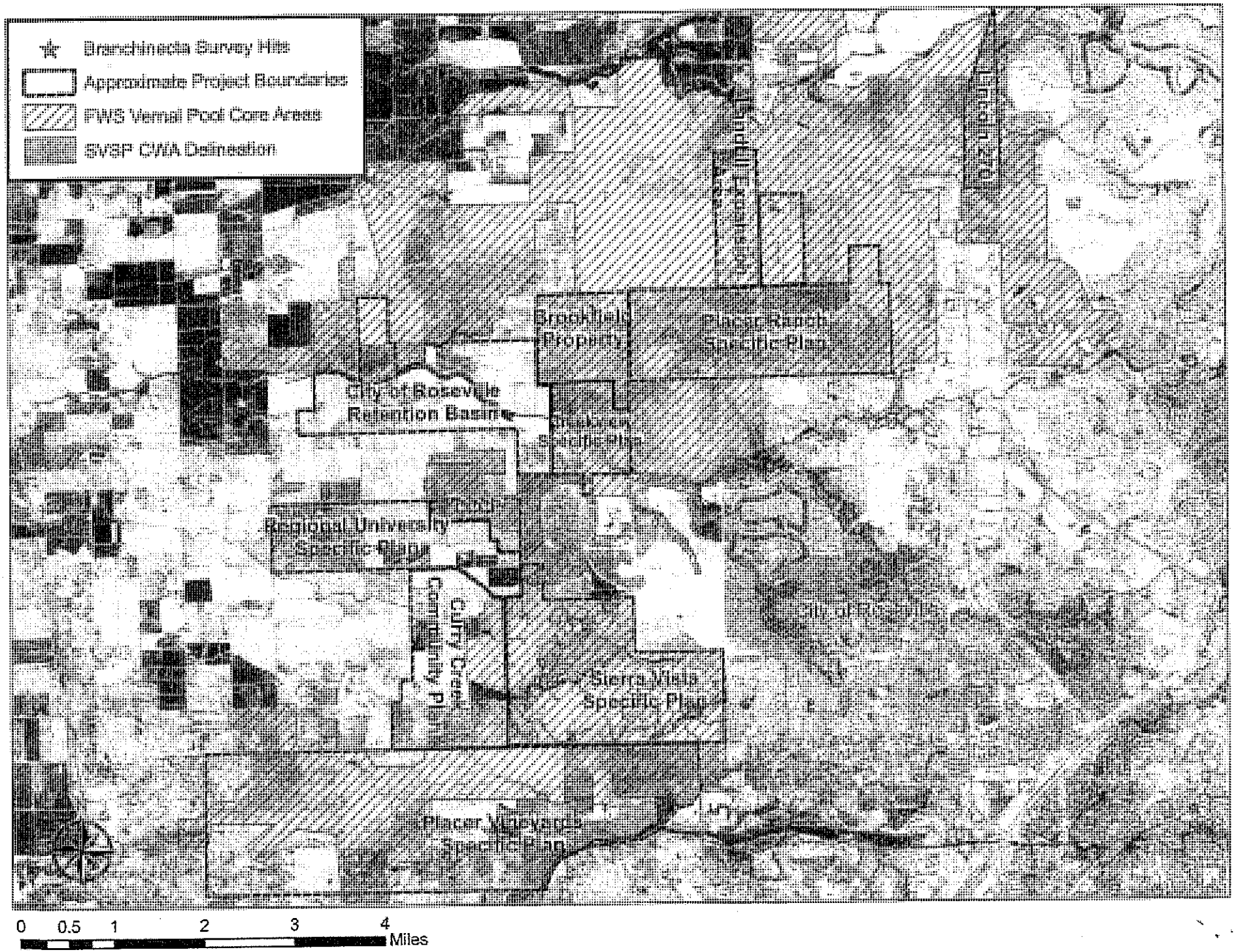
Failure to adequately offset project impacts is grounds for denial of the permit application, and it is not clear the applicants are able to compensate for proposed project impacts. The applicants have not been able to identify lands within the vernal pool core recovery area for compensation even though the entire project and impact site is within the core recovery area. CWA regulations and guidance require all appropriate and practicable steps be taken to avoid and minimize direct impacts to aquatic resources and to compensate for unavoidable discharges of dredged or fill material into waters (40 CFR 230.10(d)).

Specifically, it is important to: (1) increase the proposed avoidance and minimization; (2) document that the remaining proposed impacts are unavoidable; and (3) provide a compensatory mitigation plan for review consistent with the recently issued rule on Compensatory Mitigation for Losses of Aquatic Resources[15]. There are numerous challenges to compensating for impacts to the functions and values provided by vernal pools in western Placer County. For example, CALTRANS and private developers have reported a shortage of available compensatory mitigation opportunities in Placer County to compensate for the unavoidable impacts of pending

[12] Estimated from information provided in the CWA 404 permit application.
[13] http://www.biodiversityhotspots.org/xp/Hotspots/hotspotsScience/hotspots_defined.xml and http://www.biodiversityhotspots.org/xp/Hotspots/california_floristic/
[14] Placer Vineyards Specific Plan Revised Draft Environmental Impact Report. March 2006. Section 4, pages 4.4-11 – 4.4-14. http://www.placer.ca.gov/CommunityDevelopment/EnvCoordSvcs/PVineyards.aspx
[15] http://www.epa.gov/owow/wetlands/pdf/wetlands_mitigation_final_rule_4_10_08.pdf

projects. Mitigation opportunities in nearby counties are also constrained. Mitigation sequencing is now to be performed according the new rules, which stipulate the use of approved mitigation banks or in-lieu fee programs, or citing mitigation according to approved watershed plans. Should those prove to be not practicable, then permittee-responsible mitigation could be used to address unavoidable project impacts. In any case, permit applicants must take all appropriate and practicable steps to avoid and minimize impacts to special aquatic sites and other jurisdictional waters to reduce the need for compensatory mitigation.

As the applicants make progress avoiding and minimizing impacts, the need for specific information about proposed compensatory mitigation sites becomes increasingly important. Specific information includes delineations of waters of the US, proposed long-term management plans, proposed third-party management entity with documented capability, estimated endowment, and proposed easement language for protection of the resources in perpetuity. For example, we would not consider lands proposed for 1:1 open space mitigation as compensation for impacts to aquatic resources without first knowing the amount and type of delineated waters onsite and any proposed plans for creation, restoration, or enhancement. Uplands contained within the proposed open space mitigation site are not appropriate compensation for impacts to waters. Indeed all of these details will need to be analyzed through the development of the EIS for this project and associated alternatives analysis and compensatory mitigation plans.


Branchinecta Survey Hits
Approximate Project Boundaries
FWS Vernal Pool Core Areas
SVSP CNA Delineation
Dry Creek
Brookfield Property
Placer Ranch Specific Plan
City of Roseville Retention Basin
Regional University Specific Plan
Sierra Vista Specific Plan
Placer Vineyards Specific Plan
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Miles

Kathy Pease, Senior Planner, AICP
City of Roseville Planning & Redevelopment
311 Vernon Street Roseville, Ca 95678
(916) 774-5276 FAX 774-5129
Kpease@roseville.ca.us

April 28, 2008

US Army Corps of Engineers
Attn: Nancy Haley
1325 J Street, Room 1480
Sacramento, Ca 95814-2922
(916) 557-7731
SierraVista@usace.army.mil
Nancy.A.Haley@usace.army.mil

Dear Ms. Pease and Ms. Haley,

Subject: Comments on Notice of Preparation of a Draft Environmental Impact Report & Environmental Impact Statement (Id. Nr. #200601050) for the Sierra Vista Specific Plan – (Annexation, Sphere of Influence, & GP Amendment).

Thank you for the opportunity to comment on the NOP for the Sierra Vista Specific Plan.

My major concern is that new growth should fully fund the required infrastructure and services needed for their new development and the related impacts/upgrades to existing infrastructure and services. Please identify under all topics/elements whether the new development's required portions are fully funded, the source of the funding mechanisms, and any deficiencies and the amount or portion that will be needed.

STATE HIGHWAYS & ROADWAYS

A recent Press Tribune article stated the Lincoln By-Pass used all Placer's share of State Funding for the next 15 years. Please clarify and expand on the impacts this will have on all pending and/or proposed projects in our area/region that require State Funding. Identify how SVSP will impact those projects.

Please identify availability of Federal Funding for the various impacted pending and/or proposed projects that qualify for Federal Funding.

As I understand it, the current County impact fees for Hwy 65 only cover improvements to the Interchanges. Please address if this is correct and if the current impact fees will fully fund all the improvements or was there an assumption there would be State Funding to assist with the improvements.

It is also my understanding; improvements to the merge/connection from Hwy 65 to Hwy 80 and from Hwy 80 to Hwy 65 ramps will be needed and are being planned. Please verify and clarify how this is being funded; and, how much of it will be funded from what sources? If there is not a local fee impact program for these improvements, why not?

Also, the widening of Hwy 65 and how it will be funded needs to be addressed. Since portions of Hwy 80 and Hwy 65 in the Roseville area are the most congested, it is recommended a State Highway Impact Fee mitigation program be developed and implemented for widening and the merge/connection ramps. It is understood this is a regional problem and new development cannot fully fund all of the required improvements. Lincoln, Rocklin and Loomis should be involved to work toward a multi-jurisdictional regional solution. However, a lot of the large population growth has been occurring in the Roseville area which brings up the need to implement a State Highway Impact Fee Program now to cover all of the above concerns.

Please identify all current traffic impact fee programs and how much is being collect for which projects and if the fees will cover the total projects. Please have the appropriate agencies perform the analysis and/or nexus studies to develop the State Highway Fee program. Please note El Dorado County developed a State Highway Impact Fee to improve Hwy I-80.

The concern for a State Highway Impact Fee Program in Roseville and Placer County has been raised in several documents and at various hearings. This should be done in Roseville and Placer County now before anymore projects are approved. As an example, this same concern was raised in writing as long ago as the West Roseville Specific Plan approval. Without a State Highway Impact Fee Program, the opportunity to collect Fees on over 8,000 units has been lost along other recent project approved units.

Shouldn't major projects that impact the state highways be limited until the source of funding and the mechanisms are in place to accommodate reasonable regional growth? Or what protections will be put in place to collect these fees?

The need for widening and/or new highways is driven by new development and should be paid for by new development. An adequate nexus study could address the existing residents and pass through traffic versus the new residents issue.

OTHER ELEMENTS & ROADWAY PROJECTS

How is this project, the growth inducing and cumulative impacts addressed in a regional approach to planning?

There needs to be a concurrency aspect that assures that all of the needed infrastructures will be in place at the time of the start of a construction area or phase contained in the plan. Will this be included in the plan?

One example, was SVSP a foreseeable project considered with the adopted South Sutter County Specific Plan and also being considered with the potential Placer Parkway approval? I'm using this example as a way to try to address and link the need to fund various roadway projects. My point is, I know this project is being considered in the review for the Placer Parkway project approval and currently limited fees are now being collected for the Placer Parkway. However I do not know what Sutter County considered when they approved their projects and if they developed fees for their approvals. Therefore, when it comes time to address Placer Parkway regionally (and my other comments below), how the Placer Parkway route/alternative is being selected is a concern. What impact does Sutter County have in the route/selection if they did not consider Roseville/Placer County projects and start collecting fees for the Placer Parkway? To future clarify my point; Placer Parkway should consider the amount of Roseville residents it can serve. The route/alternative selection shouldn't be based on the need to serve Sutter County if it hasn't even started a fee program for the Parkway (there should be a broad range issues considered in the selection process).

Please identify the Placer Parkway Alternatives and their locations in relation to this project and other projects in the area including pending and proposed projects. Identify the number of units in each project along with population projections. Please include Sacramento and Sutter County projects with their projections.

Does one of the Placer Parkway Alternatives go through this project? How will the Right of Ways/ROW be protected? Considering the proximity to the Placer Parkway will there be any parallel roads to support traffic circulation? Please identify the funding for the Placer Parkway. As I understand it, the current fees only cover the Environmental Review. Fees are not yet being collected for the purchase of right of ways, design and construction of the Parkway. Please verify this information and develop a fee program to fully fund a 6 lane Parkway and include a requirement for this project to pay into that program.

Could the Placer Parkway better serve the region as another "Freeway/Highway" linking various areas regionally? I feel moving the Parkway project forward would be essential to eliminate the Health and Safety Risks of the increase in Truck Route traffic on Blue Oaks Blvd. Please address the increase in truck emissions versus car emissions; and what impact that has on the Air Quality in the area of Blue Oaks and that of the new Placer Parkway.
In particular, address the increase in poor air quality on Blue Oaks due to truck traffic versus just car traffic in the vicinity of the Senior Community of Sun City Roseville. Can Mitigation include an Air Quality Monitoring Station in this area funded by various new projects in this area?

New Highways and links are needed in this Region. Roseville is now a Metropolis. If I recall correctly, once the population reaches 100,000 it is considered a metropolitan zone. Roseville has embraced the smart growth concept with recent project approvals. It is now to time to look for ways accommodate the new population projections with an adequate transportation system. With these population numbers beginning to compete with the Bay and LA Areas, we need to look for more Highways and links to them. The Bay and LA areas have numerous freeways surrounding them. Even the Sacramento freeway system also circles the downtown area with numerous connections. The north side of Sacramento created the Hwy 80 by-pass to move traffic toward Reno and Roseville.

Roseville currently is limited in the Highway circulation patterns. My concern is the amount growth in West Roseville and that region without consideration of major traffic solutions, including highway systems, will create worse congestion and worse air quality than is currently experienced in the Douglas, Sunrise and Cirby areas.

Please identify the overall total units and population projections in this area including Sacramento and Sutter. Please verify if this number is over approximately 150,000 people or more. If this number is anywhere over 100,000 people, please use several examples of where this many people is stuck in what I would term in-fill without a freeway system as part of the circulation element?

If Roseville is to be considered a "Destination City" for the current massive growth projections in this developing region, it appears the only prominent way to get into Roseville is Baseline, Pleasant Grove and Blue Oaks Blvd feeding onto the freeway and E Roseville Parkway as the only available arterial for connection into Roseville. This will not only over burden Hwy 65/80 but Roseville Parkway as well. Please address this.

Please address medical and fire emergency response times. In particular, Blue Oaks and Pleasant Grove are the major roads that feed onto E Roseville Parkway to get to Health Care Facilities of Sutter and Kaiser. How will the Health and Safety issues be addressed without a loss in level of service?

Circulation patterns should consider parallel roads especially in (but not limited to) the area of Baseline Road, Watt Avenue and potentially Placer Parkway.

Where are park and ride locations?

TRANSPORTATION WORKSHOP/PRESENTATION

Due to the large projects and growth that will be experienced in this area/region, I would like to suggest before anymore pending/proposed projects get through the DEIR phase, the City and County conduct a public out-reach program on the amount of traffic that will be created in this area.

RAIL AND LIGHT RAIL

Why aren't Rail and/or Light Right being considered and Planned for in the future? Sacramento is planning a route to the International Airport; it seems this would be the time to start planning for Lt Rail to connect to Sacramento and the International Airport. With all the growth and the Universities planned for this area this seems like the right time to start planning for rail/light rail and collect funds for those improvements sometime in what I realize would be a distant future. Route consideration could be from Sacramento/International Airport to I-5, R-70/99 to Baseline Road and/or Placer Parkway and to areas of the Universities and large developments in this area.

Please address the long term possibility of High Speed Rail. Consider long term, how Rail/Lt. Rail in this area might connect with High Speed Rail.

Please further address Bus Rapid Transit and its potential routes and expanded availability from this area to the International Airport. Mitigation should included funding the additional "Electrical or Non-Fuel type" buses to serve this area.

HIGH DENSITY - SACOG'S BLUEPRINT PROJECT

This project is 2,178 acres with approximately 9,995 units while the Blueprint project of Placer Vineyards is 5,230 acres with 14,132 units. Placer Vineyards was originally proposed with over 21,000 units and yet it was approved with the 14,132 units as complying with the increased density of the Blueprint Program. So why is this project so dense? Please discuss this, giving examples of Roseville's overall density and that of Placer Vineyards and other pending and more current proposals. Compare and provide this density relationship on current density in Roseville and all pending and proposed projects in area.

Suggest a Project Alternative that reduces the density to be more in line with the Placer Vineyards or another project that complies with the Blueprint yet has lower density (whichever has lower density).

WATER

Like the West Roseville Specific Plan, Mitigation should include instant hot water on all units including Apartments.

It is stated additional surface water supplies will be needed to serve the SVSP. Potential sources are identified but have not been determined and/or secured. This needs to be clearly defined in the DEIR. Please discuss the term "Paper Water" and the law and the requirements in law to provide the source of water for new development.

In addition, three onsite injection/extraction groundwater wells would be part of the water infrastructure system. This raises the concern and makes it clear that additional surface water supplies need to be identified and/or secured before project approval because groundwater has already been used in Roseville.
Please address the current lack of surface water and use of groundwater. As an example, Sun City Roseville was recently supplied groundwater. Please address how much groundwater and for how long was it supplied to Sun City Roseville. If this project is approved, does that mean Sun City Roseville will be on groundwater more often due to lack of surface water? Wasn't groundwater to be used in case of emergencies due to lack of surface water? Please verify and explain. What other areas have been provided groundwater; and how much, for how long? What are the potential impacts to Sun City Roseville?

Several years ago, I heard something about a study or finding that the drop in the water table in the Sacramento area caused a compression that has not recovered. Please verify and/or discuss if this is correct.

Please identify where the injection/extraction of groundwater is currently being used and for how long. What has any mitigation monitoring found? What mitigation monitoring program will be used for the wells?
How will groundwater levels be protected from draw-down long term if more groundwater is used to support development?

How will a long term groundwater injection/extraction process impact Waters of the U.S., the wetlands and other

sources of surface water such as Curry Creek and intermittent streams, etc.?

POST OFFICE

The cumulative impacts from all the proposed and potential projects in this area will be creating a demand for more mail services.
Currently the Post Office has only 2 Roseville locations; both are too busy and crowded. With the amount of growth including several universities being planned in this area of Roseville, are there any plans for an additional Post Office location? I have heard the Main Post Office on Vernon is moving to Washington. A clerk at that location told me a couple of clerks will continue to stay in a small office on Vernon Street and the Washington location will have just a few clerks and will be mostly for mail distribution. Also, the Washington location will be constructed under potentially affordable housing units. Please verify and clarify this information. In addition to a need for another Post Office location, adequate size of facilities and staff is a concern for services. I recognize a City or County does not have control over these types of Federal decisions, but isn't it appropriate for the City to notify the Post Office of the projected growth in the area and the need for service and request information on their plans? Could mitigation include a fee program to purchase land as a public facility to house an additional Post Office Location?

POLICE SUB-STATION

With all the growth in area, please contact the police department about a need for a police sub-station in this area of Roseville to ensure response times are the best they can be - as this is a "Health and Safety Concern". Can a fee program be developed for all the pending/ proposed and potential projects in the area to fund the land, facilities and staff needed to serve this area? Can or should the County Sheriff Department be contacted for any interest in a shared/joint-use facility?

PARKS

Request a dog park be included in the project site.

GENERAL PLAN UPDATE/AMENDMENTS

It seems with most all project approvals, there are always General Plans Amendments processed at the same time. This seems very confusing. The cumulative impacts to Roseville will potentially include growth boundaries, Sphere of Influence adjustments, and annexations. Doesn't it make sense to process one separate General Plan Amendment and address as many of these potential amendments and changes as possible. I bring this up now because this project is located where all this new growth will occur. An example is the need for another Post Office location and a Police Sub-Station. Polices in a separate General Plan Amendment could address the need to accommodate these facilities with funding coming from the new development that will need these services. How many General Plan Amendments are allowed per year under OPR Guidelines and Policies or Public Law? How many General Plan Amendments have been processed in each of the last 3 years?

CONCLUSION

Although this is economically a difficult time and there seems to be a concern in the area too many development fees will drive out new development. I feel we are in a highly desirable prime area. The proximity to the Capital and the International Airport is making Roseville an outstanding choice for development opportunities. Any options to stimulate the economy should not degrade our quality of life and any level of service.

Thank you for the opportunity to provide comments and consider them in development of the DEIR.

Sincerely,

Jan McKinsey
8085 Stagecoach Circle
Roseville Ca 95747
(916) 783-9211

SIERRA CLUB
FOUNDED 1892

MOTHER LODE CHAPTER
801 K STREET, SUITE 2700
SACRAMENTO, CA 95814
TEL. (916) 557-1100 EXT. 119 FAX: (916) 557-9669
info@mlc.sierraclub.org – www.motherlode.sierraclub.org

April 24, 2008

Nancy Haley, Project Manager
US Army Corps of Engineers, Sacramento District
Sacramento Valley Office
1325 J Street, Room 1480
Sacramento, CA 95814

RE: Public Notice #200601050 – Sierra Vista Specific Plan

Dear Ms. Haley,

On behalf of the Mother Lode Chapter of the Sierra Club, thank you for the opportunity to comment on the Public Notice for the Sierra Vista Specific Plan permit application and Notice of Intent to prepare an Environmental Impact Statement.

The PN notes that the project site is approximately 2,138 acres. The project would develop 1,932 of those acres as residential, commercial, parks and other urban uses. Just 206 acres would be preserved in its natural state. The site contains 51.87 acres of waters of the United States, with direct impacts to approximately 37.74 acres of waters of the United States. As noted in the PN, high value aquatic resources dominate the landscape, as "perennial streams, including Curry Creek; perennial marshes; seasonal wetland swales; seasonal wetlands, including vernal pools; and ephemeral and intermittent streams are located throughout the proposed project site."

Of particular note are the vernal pool resources present on the project site. Surveys conducted by Placer County in conjunction with its efforts to craft a Habitat Conservation Plan identified 871 acres of vernal pool complex grasslands on the site. The U.S. Fish and Wildlife Service (USFWS) has recognized that the entire 2,138 acre site is essential to the recovery of vernal pool species. The "Recovery Criteria" in the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* identifies the Sierra Vista site as a "Priority Core Area" for vernal pool tadpole shrimp and vernal pool fairy shrimp. Under the Recovery Plan, 85% of these core areas must be protected, as well s 80% of species occurrences.

As currently designed, the project fails to sufficiently avoid direct impacts to vernal pool uplands, or catchment areas, in order to preserve the biological integrity of the vernal pool wetlands onsite. A review of the Conceptual Land Use Plan (March 2008) reveals that the unimpacted open space would exist only along narrow linear stream courses, leaving inadequate uplands to ensure the long-term functionality of any avoided vernal pool wetlands onsite. The current design does not meet the LEDPA test under the Clean Water Act. It is critical that a range of alternatives is analyzed in order in order

ensure adequate onsite avoidance or offsite preservation in ratios that sufficient to meet the goals of the Vernal Pool Recovery Plan.

In the event that impacts to aquatic resources cannot be fully avoided onsite, offsite preservation must be consistent with the MOU between the City of Roseville and the USFWS. This agreement was coupled with federal permits that were granted for the expansion of the Pleasant Grove Wastewater Treatment Plant, which enabled urban development in areas critical to the recovery of vernal pool species. The MOU commits the City of Roseville to "develop and implement a long-term habitat conservation program (HCP), or its equivalent, to minimize the effects of future development on federally listed species." Fundamental to habitat conservation planning is the preservation of large linked preserves that are based on the conservation of existing resources, rather than the creation or restoration of vernal pool wetlands.

In order to be consistent with the Vernal Pool Recovery Plan, the ratio of the loss of vernal pool complexes to offsite preservation must be consistent with the 85% preservation guideline. Given that the proposed project would directly or indirectly compromise 100% of the vernal pool habitat onsite (due to direct impacts and incompatible adjacent uses), offsite preservation should reflect the 6.6:1 ratio implicit in the 85% guideline. Thus, given that 871 acres of vernal pool complex habitat have been identified onsite in recent biological surveys, offsite preservation should total 5,748.6 acres of existing vernal pool complex grassland.

I appreciate the opportunity to comment on the PN for the Sierra Vista Specific Plan. Please keep me informed of any notices and documents related to this project. I can be reached at the address on the letterhead, or terry.davis@sierraclub.org and 916 557-1100 ext. 108.

Sincerely,

Terry Davis

Terry Davis
Conservation Program Coordinator

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION PLANNING, MS-32
1120 N STREET
P. O. BOX 942874
SACRAMENTO, CA 94274-0001
PHONE (916) 653-0808
FAX (916) 653-4570

Flex your power!
Be energy efficient!

April 29, 2008

Nancy A. Haley, Project Manager
U.S. Army Corps of Engineers, Sacramento District
1325 J Street
Sacramento, CA 95814-2922

PN 200601050, Sierra Vista Specific Plan Project, City of Roseville, Placer County

Dear Ms. Haley:

The California Department of Transportation (Caltrans) appreciates the opportunity to review the subject notice. Our District 3 office responded to the City of Roseville's (City) Notice of Preparation for the subject project on April 18th. A copy of the letter to the City is attached.

Understandably, at the current stage of environmental analysis, Caltrans is unable to comment fully upon potential traffic impacts to the State Highway System that may result from the proposed project. Due to the significance of the project pursuant to Public Resources Code, Section 21092.4, we anticipate that the City will be in consultation with Caltrans as the project progresses.

Please contact me via telephone at: 916.653.0808, or e-mail at: betty_l_miller@dot.ca.gov if you have questions about our comments.

Sincerely,

Betty Miller

Betty Miller
Statewide Local Development-Intergovernmental Review Coordinator
Office of Community Planning

Attachment: Copy of District 3 letter to City of Roseville, dated April 18, 2008

c: C. Eaton, Coordinator, District 3
N. Deal, Chief, Transportation Planning-East, District 3
H. Behrooj, Sr. Bridge Engineer, HQ MS&I
K. Pease, Senior Planner, City of Roseville

DEPARTMENT OF TRANSPORTATION
DISTRICT 3
703 B STREET
P. O. BOX 911
MARYSVILLE, CA 95901-0911
PHONE (530) 741-5151
FAX (530) 741-5346
TTY (530) 741-4509

Flex your power!
Be energy efficient!

April 18, 2008

Ms. Kathy Pease
City of Roseville
311 Vernon Street
Roseville, CA 95678

Dear Ms. Pease:

Thank you for the opportunity to review and comment on the Notice of Preparation of an Environmental Impact Report for the Sierra Vista Specific Plan, Annexation, and General Plan Amendment project. Our comments are as follows:

- A Drainage Design Report should be completed. No drainage plans, drawings, calculations, or hydrologic/hydraulic reports were received with the application. In order to adequately evaluate impacts upon the State's right-of-way and drainage facilities, a detailed drainage plan with "pre-construction" and "post-construction" hydraulic calculations should be supplied for our review. Please request these calculations and send them to Caltrans District 3 at the above address in Marysville for review prior to final project approval

    - The project has the potential to create significant negative hydrologic, hydraulic, and water quality impacts. The development of this site will increase impervious surface area through the construction of roads, driveways, homes, garages, and other various structures with a corresponding increase in surface water (storm water) runoff. This project will decrease surface water detention, retention, and infiltration. Any cumulative impacts arising from the effects of this development on surface water runoff discharge should be minimized through project drainage mitigation measures.

- A Traffic Impact Study (TIS) should be completed and include an analysis of impacts to the State Highway System. The TIS should consider all possible traffic impacts to all ramps, interchanges / intersections and mainline segments of Interstate-80, State Route 65, and State Route 99. Cumulative impacts from this project and other projects in the area should also be studied. A copy of the TIS guide can be downloaded at:
http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.p

Att. 1, Page 1 of 2

df. We would appreciate the opportunity to review the scope of the TIS before the Study begins.

- Please provide the following in the TIS: (for general plan amendment or update)
  - Existing Conditions: current year traffic volumes and peak-hour LOS analysis of the effected State highway facilities.
  - Proposed Project Only With Select Link Analysis: Trip generation and assignment for build-out of general plans.
  - General Plan Build-out Only: Trip assignment and peak hour LOS analysis. Include current land uses and other pending general plan amendments.
  - General Plan Build-out Plus Proposed Project: Trip assignment and peak hour LOS analysis. Include proposed project and other pending general plan amendments.

Please provide our office with copies of any further actions regarding this development. If you have any questions regarding these comments, please do not hesitate to contact Cassandra Eaton, of my staff, at (530) 634-7612.

Sincerely,

William C Horn
for

NICHOLAS DEAL, Chief
Office of Transportation Planning – East

Att 2, May 2 of 2

APPENDIX 3.3

Sierra Vista Specific Plan Air Quality/Greenhouse Gas Technical Report

Sierra Vista Specific Plan
Air Quality/Greenhouse Gas Technical Report

Prepared for:
City of Roseville
Planning & Redevelopment
311 Vernon Street
Roseville, CA 95678
Contact: Kathy Pease
Phone: (916) 774-5434

Prepared by:
Rimpo and Associates, Inc
6097 Garden Towne Way
Orangevale, CA 95662
Contact: Tim Rimpo
Phone: 916-337-8449

Revised September 22, 2009

Table of Contents

List of Tables and Figures

Acronyms Used in this Report

AADT – average annual daily trips
AB – (California) Assembly Bill
AG – (California) Attorney General
ARB – (California) Air Resources Board
CAAQS – California Ambient Air Quality Standards
CAL-EPA – California Environmental Protection Agency
CAPCOA – California Air Pollution Control Officers Association
CAT – Climate Action Team
CEC – California Energy Commission
CEQA – California Environmental Quality Act
CO – carbon monoxide
CO_2 – carbon dioxide
CO_2e – carbon dioxide equivalent
CH_4 - methane
EPA – Environmental Protection Agency
GHG – greenhouse gas
GWP – global warming potential
IPCC – Intergovernmental Panel on Climate Change
LCFS – Low Carbon Fuels Standard
LED – light emitting diode
LEED – Leadership in Energy and Environmental Design
LOS – level of service
NAAQS – National Ambient Air Quality Standards
OPR – (California) Office of Planning and Research
N_2O – nitrous oxide
NOx – oxides of nitrogen
NO_2 – nitrogen dioxide
PCAPCD – Placer County Air Pollution Control District
PM10 – particulate matter 10 microns or less in diameter
PM2.5 – particulate matter 2.5 microns or less in diameter
ppm – parts per million
ROG – reactive organic gas
SB – (California) Senate Bill
SOx – sulfur oxides
SO_2 – sulfur dioxide
SRI – solar reflective index
SVAB – Sacramento Valley Air Basin
SVSP – Sierra Vista Specific Plan
TAC – toxic air contaminant

Executive Summary

This report analyzes the air quality and greenhouse gas effects of the Sierra Vista Specific Plan (SVSP). The SVSP project site is 2,064.1 acres of undeveloped land located in unincorporated Placer County, immediately west and south of the City of Roseville's existing City limits (see Figure 1).

The proposed SVSP would include development of 6,655 residential units, 214 acres of commercial and office uses, 70 acres of public/quasi-public, 256 acres of open space uses, and 90 acres of parks (see Figure 2). This scenario is assumed to be built out by 2025.

A second scenario includes the buildout of the Richland properties (currently part of the proposed Urban Reserve Area) and assumes that 9,995 dwelling units will be completed by 2035. The second scenario is referred to as the 2035 cumulative buildout.

This report also analyzes four project alternatives to the 2025 SVSP buildout:

- Alternative 1 - the increased avoidance, increased density alternative, assumes 6,663 dwelling units and 599 acres of open space.
- Alternative 2 - the increased avoidance, same density alternative, assumes 4,929 residential units and 599 acres of open space.
- Alternative 3 - the project footprint, reduced density alternative, assumes the same open space as the proposed SVSP, with 4,986 residential units.
- Alternative 4 - the no project alternative.

Criteria pollutant emissions of reactive organic gases, nitrogen oxides, and particulate matter were estimated for the SVSP and compared to the Placer County Air Pollution Control District's (PCAPCD's) significance thresholds. Construction and operation of the SVSP would exceed the PCAPCD's thresholds for each pollutant. Mitigation measures were identified to reduce construction emissions. Even with mitigation, however, construction emissions would still exceed the PCAPCD thresholds. No mitigation measures were identified to reduce operational emissions. Consequently, operational emissions would exceed the PCAPCD thresholds.

Carbon monoxide (CO) modeling was conducted to determine whether the project would cause or contribute to violations of either the California or national ambient air quality standards. Neither the proposed SVSP nor

any of the project alternatives would cause violations of the ambient standards.

This report qualitatively evaluates the SVSP's health risks associated with potential exposure to TACs. This analysis focuses on proximity of proposed sensitive land uses to land uses that could generate TACs, such as roads and industrial development. Mitigation measures are included to reduce the impacts of potential health risks associated with TACs.

This report also evaluates the SVSP's potential for land use conflicts from odors. The analysis focuses on the proximity of sensitive land uses to land uses that could generate odors, such as commercial and industrial development. Mitigation measures are included to reduce potential odor impacts at sensitive receptors.

Finally, the report estimates greenhouse gas emissions (GHG) associated with the proposed SVSP and for the cumulative 2035 scenario. Several mitigation measures were identified that could reduce the amount of GHGs produced by the SVSP.

Project Description

The proposed Sierra Vista Specific Plan (SVSP) project site is approximately 2,064.1 acres located in unincorporated Placer County, immediately west and south of the City of Roseville's existing City limits (see Figure 1). The project site is located approximately 6 miles west of Interstate 80 and State Route 65, 10 miles northeast of the City of Sacramento, 10 miles east of State Route 99, 5 miles west of downtown Roseville, and 4 miles east of the Sutter County line. The proposed project site is west of Fiddyment Road and north of Baseline Road and extends west from Fiddyment Road to approximately ½ mile west of the intersection of Watt Avenue and Baseline Road.

The SVSP is a proposed specific plan project that would include development of a mix of land uses, including 9,995 residential units, approximately 214 acres of commercial and office uses, approximately 70 acres of public/quasi-public, 256 acres of open space uses, and 90 acres of parks (see Figure 2). The majority of the proposed project site is within the City's Sphere of Influence (SOI), which was expanded in 2004, as part of the West Roseville Specific Plan annexation.

This air quality analysis evaluates two buildout scenarios. The first scenario considers the buildout of 6,655 dwelling units by 2025. The second scenario includes the buildout of the Richland properties (currently part of the proposed Urban Reserve Area) and assumes that 9,995 dwelling units will be completed by 2035. The first scenario is referred to as the 2025 buildout. The second scenario is referred to as the 2035 cumulative buildout.

There are 4 project alternatives being considered to the 2025 buildout scenario. Alternative 1, the increased avoidance, increased density alternative, assumes slightly greater residential units with greater open space. This alternative would accommodate approximately 6,663 dwelling units and 599 acres of open space. Alternative 2, the increased avoidance, same density alternative, assumes 1,726 fewer residential units with greater open space. This alternative would accommodate approximately 4,929 residential units and 599 acres of open space. Alternative, the project footprint, reduced density alternative, assumes the same open space avoidance as the proposed project, with lower housing densities, for a total of 4,986 units. Alternative 4 is the no project alternative, which would encompass both "no development" and "no action" because it is anticipated that no development would occur if the current land use

designations and zoning are retained. Alternative 4 would have no emissions associated with it since the project area would not be developed.

This technical report describes existing air quality conditions, summarizes the air quality regulatory environment, and analyzes potential short-term and long-term air quality impacts of the proposed project.

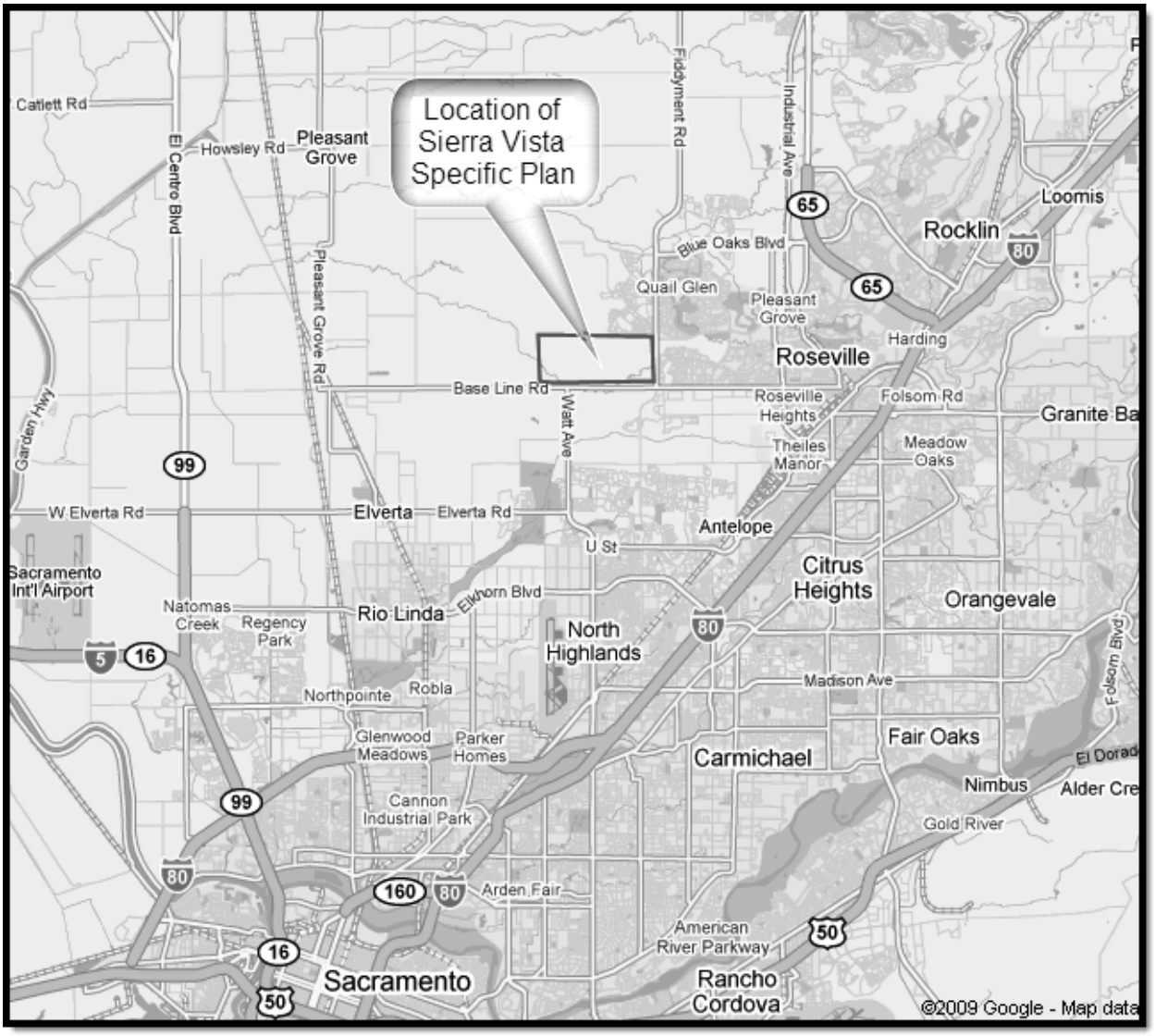

Figure 1. Regional Project Location

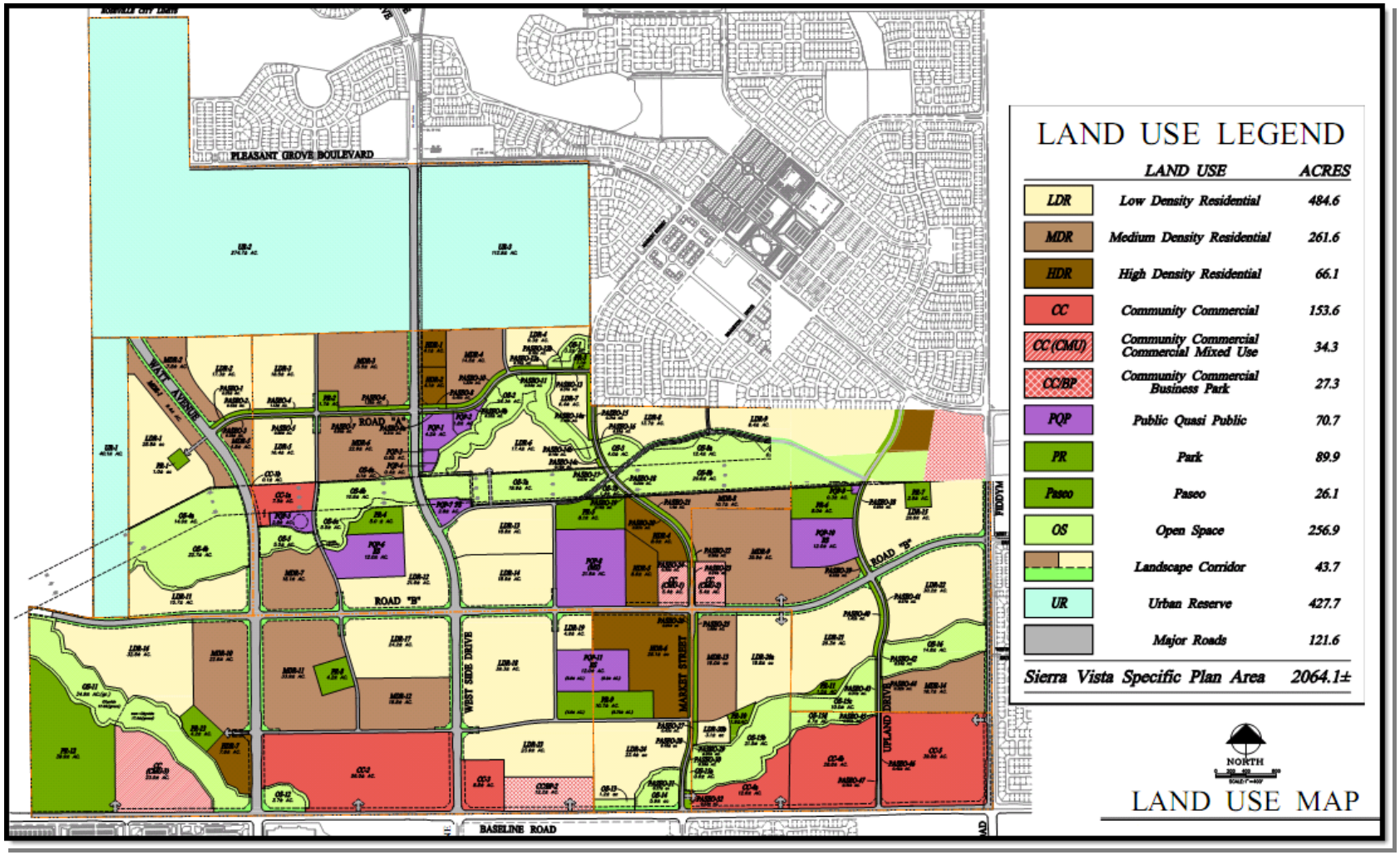

Figure 2. Sierra Vista Specific Plan Land Use Map

Environmental Setting

Existing Air Quality Conditions

Climate and Topography

The City of Roseville is located in southern Placer County within the Sacramento Valley Air Basin (SVAB). The SVAB contains the southern portion of Placer County and ten other counties including Shasta, Tehama, Colusa, Yolo, East Solano, Butte, Yuba, Sutter, Glenn and Sacramento County.

The SVAB is surrounded by the Coast Range to the west, the Cascade Range to the north, and Sierra Nevada mountains to the east. The winters are wet and cool and the summers are hot and dry.

Air pollution can be transported into the basin, but on smoggy days, air pollution emissions from within the basin are the most significant. The South border area receives air pollution inflow, transported from the Bay Area or San Joaquin Valley air basins. On many summer days, a "delta breeze" blows toward Sacramento from the ocean through the Carquinez Strait. These winds can transport air pollution from the Bay Area to the Sacramento air basin.

The delta breeze moves Sacramento's air pollution up toward the north end of the Sacramento Valley and East into the Sierra Nevada foothills. On days when wind blows from the North, Sacramento air pollution can be transported to the South into the San Joaquin Air Basin.

Air Pollutants and Ambient Air Quality Standards

Ambient air quality is affected by pollutants emitted from stationary and mobile sources. Stationary sources are often divided into point sources and area sources. Point sources consist of one or more emission sources at a facility with an identified location and are usually associated with manufacturing and industrial processing plants. Area sources are widely distributed and consist of many small emission sources. Area source examples include lawnmowers and other landscape maintenance

equipment, natural gas fired water and space heaters, and consumer products such as paints, hairspray, deodorant, and similar products with evaporative emissions. Mobile sources refer to emissions from motor vehicles, including tailpipe, evaporative, and fugitive emissions.

Air pollutants emitted by stationary and mobile sources are regulated by federal and state law. These regulated pollutants are known as "criteria air pollutants", and are emitted as primary and secondary pollutants.

Primary criteria air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SO_2), and most forms of particulate matter (PM10 and PM2.5) are primary air pollutants. Secondary criteria air pollutants are those formed by chemical and photochemical reactions in the atmosphere. Ozone and nitrogen dioxide are the principal secondary pollutants.

The U.S. Environmental Protection Agency has developed National Ambient Air Quality Standards (NAAQS) for the criteria air pollutants. At the state level, the California Air Resources Board has developed California Ambient Air Quality Standards (CAAQS). Table 1 shows the NAAQS and CAAQS. Areas that do not meet the NAAQS and/or CAAQS are classified as nonattainment areas.

The SVAB is nonattainment for the federal and state ozone, and PM2.5 standards. The Placer County portion of the SVAB is in nonattainment for federal PM10 standards (Table 2).

Ozone

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials. Ozone is a severe eye, nose, and throat irritant. Ozone also attacks synthetic rubber, textiles, plants, and other materials; it causes extensive damage to plants, such as leaf discoloration and cell damage.

State standards for ozone have been set for a 1-hour averaging time. The state 1-hour ozone standard is 0.09 ppm, not to be exceeded. EPA recently replaced the 1-hour federal ozone standard with an 8-hour standard of 0.075 ppm, while ARB recently enacted a state 8-hour standard of 0.07 ppm.

Ozone is not emitted directly into the air, but is formed by a photochemical reaction in the atmosphere. Ozone precursors, including reactive organic gases (ROGs) and oxides of nitrogen (NO_x), react in the

atmosphere in the presence of sunlight to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. ROG and NO_x are emitted by mobile sources and stationary combustion equipment.

Table 1. California and National Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS[a]	NAAQS[b]
Ozone (O_3)	1 hour	0.09 ppm	NA
	8 hours	0.070 ppm	0.075 ppm
Carbon monoxide (CO)	1 hour	20 ppm	35 ppm
	8 hours	9.0 ppm	9 ppm
Nitrogen dioxide (NO_2)	1 hour	0.18 ppm	NA
	Annual	0.030 ppm	0.053 ppm
Sulfur dioxide (SO_2)	1 hour	0.25 ppm	NA
	3 hours	NA	0.5 ppm
	24 hours	0.04 ppm	0.14 ppm
	Annual	NA	0.03 ppm
Inhalable particulate matter (PM10)	24 hours	50 µg/m^3	150 µg/m^3
	Annual	20 µg/m^3	NA
Fine particulate matter (PM2.5)	24 hours	NA	35 µg/m^3
	Annual	12 µg/m^3	15 µg/m^3
Sulfates	24 hours	25 µg/m^3	NA
Lead (Pb)	30 days	1.5 µg/m^3	NA
	Calendar quarter	NA	1.5 µg/m^3
Hydrogen sulfide	1 hour	0.03 ppm	NA
Vinyl chloride	24 hours	0.010 ppm	NA

Source: California Air Resources Board 2008a.

Note: NA = not applicable, ppm = parts per million.

[a]The CAAQS for ozone, CO, SO_2 (1- and 24-hour), NO_2, PM10, and PM2.5 are values not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

[b]The NAAQS, other than ozone and those based on annual averages, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

Table 2. Sacramento Valley Air Basin State and National Ambient Air Quality Attainment Status

Air Pollutant	Attainment Status – SVAB
Ozone (O_3)	Nonattainment for NAAQS 8–hour; nonattainment for CAAQS 1-hour and 8-hour
Carbon monoxide (CO)	Attainment/maintenance for federal standards; unclassified for state standards
Nitrogen dioxide (NO_2)	Attainment
Sulfur dioxide (SO_2)	Attainment
Suspended particulate matter (PM10)	Attainment for NAAQS; nonattainment for CAAQS
Particulate matter (PM2.5)	Nonattainment for NAAQS; nonattainment for CAAQS
Sulfates	Attainment
Lead (Pb)	Attainment
Hydrogen sulfide	Unclassified

Source: California Air Resources Board, 2009a.

Table 3 shows monitoring results for the ozone monitoring station closest to the proposed project, which is located in the City of Roseville. This station shows several violations of the state and federal ozone standards during the most recent three years of monitoring.

Table 3. Ozone Monitoring Results at the Roseville North Sunrise Monitoring Station

Ozone (O3)	2006	2007	2008
Highest 1-hour average, ppm	0.121	0.109	0.134
Highest 8-hour average, ppm	0.097	0.100	0.106
Days > state 1-hour standard	16	4	20
Days > state 8-hour standard	38	20	38
Days > federal 8-hour standard	0	0	2
Percent of year covered	99	96	99

Sources: California Air Resources Board 2009b.

Carbon Monoxide

CO is inert to plants and materials but can significantly affect human health. CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. Effects on humans range from slight headaches and nausea to death.

State and federal CO standards have been set for both 1- and 8-hour averaging times. The state 1-hour standard is 20 ppm, and the federal 1-hour standard is 35 ppm. Both the state and federal standards for the 8-hour averaging period are 9 ppm.

Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter when light winds combine with the formation of ground-level temperature inversions typically from evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

No CO monitoring is currently conducted in Placer County. The closest CO monitoring station is located in Sacramento County. The results from the last three years of monitoring are shown in Table 4. No violations of either the state or federal CO standards were recorded at this monitoring station during the most three recent years.

Oxides of Nitrogen

NO_x contributes to smog and can injure plants and animals and affect human health. NO_x also contributes to acidic deposition and reacts with ROG in the presence of sunlight to form photochemical smog. NO_x concentrations result in a brownish color because they absorb the blue-green area of the visible spectrum, greatly affecting visibility.

NO_x is emitted primarily by combustion sources, including both mobile and stationary sources. NO_x also is emitted by a variety of area sources, ranging from wildfires and prescribed fires to water-heating and space-heating systems powered by fossil fuels.

The state NO_x standard is 0.18 ppm for the 1-hour average and 0.03 ppm for the annual average. The federal NO_x standard is 0.053 ppm on an annual average. No violations of the NOx standard were recorded in the SVAB during the three recent years of monitoring.

PM10 and PM2.5

Health concerns associated with suspended particulate matter (PM) focus on those particles small enough to reach the lungs when inhaled. PM can damage human health and retard plant growth, as well as reduce visibility, soil buildings and other structures, and corrode materials.

The state PM10 standards are 50 µg/m^3 as a 24-hour average and 20 µg/m^3 as an annual geometric mean. The federal PM10 standard is 150 µg/m^3 as a 24-hour average. The federal annual PM10 standard of 50 µg/m^3 was recently dropped.

Table 4. Carbon Monoxide Monitoring Results at the North Highlands-Blackfoot Way Monitoring Station

Carbon Monoxide (CO)	2006	2007	2008
Highest 1-hour average, ppm	2.70	1.73	1.90
Highest 8-hour average, ppm	2.70	1.70	1.80

Sources: California Air Resources Board 2009b; U.S. Environmental Protection Agency, 2009.

The federal PM2.5 standards are 35 µg/m^3 as a 24-hour average and 15 µg/m^3 as an annual average. The state PM2.5 standard equals 12 µg/m^3 on an annual average.

PM10 and PM2.5 emissions are generated by a wide variety of sources, including agriculture, industrial activities, dust suspended by vehicle traffic, and secondary aerosols formed by reactions in the atmosphere.

Table 5 shows the past three years worth of PM10 and PM2.5 monitoring results for the Roseville North Sunrise monitoring station. Two violations of the state PM10 standards were recorded at this monitoring location. The Roseville North Sunrise monitoring station also recorded several violations of the federal 8 hour PM2.5 standard during the most recent three years.

Table 5. Particulate Matter Monitoring Results at the Roseville North Sunrise Monitoring Station

Particulate Matter (PM10)	**2006**	**2007**	**2008**
Highest 24-hour average, µg/m^3	**55.0**	**45.0**	**73.9**
Days > state standard[a]	1	0	1
Days > federal standard[a]	0	0	0
Percent of year covered	100	98	100
Particulate Matter (PM2.5)	**2006**	**2007**	**2008**
Highest 24-hour average, µg/m^3	54.7	48.7	49.7
Days > federal standard[a]	11.5	0	6.5
Percent of year covered	100	96	92

Note: Underlined values represent those in excess of applicable NAAQS. **Bold values** represent those in excess of the applicable CAAQS.

Source: California Air Resources Board, 2009b.

[a]Days over state or federal standards are measured days, not estimated days.

Sulfur Dioxide

The major health concerns associated with inhalation of SO_2 include effects on breathing, respiratory illness, alterations in pulmonary defenses, and aggravation of existing cardiovascular disease. Children, the elderly, and people with asthma, cardiovascular disease, or chronic lung diseases—such as bronchitis or emphysema—are most susceptible to adverse health effects from exposure to SO_2. SO_2 is a precursor to sulfates, which are associated with acidification of lakes and streams, accelerated corrosion of buildings and monuments, reduced visibility, and other adverse health effects.

EPA's health-based NAAQS for SO_2 is 0.03 ppm measured as an annual arithmetic mean concentration, 0.14 ppm measured over a 24-hour period, and 0.5 ppm measured over a 3-hour average period. California's SO_2 standard is 0.04 ppm measured over a 24-hour average period and 0.25 ppm measured over 1-hour.

SO_2 belongs to the family of gases called sulfur oxides (SO_x). These gases are formed when fuel containing sulfur (mainly coal and oil) is burned, and also during metal smelting and other industrial processes.

Sensitive Receptors

Some receptors are considered more sensitive than others to air pollutants. The reasons for greater than average sensitivity include health problems, proximity to emission sources, or duration of exposure to air pollutants. Sensitive receptors are typically defined as locations where human populations, especially children, seniors, or sick persons, are found, and there is reasonable expectation of continuous human exposure. Examples of land uses considered to be sensitive receptors are residences, hospitals, and schools.

Greenhouse Gases and Climate Change

Global climate change is caused by GHG emissions, which are caused by several activities, including combustion of fossil fuels, deforestation, and land use change.

GHGs play a critical role in the Earth's radiation budget by trapping infrared radiation emitted from the Earth's surface, which could have otherwise escaped to space. Prominent GHGs contributing to this process include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and certain refrigerants that include chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and hydrofluorocarbons (HFCs). This phenomenon, known as the "greenhouse effect", keeps the Earth's atmosphere near the surface warmer than it would be otherwise and allows for successful habitation by humans and other forms of life.

Global warming potential (GWP) is a measure of how much a given mass of GHG is estimated to contribute to global warming. It is a relative scale which compares the gas in question to that of the same mass of carbon dioxide (whose GWP is by definition 1). In this analysis, CH_4 is assumed to have a GWP of 21 and N_2O has a GWP of 310 (California Climate Action Registry, 2009). Refrigerants have GWP's that range from 76 up to 12,240 (U.S. Green Building Council, 2007). Consequently, using each pollutant's GWP, emissions of CO_2, CH_4, N_2O, CFCs, HCFCs, and HFCs can be converted into CO_2 equivalence, also denoted as CO_2e.

Fossil fuel combustion removes carbon stored underground and releases it into the active carbon cycle, thus increasing concentrations of GHGs in the atmosphere. Emissions of GHGs in excess of natural ambient concentrations are theorized to be responsible for the enhancement of the greenhouse effect and contribute to what is termed "global warming", a trend of unnatural warming of the Earth's natural climate. Increases in these gases lead to more absorption of radiation and warm the lower

atmosphere further, thereby increasing evaporation rates and temperatures near the surface. Climate change is a global problem, and GHGs are global pollutants, unlike criteria pollutants (such as ozone, carbon monoxide, and particulate matter) and toxic air contaminants (TACs), which are pollutants of regional and local concern.

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environment Programme. IPCC's mission is to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, including the potential impacts and options for adaptation and mitigation. IPCC predicts substantial increases in global temperatures of between 1.1 to 6.4 degrees Celsius, depending on the scenario (Intergovernmental Panel on Climate Change 2007).

Climate change could impact California's natural environment in the following ways (California Energy Commission 2005):

- Rising sea levels along the California coastline, particularly in San Francisco and the Sacramento-San Joaquin River Delta due to ocean expansion;
- Extreme heat conditions, such as heat waves and very high temperatures, which could last longer and become more frequent;
- An increase in heat-related human deaths and infectious diseases and a higher risk of respiratory problems caused by deteriorating air quality;
- Reduce snow pack and stream flow in the Sierra Nevada mountains, affecting winter recreation and water supplies;
- Potential increase in the severity of winter storms, affecting peak stream flows and flooding;
- Changes in growing season conditions that could affect California agriculture, causing variations in crop quality and yield; and
- Changes in distribution of plant and wildlife species due to changes in temperature, competition of colonizing species, changes in hydrologic cycles, changes in sea levels, and other climate-related effects.

These changes in California's climate and ecosystems could occur at a time when California's population is expected to increase from 34 million to 59 million by the year 2040 (California Energy Commission 2005).

Consequently, for a "business as usual" scenario, increases are expected in the amount of anthropogenic GHG emissions and the number of people potentially affected by climate change. Similar changes as those noted above for California would also occur in other parts of the world.

Transportation generates 41 percent of California's GHG emissions, followed by the industrial sector (23%), electricity generation (20%), agriculture and forestry (8%), and other sources (8%). Emissions of CO_2 and N_2O are byproducts of fossil fuel combustion, among other sources. Methane, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills. Sinks of carbon dioxide include uptake by vegetation and dissolution into the ocean. In 2004, California generated 524 million metric tons of GHG measured as CO_2 equivalent (CO_2e) emissions (California Air Resources Board, 2007).

Regulatory Setting

Federal

Federal air quality laws regulate air pollutants, primarily through industry-specific standards and planning requirements. The primary legislation that governs federal air quality regulations is the Clean Air Act Amendments of 1990. Federal air quality laws regulate criteria, toxic, and nuisance air pollutant emissions from industrial sources.

As mentioned earlier, criteria pollutants are substances for which the U.S. Environmental Protection Agency (EPA) has established the NAAQS. Noncriteria air pollutants, also known as toxic air contaminants (TACs), are airborne substances capable of causing adverse health effects as a result of short-term (acute) or long-term (chronic) exposure.

Nuisance pollutants are substances that can result in complaints from the population about adverse impacts on quality of life. The nuisance pollutants regulated by the air districts are odors and visible plumes (smoke).

State

Criteria Pollutants

The California Air Resources Board (ARB), which is part of the California Environmental Protection Agency (Cal-EPA), develops air quality regulations at the state level. The state regulations mirror federal regulations by establishing industry-specific pollution controls for criteria, toxic, and nuisance pollutants. California also requires areas to develop plans and strategies for attaining California ambient air quality standards (CAAQS) as set forth in the California Clean Air Act of 1988. As described above, California has developed ambient standards for the criteria pollutants equal to or more stringent than the federal standards.

Air Toxics

State requirements specifically address air toxics issues through Assembly Bill (AB) 1807 (known as the Tanner Bill), which established the state air toxics program, and AB 2588, the Air Toxics Hot Spots Information and Assessment Act. The air quality regulations developed from these bills have been modified recently to incorporate the federal regulations associated with the federal Clean Air Act Amendments of 1990.

The Air Toxics Hot Spots Information and Assessment Act (AB 2588, 1987, Connelly) (Hot Spots Act) was enacted in September 1987. Under this bill, stationary sources of emissions are required to report the types and quantities of certain substances that their facilities routinely release into the air.

Local

At the local level, air quality is managed through land use and development planning practices. These practices are implemented through general planning processes. The Placer County Air Pollution Control District (PCAPCD) is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws. Specifically, the PCAPCD is responsible for monitoring air quality and planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards in the area. Programs developed include air quality rules and regulations that regulate stationary source emissions, including area and point sources and certain mobile source emissions. The PCAPCD is also responsible for establishing permitting requirements and issuing

permits for stationary sources and ensuring that new, modified, or relocated stationary sources do not create net emissions increases. The PCAPCD enforces air quality rules and regulations through a variety of means, including inspections, educational and training programs, and fines.

Greenhouse Gas Emissions and Global Climate Change Regulatory Environment

Several recent state-level actions have been taken to limit greenhouse gas (GHG) emissions implicated in global warming. Those actions are described below.

Executive Order S-3-05

On June 1, 2005, California Governor Arnold Schwarzenegger issued Executive Order S-3-05. It included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80% below 1990 levels. To meet the targets, the governor directed several state agencies to cooperate in the development of a climate action plan. The secretary of Cal-EPA leads the Climate Action Team (CAT), whose goal is to implement global warming emission reduction programs identified in the climate action plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

The first report to the governor and the legislature was released in March 2006 and will be issued bi-annually thereafter. The CAT report to the governor contains recommendations and strategies to help ensure the targets in Executive Order S-3-05 are met (California Environmental Protection Agency 2006).

California Global Warming Solutions Act of 2006 (Assembly Bill 32)

In 2006, the California state legislature adopted the California Global Warming Solutions Act of 2006 (AB 32). AB 32 establishes a cap on statewide GHG emissions and sets forth the regulatory framework to achieve the corresponding reduction in statewide emission levels. Under AB 32, GHGs are defined as carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

AB 32 requires that ARB:

- adopt early action measures to reduce GHGs.;

- establish a statewide GHG emissions cap for 2020 based on 1990 emissions;
- adopt mandatory report rules for significant GHG sources;
- adopt a scoping plan indicating how emission reductions will be achieved via regulations, market mechanisms, and other actions; and
- adopt regulations needed to achieve the maximum technologically feasible and cost-effective reductions in GHGs.

Early Action Measures

ARB has adopted several early action measures to reduce GHG. They include things such as improvements to landfill methane capture, a vehicle tire pressure program, improvements to heavy duty truck efficiency, and a low carbon fuels standard (LCFS). On April 23, 2009, the California Air Resources Board adopted a LCFS. This standard requires that all fuels sold in California must have a reduced carbon content that will lower emissions by 10% by 2020.

Guidance and protocols for businesses and governments to facilitate GHG emission reductions were approved as early action items by the Board at its June 2007 hearing. A Local Government Toolkit was designed to provide guidance and resources to help cities and counties reduce greenhouse gas emissions and save money. No specific regulations have yet been set by the California Air Resources Board that apply specifically to cities and counties.

A variety of tools are available to assist with climate action planning including information on:

- How to calculate and inventory current GHG emissions
- A recommended target to reduce GHG emissions
- Cost-saving strategies to take action now
- Financial resources to get started
- Case studies to learn what other cities have been able to accomplish

Phase II of the Toolkit will include a decision support tool to help local governments develop customized climate action plans, a peer-networking online discussion forum, and a climate leadership recognition program to recognize achievements for measured GHG emission reductions.

California's Scoping Plan and GHG Emissions Cap

In its recently released Climate Change Scoping Plan (2008), ARB lays out the GHG reductions that need to be achieved, and the types of measures that will be used to reach them. The Plan shows that California's 1990 GHG emissions equaled 427 million metric tons CO_2e, 2002-2004 average emissions equaled 469 million metric tons CO_2e, and 2020 GHG emissions would equal 596 million metric tons CO_2e. Consequently, compared to 1990, emissions would need to be reduced by 169 million metric tons CO_2e, and about 42 million metric tons from 2002-2004 levels (ARB, 2008b).

The measures that will be used to achieve these emission reductions include the early action measures described above, plus 18 additional categories of measures:

1) California Cap-and-Trade Program
2) California Light-Duty Vehicle GHG Gas Standards
3) Energy Efficiency
4) Renewables Portfolio Standard
5) Low Carbon Fuel Standard
6) Regional Transportation-Related GHG Targets
7) Vehicle Efficiency Measures
8) Goods Movement
9) Million Solar Roofs Program
10) Medium/Heavy-Duty Vehicles
11) Industrial Emissions
12) High Speed Rail
13) Green Building Strategy
14) High Global Warming Potential Gases
15) Recycling and Waste
16) Sustainable Forests
17) Water
18) Agriculture

The California Air Resources Board has initiated development of measures for each of these categories.

SB 375

This regulation, enacted in September 2008, is designed to control GHGs by limiting urban sprawl. It requires metropolitan planning organizations (MPOs) to include sustainable communities strategies (SCS), as defined, in their regional transportation plans (RTPs) for the purpose of reducing greenhouse gas emissions. SB 375 also aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies.

Senate Bill 97

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under the California Environmental Quality Act (CEQA). The bill directs the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, by July 1, 2009. The California Resources Agency is required to certify or adopt those guidelines by January 1, 2010.

Actions Taken by the Governor's Office of Planning and Research

In June 2008, OPR issued a Technical Advisory on CEQA and Climate Change (California Office of Planning and Research 2008). This document recommends that for projects subject to CEQA, emissions be calculated and mitigation measures be identified to reduce those emissions. The OPR report does not identify emission thresholds for GHGs, but instead recommends that each lead agency develop its own thresholds.

On April 13, 2009, OPR submitted to the Secretary for Natural Resources its proposed amendments to the state CEQA Guidelines for greenhouse gas emissions, as required by Senate Bill 97 (Chapter 185, 2007). These proposed CEQA Guideline amendments would provide guidance to public agencies regarding the analysis and mitigation of the effects of greenhouse gas emissions in draft CEQA documents. The Natural Resources Agency will conduct formal rulemaking in 2009, prior to certifying and adopting the amendments, as required by Senate Bill 97 (California Office of Planning and Research, 2009).

Actions Taken by California Attorney General's Office

The California Attorney General (AG) has filed comment letters under CEQA about a number of proposed projects. The AG has also filed several complaints and obtained settlement agreements for CEQA documents covering general plans and individual programs that the AG found either failed to analyze GHG emissions or failed to provide

adequate GHG mitigation. The AG's office has prepared a report that lists measures that local agencies should consider under CEQA to offset or reduce global warming impacts. The AG's office also has prepared a chart of modeling tools to estimate GHG emissions impacts of projects and plans. The GHG analysis described in this chapter uses two of the tools listed by the AG: URBEMIS and EMFAC. URBEMIS was used to estimate area source emissions, such as space and water heating. Information on the AG's actions can be found on at the California Department of Justice Office of Attorney General web site (California Department of Justice 2008).

California Air Pollution Control Officers Association Guidance

The California Air Pollution Control Officers Association (CAPCOA) released a report in January 2008 that describes methods to estimate and mitigate GHG emissions from projects subject to CEQA. The CAPCOA report evaluates several GHG thresholds that could be used to evaluate the significance of a project's GHG emissions. The CAPCOA report, however, does not recommend any one threshold. Instead, the report is designed as a resource for public agencies as they establish agency procedures for reviewing GHG emissions from projects subject to CEQA (California Air Pollution Control Officers Association 2008).

Impact Analysis

Significance Thresholds

The PCAPCD regulates and oversees air quality within the SVSP area and has recommended the following thresholds to determine whether or not a project will result in a significant impact to air quality:

- Exceed the PCAPCD thresholds for regional emissions:
  - Reactive Organic Gases (ROG): 82 lbs/day
  - Nitrogen Oxides (NOX): 82 lbs/day
  - Particulate Matter (PM10): 82 lbs/day
  - Carbon Monoxide (CO): 550 lbs/day

- Generate localized concentrations of CO that exceed the 1-hour 20 parts per million (ppm) or the 8-hour 9 ppm air quality standards;

- Result in a cumulatively considerable net increase in any criteria air pollutant for which the project region is nonattainment;

- Expose sensitive receptors to substantial pollutant concentrations, or;

- Create objectionable odors affecting a substantial number or people.

Approach and Methodology

Construction Emissions Methodology

The SVSP project includes development of commercial, public, and utility land uses. URBEMIS2007 Version 9.2.4 was used to estimate emissions resulting from the construction of the SVSP project, beginning in 2013 with completion by 2025. The proposed project would be built in 4 phases. Emissions were estimated for each year of construction. A detailed list of the assumptions used to estimate construction emissions is included in Appendix A and the modeling results are listed in Appendix B.

Operational Emissions Methodology

Criteria Pollutant Emissions

The SVSP project would generate operational emissions of the criteria pollutants, including ozone precursors (ROG and NO_x), CO, PM10, PM2.5, and SOx. On road traffic emissions generated by the project were estimated using the URBEMIS2007 model and trip generation information provided by the traffic consultant (DKS Associates, 2009).

The URBEMIS2007 model was also used to estimate area source emissions. Area sources include emissions associated with burning natural gas for space and water heating, wood combustion associated with space heating, gasoline combustion to operate landscape maintenance machinery, and evaporative emissions from the use of architectural coatings and consumer products.

Carbon Monoxide Concentrations

Project concentrations from local traffic were evaluated by modeling roadside CO concentrations. CO modeling was conducted for the five most highly congested road links and associated intersections identified in

the traffic report (DKS Associates, 2009). All road links shown in the circulation element with level of service (LOS) of D, E, or F were identified and the five with the highest traffic volumes were evaluated for CO concentrations.

The analysis used the CALINE4 line source dispersion model and procedures developed by Caltrans and approved by EPA (Garza, et. al. 1997). CO concentrations were modeled using traffic volumes, emissions, meteorology, and the roadway/receptor geometry. This analysis used meteorological conditions most conducive to high CO concentrations in the SVAB. Appendix A contains additional information describing how CO modeling was conducted.

Toxic Air Contaminants

Potential health risks associated with the proposed project were evaluated qualitatively. First, sensitive receptors that could be exposed to TAC emissions were identified. These included residences and schools located adjacent to the SVSP commercial land use areas. Sensitive receptors also include residential areas and schools within the SVSP that could be exposed to TACs either from within the SVSP or from adjacent areas. Then, those residential land uses were evaluated to determine whether they were downwind of the industrial areas.

In addition, sensitive land uses were examined to identify proximity to highways and arterials with high traffic volumes. Several studies have shown health effects associated with the distance between residences and traffic levels (California Air Resources Board, 2005). These studies have found a link between traffic-related emissions and adverse health effects within 1,000 feet of roads, with the effects strongest within 300 feet. This indicates that the adverse effects diminish with distance. Consequently, the California Air Resources Board recommends against siting new sensitive land uses within 500 feet of a freeway or urban roads at or exceeding 100,000 average annual daily trips (AADT) (California Air Resources Board, 2005).

Odors

Potential odor impacts were evaluated by examining the distances from existing and proposed odor sources (areas designated for industrial land uses) to sensitive receptors such as residences. The analysis also considers prevailing wind direction and policies designed to minimize odor impacts. Odor sources typically include industrial land uses, such as fiberglass manufacturing, coating operations, foundries, refineries, sewage treatment plants, landfills, and recycling facilities (California Air Resources Board, 2005).

Greenhouse Gas Emissions Methodology

Transportation and area source GHG emissions were estimated using the same approach as described above under criteria pollutant emissions. GHGs produced by electricity generation and from solid waste disposal were also estimated. For electricity, both direct and indirect electricity use was estimated. For residential land uses in the 2035 cumulative buildout, direct electricity use was estimated using the California Energy Commission's (CEC's) Residential Appliance Saturation Survey (KEMA-XENERGY, Itron, and RoperASW, 2004). The CEC database contains information on kilowatts consumed per square foot for various types of commercial land uses (Itron, Inc., 2006). For residential land uses, direct electricity use was estimated using the Utilities study performed by CapitolUtility Specialists for the proposed project (CapitolUtility Specialists 2009).

The analysis also estimated indirect electricity use associated with water consumption and wastewater treatment. Estimates of water-related energy use were based on a report prepared for the California Energy Commission (Pacific Institute 2005).

Once total electricity use was estimated, the GHGs associated with that electricity use were estimated using emission factors developed by the California Climate Action Registry (2009).

Emissions from the solid waste generated by the proposed project were estimated based on predicted population for 2025 and 2035 and California Air Resources Board methane emissions estimates per standard cubic foot of landfill gas emitted in California (California Air Resources Board 2008b).

Impacts and Mitigation Measures of the SVSP Proposed Development

Criteria Pollutant Emissions, Toxic Air Contaminants, and Odors

Construction of SVSP

Table 6 shows annual construction emissions associated with the proposed SVSP. Construction emissions exceed the 82 pounds per day significance threshold established by the PCAPCD for ROG, NOx, PM10, and PM2.5.

Table 6. Proposed 2025 Buildout Construction Emissions (unmitigated, pound per day)

	ROG	NO_X	CO	SO_2	PM10	PM2.5
Phase A (2013-2016)						
2013	963.8	84.0	109.9	0.2	487.8	105.1
2014	1,177.2	77.9	103.8	0.2	486.0	104.4
2015	981.5	54.9	94.6	0.2	484.4	103.0
2016	688.2	64.9	65.8	0.1	425.3	91.2
Phase B (2017-2019)						
2017	1,784.7	56.4	133.8	0.3	736.7	155.6
2018	1,464.3	42.1	105.3	0.2	676.7	142.6
2019	1,707.1	38.4	99.6	0.2	676.4	142.4
Phase C (2020-2023)						
2020	1,486.1	56.8	101.3	0.2	690.3	146.1
2021	1,131.9	46.9	67.9	0.2	557.6	118.1
2022	1,165.1	35.0	61.2	0.2	557.6	118.1
2023	1,200.3	46.9	61.3	0.2	557.6	118.1
Phase D (2024)						
2024	1,134.1	46.8	69.8	0.2	600.0	127.0

Note: Emissions estimated with URBEMIS2007, version 9.2.4. Detailed description of modeling assumptions included in Appendix A.

Mitigation Measure AQ-1: The following measures will reduce construction-related ROG, NOx, PM10 and PM2.5 emissions:

- All construction equipment shall be maintained in good operating condition. Contractor shall ensure that all construction equipment is being properly serviced and maintained as per the manufacturer's specifications. Maintenance records shall be available at the construction site for verification. This measure will reduce combustion emissions of all criteria air pollutants.

- Prior to the issuance of any grading permits, all applicants shall submit construction plans denoting the proposed schedule and projected equipment use. Construction contractors shall provide evidence that low emission mobile construction will be used, or that their use was investigated and found to be infeasible for the project. Low emission equipment is defined as meeting the California Air Resources Board's Tier III standards. Contractors shall also conform to any construction measures imposed by the PCAPCD as well as City Planning Staff. This measure will primarily reduce ROG, NOx, PM10, and PM2.5 exhaust emissions.

- 5Paints and coating shall be applied either by hand or by high volume, low-pressure spray. This measure will reduce evaporative ROG emissions.

- All construction shall comply with the following measures to reduce fugitive dust related emissions of PM10 and PM2.5:

  - Maintain a minimum 24-inch freeboard on soil haul trucks or cover payloads using tarps or other suitable means.
  - Suspend grading operations during high winds.
  - Sweep streets as necessary if silt is carried off-site to adjacent public thoroughfares or occurs as a result of hauling.
  - Dispose of surplus excavated material in accordance with local ordinances and use sound engineering practices.
  - Schedule activities to minimize the amounts of exposed excavated soil during and after the end of work periods.
  - Phase grading to prevent the susceptibility of large areas to erosion over extended periods of time.
  - Pave or apply gravel to any on-site haul roads.
  - Reestablish ground cover on the construction site through seeding and water.

Table 7 shows estimated emissions of criteria pollutants after mitigation. With mitigation in place, emissions of ROG, NOx, and PM10 emissions would still exceed PCAPCD's 82 pounds per day significance threshold.

Table 7. Proposed 2025 Buildout Construction Emissions (mitigated, pound per day)

	ROG	NO_X	CO	SO_2	PM10	PM2.5
Phase A (2013-2016)						
2013	868.2	79.9	109.9	0.2	113.0	26.0
2014	1,060.1	74.09	103.8	0.2	112.3	25.6
2015	883.9	54.9	94.6	0.2	111.8	25.2
2016	619.8	61.5	65.8	0.1	98.2	22.3
Phase B (2017-2019)						
2017	1,606.9	56.4	133.8	0.3	169.0	37.1
2018	1,318.4	42.1	105.3	0.2	154.9	33.7
2019	1,536.9	38.4	99.6	0.2	154.7	33.5
Phase C (2020-2023)						
2020	1,338.0	53.5	101.33	0.2	157.9	34.3
2021	1,019.0	44.0	67.9	0.2	127.5	27.7
2022	1,048.9	35.0	61.2	0.2	127.4	27.6
2023	1,080.6	43.9	61.3	0.2	127.5	27.7
Phase D (2024)						
2024	1,021.0	43.9	69.8	0.2	137.1	29.8

Note: Emissions estimated with URBEMIS2007, version 9.2.4. Detailed description of modeling assumptions included in Appendix A. Modeling results are listed in Appendix B.

Construction of SVSP Alternatives

Alternative 1 – Increased Avoidance, Increased Density

Construction of Alternative 1, the increased avoidance, increased density alternative, would result in slightly lower PM10 and PM2.5 emissions as compared to the preferred SVSP option. This is because with increased open space, less grading would be required. Site grading is the largest single source of PM10 and PM2.5 dust emissions associated with construction. Alternative 1's emissions of other criteria pollutants, including ROG and NOx, would likely be similar to or lower than the preferred SVSP option because it would entail denser development, including more multi-family and less single family residences.

Even with lower emissions, construction of Alternative 1 would result in a significant impact because emissions of ROG, NOx, and PM10 would exceed the PCAPCD's significance thresholds. Implementation of Mitigation Measure AQ-1 would reduce emissions, but those emissions would still exceed the PCAPCD's thresholds.

Alternative 2 – Increased Avoidance, Same Density

Alternative 2, the increased avoidance, same density alternative, would result in lower PM10 and PM2.5 emissions as compared to the preferred

SVSP option. This is because with increased open space, less grading would be required. Site grading represents the largest single source of PM10 and PM2.5 dust emissions associated with construction. The emissions of other criteria pollutants, including ROG and NOx, would also be lower than the preferred SVSP option.

Construction of Alternative 2 would result in a significant impact because emissions of ROG, NOx, and PM10 would exceed the PCAPCD's significance thresholds. Implementation of Mitigation Measure AQ-1 would reduce emissions, but those emissions would still exceed the PCAPCD's thresholds.

Alternative 3 – Same Footprint, Reduced Density

Alternative 3, the project footprint, reduce density alternative, would result in similar PM10 and PM2.5 emissions as compared to the preferred SVSP option. However, with fewer residential units, emissions of ROG and NOx would be lower than the preferred SVSP option.

Alternative 3 would result in a significant impact because emissions of ROG, NOx, and PM10 would exceed the PCAPCD's significance thresholds. Implementation of Mitigation Measure AQ-1 would reduce emissions, by those emissions would still exceed the PCAPCD's thresholds.

Alternative 4 – No Project

Alternative 4, the no project alternative, would generate no construction emissions.

Operation

The Placer County General Plan currently designates most of the project site as agriculture/timberland. The majority of the project site is undeveloped and has historically been used for agricultural or grazing activities. There are four large-lot single-family residences in the central and southwestern portion of the project site, and other smaller structures along Baseline Road associated with ongoing dry farming agricultural production activities. Since the area is largely undeveloped, existing criteria pollutant emissions on the project site are negligible.

Buildout of the project will result in the generation of criteria pollutant emissions from mobile and area source emissions. Table 8 summarizes emissions associated with operation of the 2025 buildout, 2035 cumulative buildout, and Alternatives 1, 2, and 3. The estimates represent peak

summer emissions. For each alternative, emissions easily exceed the PCAPCD thresholds for ROG, NOx, CO, and PM10. No mitigation measures are available that would reduce these emissions to levels that are less than the thresholds. However, several mitigation measures listed under the GHG impact discussion would reduce both criteria pollutant and GHG emissions.

Table 8. Comparison of Criteria Pollutant Emissions Generated by Specific Plan Buildout (2025), Cumulative Buildout (2035) and Alternatives 1, 2, and 3 (unmitigated, pounds per day)

Alternative	ROG	NOx	CO	SO_2	PM10	PM2.5	CO_2
Specific Plan Buildout (2025)							
Area Sources	492.3	170.6	245.7	0.01	0.7	0.7	207,830.5
Transportation	1,093.2	823.4	9,334.4	18.7	3,224.3	613.5	1,920,726.3
Total	1,585.5	993.9	9,580.1	18.7	3,225.0	614.2	2,128,556.8
Cumulative Buildout (2035)							
Area Sources	704.5	220.6	307.6	0.01	0.9	0.8	269,680.2
Transportation	2,776.0	3,232.8	27,920.8	23.1	3,975.7	775.3	2,361,491.0
Total	3,480.5	3,453.3	28,228.4	23.1	3,976.6	776.2	2,631,171.2
Alternative 1 (2025)							
Area Sources	439.1	134.6	121.7	0.00	0.4	0.3	165,076.9
Transportation	851.1	639.8	7,275.0	14.6	2,516.6	478.8	1,499,022.6
Total	1,290.2	774.42	7,396.7	14.6	2,516.9	479.1	1,664,099.5
Alternative 2 (2025)							
Area Sources	363.4	123.2	181.9	0.00	0.5	0.5	150,108.9
Transportation	763.8	580.1	6,612.7	13.3	2,291.1	435.9	1,364,517.0
Total	1,127.2	703.3	6,794.6	13.3	2,291.6	436.4	1,514,625.9
Alternative 3 (2025)							
Area Sources	413.9	158.6	297.8	0.01	0.8	0.8	192,327.4
Transportation	954.4	717.3	8116.2	16.2	2,802.0	533.2	1,669,098.6
Total	1,368.3	875.9	8,413.9	16.2	2,802.8	534.0	1,861,426.0
PCAPCD Significance Threshold	82	82	550	N/A	82	N/A	N/A
Exceed Threshold?	Yes	Yes	Yes	No	Yes	No	No

Notes: Transportation emissions based on VMT estimates provided for the traffic analysis and EMFAC2007 emission rates. Area source emissions estimated using the URBEMIS2007 model using the proposed land uses proposed for the SVSP proposed buildout and alternatives.

Carbon Monoxide Concentrations

CO concentrations were estimated for the five intersections projected to be most congested in each scenario. A summary of the CO modeling results for 2025 and 2035 is included in Tables 9 and 10. As Tables 9 and 10 show, the maximum 1-hour and 8-hour concentrations for all intersections are substantially less than either the state or federal ambient air quality standards. Since these intersections represent worst case conditions, CO concentrations at all other intersections would also be less than federal or state standards.

The CO results demonstrate that the SVSP project would not cause or contribute to violations of the state or federal CO standards. Consequently, the project would not expose sensitive receptors to substantial concentrations of CO. This is a less than significant impact.

Alternative 1 – Increased Avoidance, Increased Density

CO concentrations associated with Alternative 1 would be slightly lower than those for the preferred SVSP as indicated by the lower levels of CO emissions shown in Table 8. The resulting CO concentrations would not exceed either the state or federal CO standards. The impact is less than significant.

Alternative 2 – Increased Avoidance, Same Density

CO concentrations associated with Alternative 2 would be slightly lower than those for the preferred SVSP as indicated by the lower levels of CO emissions shown in Table 8. The resulting CO concentrations would not exceed either the state or federal CO standards. The impact is less than significant.

Alternative 3 – Same Footprint, Reduced Density

CO concentrations associated with Alternative 3 would be slightly lower than those for the preferred SVSP as indicated by the lower levels of CO emissions shown in Table 8. The resulting CO concentrations would not exceed either the state or federal CO standards. The impact is less than significant.

Alternative 4 – No Project

CO concentrations associated with Alternative 4 would be minimal because no development would occur. The impact is less than significant.

Table 9. Modeled Carbon Monoxide Levels for 2025 Buildout Conditions

		2025 Buildout[1]	
Intersection	Receptor	1-hour CO[2]	8-hour CO[3]
Galleria & Roseville Pkwy	1	12.9	6.4
	2	13.3	6.6
	3	12.9	6.4
	4	12.5	6.1
Pleasant Grove & Roseville Pkwy	5	12.7	6.3
	6	13.2	6.6
	7	12.7	6.3
	8	13.7	6.9
Blue Oaks Blvd & Foothills Blvd	9	12.3	6.0
	10	13.2	6.6
	11	13.3	6.6
	12	12.0	5.8
Foothills Blvd & Pleasant Grove Blvd	13	11.8	5.7
	14	11.8	5.7
	15	11.9	5.8
	16	12.2	6.0
Elverta Rd & Walerga Rd	17	11.8	5.7
	18	11.2	5.4
	19	11.7	5.7
	20	11.5	5.5

Notes:

[1] Background concentrations of 5.73 ppm and 2.06 ppm were added to the modeling 1-hour and 8-hour results, respectively

[2] The federal and state 1-hour standards are 35 and 20 ppm, respectively

[3] The federal and state 8-hour standards are 9 and 9.0 ppm, respectively

Table 10. Modeled Carbon Monoxide Levels for 2035 Cumulative Conditions

		2035 Cumulative[1]	
Intersection	Receptor	1-hour CO[2]	8-hour CO[3]
Galleria & Roseville Pkwy	1	13.0	6.4
	2	13.2	6.6
	3	13.4	6.7
	4	13.1	6.5
Pleasant Grove & Roseville Pkwy	5	12.5	6.1
	6	13.0	6.4
	7	12.4	6.1
	8	13.3	6.6
Blue Oaks Blvd & Foothills Blvd	9	11.4	5.5
	10	12.1	5.9
	11	12.4	6.1
	12	11.7	5.7
Foothills Blvd & Pleasant Grove Blvd	13	11.4	5.5
	14	11.5	5.5
	15	11.5	5.5
	16	11.7	5.7
Elverta Rd & Walerga Rd	17	12.0	5.8
	18	11.3	5.4
	19	11.9	5.8
	20	11.7	5.7

Notes:

[1] Background concentrations of 5.73 ppm and 2.06 ppm were added to the modeling 1-hour and 8-hour results, respectively

[2] The federal and state 1-hour standards are 35 and 20 ppm, respectively

[3] The federal and state 8-hour standards are 9 and 9.0 ppm, respectively

Toxic Air Contaminants (TACs)

The SRVP has the potential to expose sensitive receptors to substantial concentrations of TACs in two ways: 1) by locating residences close to sources of TACs, such as industrial uses or freeways, and 2) by locating sources of TAC, such as industrial uses, upwind of residences and other sensitive receptors. This analysis evaluates the location of sensitive receptors with respect to potential sources of toxic air contaminants: industrial sources and proximity to freeways. This analysis also considers the predominant wind direction in the area.

Figure 3 shows wind rose for the Roseville area. The wind rose represents the direction from which the wind is blowing. The prevailing winds blow from the south and southeasterly directions with occasional winds from the north and northwesterly directions. Winds from the east and the west occur infrequently.

The location of any industrial uses south or southeast of the proposed project could potentially result in the location of residences downwind from industrial sources of TACs. Industrial sources can generate a wide variety of TACs, from fuel combustion, and from the use of hazardous chemicals that could become airborne. The location of Placer Vineyards south and west of the proposed project could create the potential for TACs to be transported into the project area.

Figure 4 shows the western portion of Placer Vineyards in relation to the SVSP. The only Placer Vineyards land use that represents a potential source of TACs to the SVSP is the commercially designated land located at the southeast corner of Watt Avenue and Baseline Road. This Placer Vineyards land use could potentially expose the SVSP residential land uses located on the northwest corner of the Watt Avenue/Baseline Road intersection to health risks.

Mitigation Measure AQ-2. Prior to approving construction of SVSP residences located at the northwest corner of Watt Avenue and Baseline Road, a screening health risk assessment shall be conducted if the approval occurs subsequent to approval of the commercial area within the Placer Vineyard area and that commercial area allows for industrial land uses. If that screening analysis shows potential health risks, then a more detailed health risk assessment should be conducted. If significant acute, chronic, or carcinogenic health risks are predicted, then the proposed residences shall be relocated to a distance that reduces all health risks to less than significant levels.

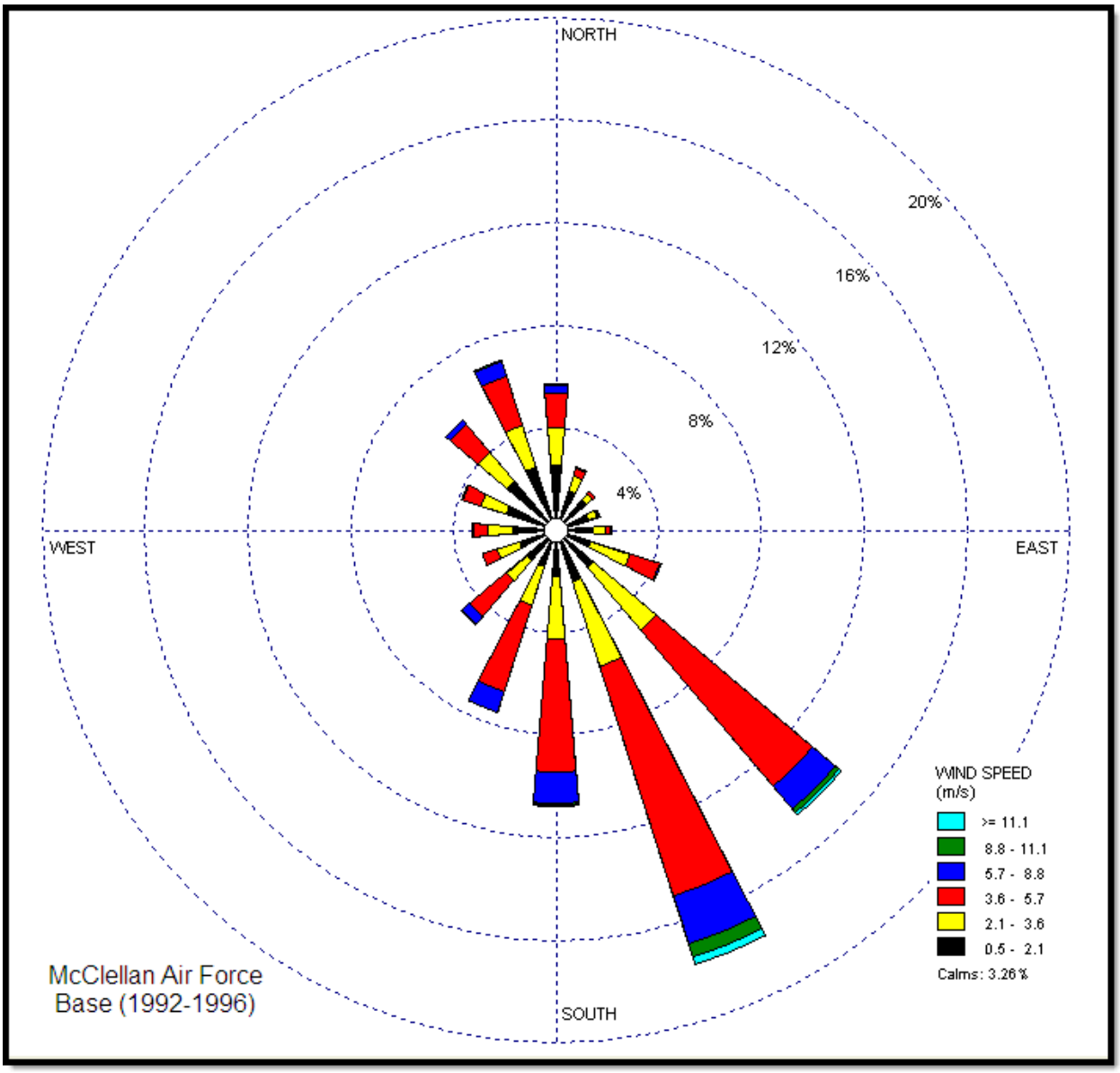

Figure 3. Wind Rose for the SVSP Area

Figure 5 shows that several proposed school sites would be located near major arterials. ARB has developed recommendations against siting new sensitive land uses, such as schools, within 500 feet of freeways or arterials that have more than 100,000 AADT per day (California Air

Resources Board, 2005). AADT on SRVP arterials would be substantially less than 100,000 through 2035. Consequently, the location of schools near arterials does not pose a substantial health risk for any of the SRVP proposed schools.

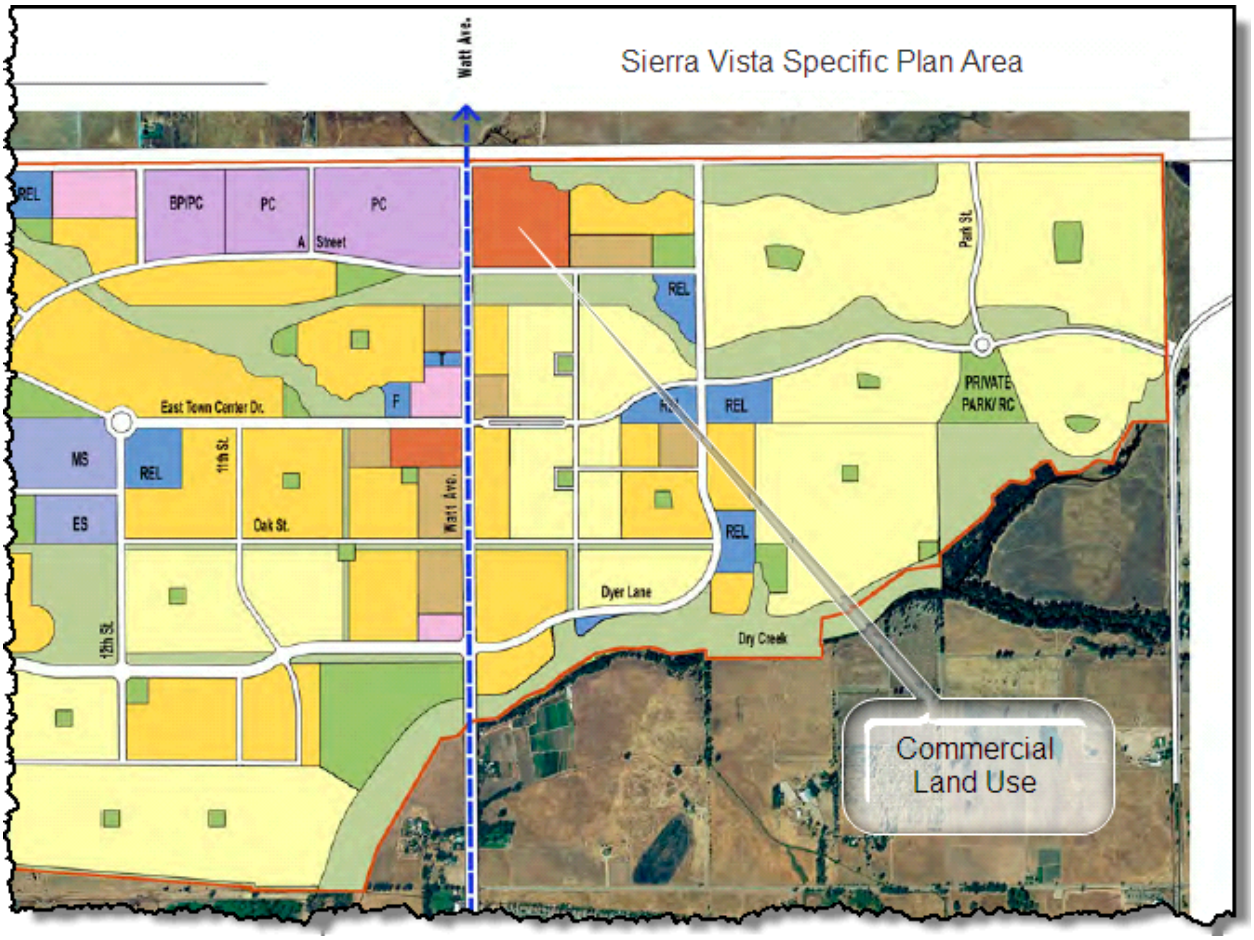

Figure 4. Commercial Land Use Designation within Placer Vineyards Located Upwind from SVSP

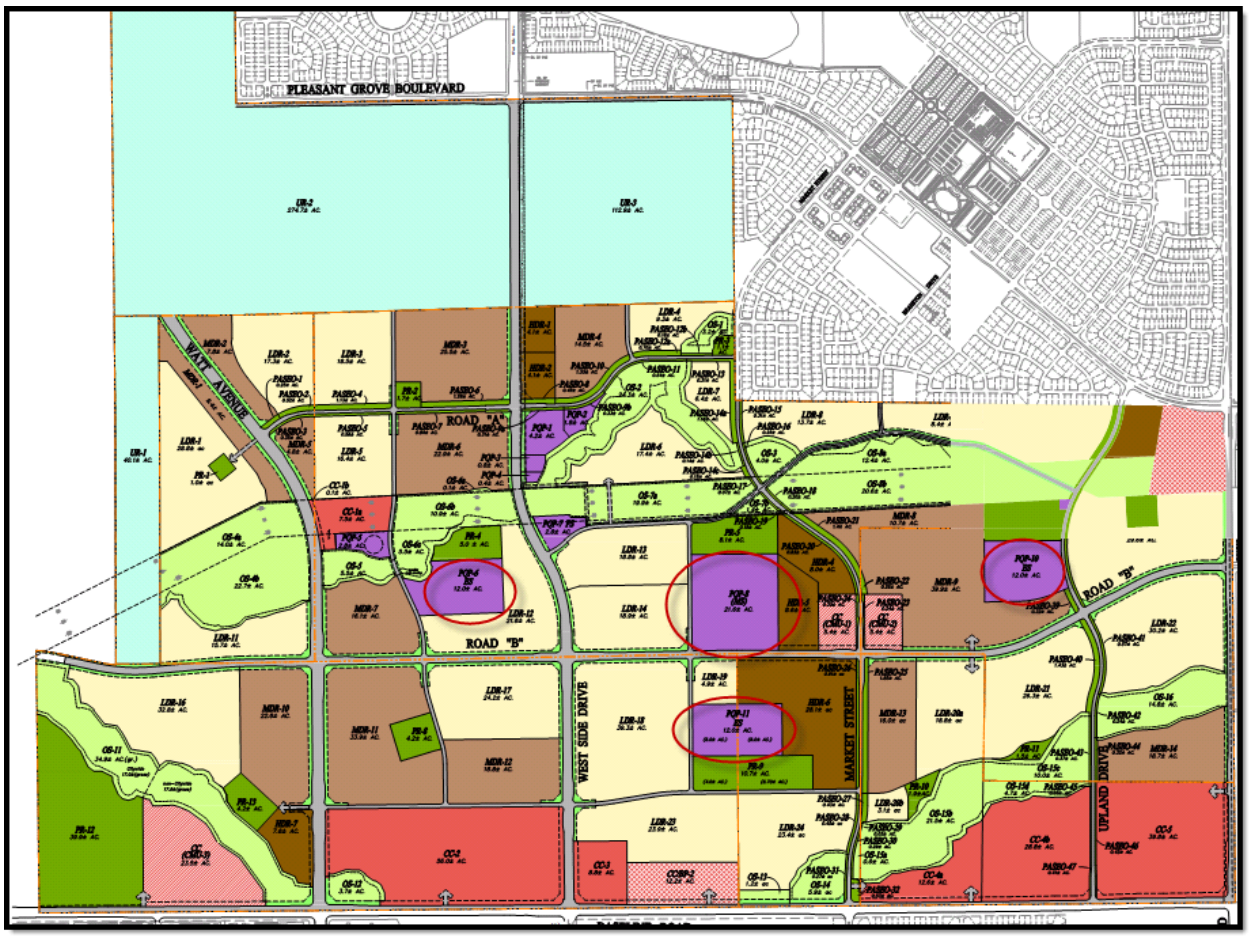

Figure 5. Location of SRVP Elementary Schools and Middle School with Respect to Major Arterials

Odors

Land use conflicts could generate objectionable odors. For the proposed project, objectionable odors typically occur when a land use with sensitive receptors is located in close proximity and downwind from an odor source, or when an odor sources is located upwind of a sensitive receptor. Examples of sensitive receptors include land uses that include residences, hospitals, schools, and daycare centers. Odor sources typically include wastewater treatment plants, rendering plants, landfills, and large industrial facilities.

There are currently few sensitive receptors present within the immediate project vicinity that would have the potential to be exposed to objectionable odors emitted during project construction. As the proposed

project moves forward in building out, sensitive receptors would begin to locate on the project site, including elementary schools, a middle school, and residences. These new sensitive receptors may potentially be exposed to objectionable odors emitted during project construction. Potential sources that may emit odors during construction activities include the use of architectural coatings and solvents. However, these would be short-term, minor odor impacts.

Land uses and industrial operations associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The project site is currently used for agricultural and grazing purposes. Odors from these existing activities would be eliminated by buildout of the SRVP. The proposed project is located near Placer Vineyards, which may emit odors that could affect sensitive receptors within the project area. Placer Vineyards

The Placer Vineyards may potentially emit adverse odors which could affect residences and other sensitive receptors onsite. Wind blowing towards the northwest from Placer Vineyards toward the SVSP could potentially transport objectionable odors from the vineyard into the SVSP area. The primary source of odors would be the commercially zoned area as listed in Figure 4. This is a potentially significant impact.

Mitigation Measure AQ-3. Prior to approving construction of residences in the southern portion of the SVSP, an odor evaluation shall be conducted if the approval occurs subsequent to approval of the commercial area within the Placer Vineyard area and that commercial area allows for industrial land uses. If that analysis shows potential odor effects, then steps should be taken to eliminate the potential odor impact.

Greenhouse Gas Emissions

The Placer County General Plan currently designates most of the project site as agriculture/timberland. The majority of the project site is undeveloped and has historically been used for agricultural or grazing activities. There are four large-lot single-family residences in the central and southwestern portion of the project site, and other smaller structures along Baseline Road associated with ongoing dry farming agricultural production activities. Since the area is largely undeveloped, the existing GHG emissions on the project site are negligible.

Table 11 shows GHG emissions at full buildout of the proposed SVSP project in 2025 and for cumulative buildout in 2035. Transportation represents the largest percentage of SVSP GHG emissions, followed by electricity use and area sources.

Table 11. Operational GHG Emissions for Specific Plan Buildout and Cumulative Buildout (unmitigated, metric tons per year)

Buildout (2025)	CO_2	CH_4	N_2O	CO_2e
Water	1,748	0.01	0.01	1,751
Wastewater	695	0.01	0.00	696
Solid Waste	-	136.8	-	2,873
Area Sources	45,516	-	-	45,516
Electricity	65,845	0.6	0.3	65,965
Transportation	304,058	-	-	320,061
Total	417,862	137.4	0.3	436,863

Cumulative (2035)	CO_2	CH_4	N_2O	CO_2e
Water	3,155	0.03	0.01	3,161
Wastewater	2,310	0.02	0.01	2,314
Solid Waste	-	205.5	-	4,315
Area Sources	60,617	-	-	60,617
Electricity	74,304	0.6	0.3	74,439
Transportation	374,528	-	-	393,255
Total	514,913.45	206.18	0.37	538,098.30

Notes: Transportation emissions based on URBEMIS20007 estimates using EMFAC2007 emission rates. Area source emissions estimated using the URBEMIS2007 model using the proposed land uses proposed for the SVSP. Direct electricity and indirect (water-related) electricity estimates based on land uses proposed for buildout. Electricity estimates based on emission factors developed by the California Climate Action Registry (2009). The emission estimation methodology is described in Appendix A and the calculations and modeling results are shown in Appendix B.

Alternative 1 – Increased Avoidance, Increased Density

Table 12 shows GHG emissions at full buildout of Alternative 1 in 2025 and for cumulative buildout in 2035. GHG emissions associated with Alternative 1 would be slightly lower than those for the preferred SVSP because of the lower vehicle miles traveled and the higher ratio of higher density residential development as compared to the preferred alternative.

Table 12. Operational GHG Emissions for Alternative 1 Buildout and Alternative 1 Cumulative Buildout (unmitigated, metric tons per year)

Buildout (2025)	CO_2	CH_4	N_2O	CO_2e
Water	1,749.90	0.01	0.01	1,753.22
Wastewater	695.54	0.01	0.00	695.75
Solid Waste	-	136.96	-	2,876.20
Area Sources	27,330.33	-	-	27,330.33
Electricity	65,924.15	0.64	0.31	66,033.69
Transportation	248,180.00	-	-	260,589.00
Total	343,879.92	137.62	0.32	359,278.19

Cumulative (2035)	CO_2	CH_4	N_2O	CO_2e
Water	3,156.90	0.03	0.01	3,160.64
Wastewater	2,311.14	0.02	0.01	2,313.42
Solid Waste	0.00	205.66	0.00	4,318.90
Area Sources	42,430.51	0.00	0.00	42,430.51
Electricity	74,382.79	0.63	0.35	74,518.48
Transportation	318,649.89	0.00	0.00	334,582.38
Total	440,931.23	206.34	0.36	461,324.33

Notes: Transportation emissions based on URBEMIS20007 estimates using EMFAC2007 emission rates. Area source emissions estimated using the URBEMIS2007 model using the proposed land uses proposed for Alternative 1. Direct electricity and indirect (water-related) electricity estimates based on land uses proposed for buildout of Alternative 1. Electricity estimates based on emission factors developed by the California Climate Action Registry (2009). The emission estimation methodology is described in Appendix A and the modeling results in Appendix B.

Alternative 2 – Increased Avoidance, Same Density

Table 13 shows GHG emissions at full buildout of Alternative 2 in 2025 and for cumulative buildout in 2035. GHG emissions associated with Alternative 2 would be lower than those for the preferred SVSP because of the lower vehicle miles traveled and the lower number of residences as compared to the preferred alternative.

Table 13. Operational GHG Emissions for Alternative 2 Buildout and Alternative 2 Cumulative Buildout (unmitigated, metric tons per year)

Buildout (2025)	CO2	CH_4	N_2O	CO_2e
Water	1,294.50	0.01	0.01	1,296.95
Wastewater	514.53	0.01	0.00	514.68
Solid Waste	-	101.32	-	2,127.69
Area Sources	24,852.21	-	-	24,852.21
Electricity	48,767.84	0.44	0.23	48,848.35
Transportation	225,911.09	-	-	237,206.65
Total	301,340.18	101.78	0.24	314,846.54

Cumulative (2035)	CO2	CH_4	N_2O	CO_2e
Water	2,701.50	0.03	0.01	2,704.37
Wastewater	2,130.13	0.02	0.01	2,132.35
Solid Waste	0.00	170.02	0.00	3,570.39
Area Sources	39,952.39	0.00	0.00	39,952.39
Electricity	57,226.48	0.43	0.27	57,333.14
Transportation	296,380.98	0.00	0.00	311,200.03
Total	398,391.48	170.49	0.28	416,892.68

Notes: Transportation emissions based on URBEMIS20007 estimates using EMFAC2007 emission rates. Area source emissions estimated using the URBEMIS2007 model using the proposed land uses proposed for Alternative 2. Direct electricity and indirect (water-related) electricity estimates based on land uses proposed for buildout of Alternative 2. Electricity estimates based on emission factors developed by the California Climate Action Registry (2009). The emission estimation methodology is described in Appendix A and the modeling results in Appendix B.

Alternative 3 – Same Footprint, Reduced Density

Table 14 shows GHG emissions at full buildout of Alternative 3 in 2025 and for cumulative buildout in 2035. GHG emissions associated with Alternative 3 would be lower than those for the preferred SVSP because of the lower vehicle miles traveled and the lower number residences as compared to the preferred alternative.

Alternative 4 – No Project

GHG emissions associated with Alternative 4 would be negligible because no development would occur under this alternative.

Table 14. Operational GHG Emissions for Alternative 3 Buildout and Alternative 3 Cumulative Buildout (unmitigated, metric tons per year)

Buildout (2025)	CO_2	CH_4	N_2O	CO_2e
Water	1,309.47	0.01	0.01	1,311.95
Wastewater	520.48	0.01	0.00	520.63
Solid Waste	-	102.49	-	2,152.30
Area Sources	31,841.96	-	-	31,841.96
Electricity	49,331.81	0.45	0.23	49,413.25
Transportation	276,337.99	-	-	290,154.89
Total	359,341.70	102.95	0.24	375,394.98

Cumulative (2035)	CO_2	CH_4	N_2O	CO_2e
Water	2,716.47	0.03	0.01	2,719.37
Wastewater	2,136.08	0.02	0.01	2,138.30
Solid Waste	0.00	171.19	0.00	3,595.00
Area Sources	46,942.14	0.00	0.00	46,942.14
Electricity	57,790.44	0.44	0.27	57,898.04
Transportation	346,807.88	0.00	0.00	364,148.27
Total	456,393.01	171.67	0.28	477,441.12

Notes: Transportation emissions based on URBEMIS20007 estimates using EMFAC2007 emission rates. Area source emissions estimated using the URBEMIS2007 model using the proposed land uses proposed for Alternative 3. Direct electricity and indirect (water-related) electricity estimates based on land uses proposed for buildout of Alternative 3. Electricity estimates based on emission factors developed by the California Climate Action Registry (2009). The emission estimation methodology is described in Appendix A and the modeling results in Appendix B.

The following measures will reduce emissions of GHG.

Mitigation Measure GHG - 1. Prioritized parking within new commercial and retail areas shall be given to electric vehicles, hybrid vehicles, and alternative fuel vehicles.

Mitigation Measure GHG - 2. SVSP shall require that new or major rehabilitation projects (additions of 25,000 square feet of office/retail commercial or 100,000 square feet of industrial floor area) and residential projects of six or more units comply with at least one of the following:

Participate in the CEC's New Solar Homes Partnership (this program provides rebates to developers of 6 units or more who offer solar power in 50 percent of new units), or a similar program with solar power requirements equal to or greater than those of the CEC's New Solar Homes Partnership as demonstrated to the City by the project applicant.

Design and construct 50 percent of the square footage of the building(s) to be capable of being certified under the Leadership in Energy and Environmental Design (LEED) or another building rating system that achieves a comparable level of GHG reduction such as the Build-it Green program:. However, no formal LEED or Build-It Green certification shall be required, and the City Manager or his/her designee shall make the determination that the potential for certification has been achieved. All credits used to demonstrate capability to meet one of the above certifications must directly or indirectly result in a reduction in GHG emissions.

Mitigation Measure GHG - 3. New development or major rehabilitation of commercial, office, or industrial development (additions of 25,000 square feet of office/retail commercial or 100,000 square feet of industrial floor area) must incorporate renewable energy generation (on- or off-site) to provide 15 percent or more of the project's energy needs.

Mitigation Measure GHG - 4. SVSP shall require that the design or purchase of any new street lights and water and wastewater pumps and treatment systems achieve a 10 percent reduction beyond an estimated baseline energy use for this infrastructure. All new traffic lights installed within SVSP shall use LED technology.

Mitigation Measure GHG - 5. SVSP shall require all new development or major rehabilitation (additions of 25,000 square feet of office/retail commercial or 100,000 square feet of industrial floor area) projects to recycle and/or salvage at least 50 percent of nonhazardous construction and demolition debris. To implement this requirement, a construction waste management plan identifying materials to be diverted from disposal and whether the materials will be stored on-site or commingled shall be developed and implemented by the applicant for said development or rehabilitation. Excavated soil and land-clearing debris do not contribute to

this credit. Calculation can be done by weight or volume but must be consistent throughout.

Mitigation Measure GHG - 6. SVSP shall require all new development and major rehabilitation (additions of 25,000 square feet of office/retail commercial or 100,000 square feet of industrial floor area) projects to incorporate any combination of the following strategies to reduce heat gain for 50 percent of the non-roof impervious site landscape (including roads, sidewalks, courtyards, parking lots, and driveways):

- Shaded (Within 5 years of occupancy)
- Paving materials with a Solar Reflective Index (SRI) of at least 29
- Open grid pavement system (pavement that is less than 50% impervious and contains vegetation in the open cells)
- Parking spaces under cover (defined as underground, under deck, under roof, or under building.) Any roof used to shade or cover parking must have an SRI of at least 29.

Mitigation Measure GHG - 7. SVSP shall require that all new development and major rehabilitation (additions of 25,000 square feet of office/retail commercial or 100,000 square feet of industrial floor area) projects incorporate "green building" points in construction plans prior to issuing a permit to build. Such points may be achieved through checklists identified by New Home Construction Green Building Guidelines available at www.builditgreen.org, or through a similar list that distinguishes specific measures targeting efficiencies in energy, resource use, or other measures that would also directly or indirectly result in GHG emission reductions. Specific efficiencies that would reduce GHG emissions shall be implemented where feasible for all project areas including site design, landscaping, foundation, structural frame and building envelope, exterior finishing, plumbing, appliance use, insulation, heating, venting and air conditioning, building performance, use of renewable energy, finishes, and flooring.

Implementation of the mitigation measures described above would reduce emissions from the SVSP to the levels shown in Table 15. The mitigated emission estimates shown in Table 15 assume a 10% emission reduction associated with implementation of the California Air Resources Board's Low Carbon Fuels Standard and a 20% emission electricity related emission reduction associated with California's Renewable Portfolio Standard and the mitigation measures described above.

Table 15. Operational GHG Emissions for Specific Plan Buildout and Cumulative Buildout (mitigated, metric tons per year)

Buildout (2025)	CO_2	CH_4	N_2O	CO_2e
Water	1,398.20	0.01	0.01	1,400.85
Wastewater	555.80	0.01	0.00	556.25
Solid Waste	-	136.80	-	2,872.80
Area Sources	45,516.41	-	-	45,516.41
Electricity	52,676.00	0.5	0.3	52,779.50
Transportation	273,652.42	-	-	288,055.17
Total	373,798.83	137.32	0.31	391,180.98
Cumulative (2035)				
Water	2,523.80	0.02	0.01	2,526.78
Wastewater	1,848.20	0.02	0.01	1,851.02
Solid Waste	-	205.50	-	4,315.50
Area Sources	60,616.59	-	-	60,616.59
Electricity	59,442.91	0.6	0.3	59,548.51
Transportation	337,075.31	-	-	354,816.12
Total	461,506.81	206.14	0.32	483,674.52

Notes: Transportation emissions based on URBEMIS estimates using EMFAC2007 emission factors. Estimates assume that 5% of transportation emissions are from CH_4, N_2O and HFCs (EPA 2005). Area source emissions estimated using the URBEMIS2007 model using the proposed land uses proposed for the SVSP. Direct electricity and indirect (water-related) electricity estimates based on land uses proposed for buildout. Electricity estimates based on emission factors developed by the California Climate Action Registry (2009).

Table 16 shows mitigated GHG emissions for buildout of Alternative 1 (2025) and for cumulative buildout (2035). The mitigated emissions shown for Alternative 1 assume the same level of mitigation as in the preferred SVSP.

Table 16. Operational GHG Emissions for Alternative 1 Buildout and Alternative 1 Cumulative Buildout (mitigated, metric tons per year)

Buildout (2025)	CO_2	CH_4	N_2O	CO_2e
Water	1,749.90	0.01	0.01	1,753.22
Wastewater	695.54	0.01	0.00	695.75
Solid Waste	-	136.96	-	2,876.20
Area Sources	27,330.33	-	-	27,330.33
Electricity	52,739.32	0.51	0.25	52,826.95
Transportation	223,362.00	-	-	234,530.10
Total	305,877.09	137.49	0.26	320,012.55

Cumulative (2035)	CO_2	CH_4	N_2O	CO_2e
Water	2,875.50	0.03	0.01	2,879.15
Wastewater	1,987.94	0.02	0.01	1,990.51
Solid Waste	0.00	205.66	0.00	4,318.90
Area Sources	42,430.51	0.00	0.00	42,430.51
Electricity	59,506.23	0.61	0.25	59,595.96
Transportation	286,784.90	0.00	0.00	301,291.05
Total	393,585.08	206.32	0.27	412,506.09

Notes: Transportation emissions based on URBEMIS estimates using EMFAC2007 emission factors. Estimates assume that 5% of transportation emissions are from CH_4, N_2O and HFCs (EPA 2005). Area source emissions estimated using the URBEMIS2007 model using the proposed land uses proposed for Alternative 1. Direct electricity and indirect (water-related) electricity estimates based on land uses proposed for buildout. Electricity estimates based on emission factors developed by the California Climate Action Registry (2009).

Table 17 shows mitigated GHG emissions for buildout of Alternative 2 (2025) and for cumulative buildout (2035). The mitigated emissions shown for Alternative 2 assume the same level of mitigation as in the preferred SVSP and Alternative 1.

Table 17. Operational GHG Emissions for Alternative 2 Buildout and Alternative 2 Cumulative Buildout (mitigated, metric tons per year)

Buildout (2025)	CO_2	CH_4	N_2O	CO_2e
Water	1,294.50	0.01	0.01	1,296.95
Wastewater	514.53	0.01	0.00	514.68
Solid Waste	-	101.32	-	2,127.69
Area Sources	24,852.21	-	-	24,852.21
Electricity	39,014.28	0.36	0.18	39,078.68
Transportation	203,319.98	-	-	213,485.98
Total	268,995.50	101.69	0.19	281,356.20

Cumulative (2035)	CO_2	CH_4	N_2O	CO_2e
Water	2,420.10	0.02	0.01	2,422.89
Wastewater	1,806.93	0.02	0.01	1,809.45
Solid Waste	0.00	170.02	0.00	3,570.39
Area Sources	39,952.39	0.00	0.00	39,952.39
Electricity	45,781.19	0.46	0.18	45,847.69
Transportation	266,742.88	0.00	0.00	280,246.93
Total	356,703.49	170.51	0.20	373,849.74

Notes: Transportation emissions based on URBEMIS estimates using EMFAC2007 emission factors. Estimates assume that 5% of transportation emissions are from CH_4, N_2O and HFCs (EPA 2005). Area source emissions estimated using the URBEMIS2007 model using the proposed land uses proposed for Alternative 2. Direct electricity and indirect (water-related) electricity estimates based on land uses proposed for buildout. Electricity estimates based on emission factors developed by the California Climate Action Registry (2009).

Table 18 shows mitigated GHG emissions for buildout of Alternative 3 (2025) and for cumulative buildout (2035). The mitigated emissions shown for Alternative 3 assume the same level of mitigation as in the preferred SVSP and for Alternatives 1 and 2.

Table 18. Operational GHG Emissions for Alternative 3 Buildout and Alternative 3 Cumulative Buildout (mitigated, metric tons per year)

Buildout (2025)	CO_2	CH_4	N_2O	CO_2e
Water	1,309.47	0.01	0.01	1,311.95
Wastewater	520.48	0.01	0.00	520.63
Solid Waste	-	102.49	-	2,152.30
Area Sources	31,841.96	-	-	31,841.96
Electricity	39,465.44	0.36	0.19	39,530.60
Transportation	248,704.19	-	-	261,139.40
Total	321,841.54	102.86	0.19	336,496.84

Cumulative (2035)	CO_2	CH_4	N_2O	CO_2e
Water	2,435.07	0.02	0.01	2,437.89
Wastewater	1,812.88	0.02	0.01	1,815.40
Solid Waste	0.00	171.19	0.00	3,595.00
Area Sources	46,942.14	0.00	0.00	46,942.14
Electricity	46,232.35	0.46	0.19	46,299.61
Transportation	312,127.09	0.00	0.00	327,900.35
Total	409,549.53	171.69	0.20	428,990.38

Notes: Transportation emissions based on URBEMIS estimates using EMFAC2007 emission factors. Estimates assume that 5% of transportation emissions are from CH_4, N_2O and HFCs (EPA 2005). Area source emissions estimated using the URBEMIS2007 model using the proposed land uses proposed for Alternative 3. Direct electricity and indirect (water-related) electricity estimates based on land uses proposed for buildout. Electricity estimates based on emission factors developed by the California Climate Action Registry (2009).

Currently, no California state agency has adopted an applicable plan, policy, or regulation that limits GHGs emissions for individual cities, general plans, or specific plan areas. However, the mitigation measures specified above are based on measures recommended by the California Attorney General (California Department of Justice, 2008) and by the California's Air Pollution Control Association (2008 and 2009).

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Appendix A. Estimation Methodologies

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Construction

The Sierra Vista Specific Plan (SVSP) is assumed to be built out by 2025 using the assumed construction schedule in Table A-1. URBEMIS2007 Version 9.2.4 was used to estimate emissions from each year of construction. Soil hauling was estimated to be 100 cubic yards on-site and 100 cubic yards off-site. The water storage tank, well sites, and electric substation were assumed to have a trip generation rate of 2.5 trips per day (DKS Associates, 2009). The recycle center, wastewater treatment facility, and solid waste recycling facility were assumed to have a trip generation rate of 4.96 trips per day, the Institute of Transportation Engineers' trip rate for warehouses. The fire station was estimated to have a trip generation rate of 3 trips per day (DKS Associates, 2009).

Table A-1: Assumed Construction Schedule for Sierra Vista Specific Plan

Year	Activity
Phase A	
2013	49.13 acres LDR, 12.57 acres MDR, 5.48 acres HDR, 1.08 acres Commercial Mixed Use housing, 1.6 acres commercial, 5.3 acres parks, 0.3 acre well site, 3.8 acres office space, 12 acres fire station
2014	49.13 acres LDR, 12.57 acres MDR, 5.48 acres HDR, 1.08 acres Commercial Mixed Use housing, 1.6 acres commercial, 5.3 acres parks, 12 acres elementary school, 3.8 acres office space
2015	49.13 acres LDR, 12.57 acres MDR, 5.48 acres HDR, 1.08 acres Commercial Mixed Use housing, 1.6 acres commercial, 5.3 acres

	parks, 12 acres middle school, 3.8 acres office space
2016	49.13 acres LDR, 12.57 acres MDR, 5.48 acres HDR, 1.08 acres Commercial Mixed Use housing, 1.6 acres commercial, 5.3 acres parks, 3.8 acres office space
Phase B	
2017	37.7 acres LDR, 11.46 acres MDR, 13.27 acres HDR, 4.2 acres park, 30 acres commercial space, 12 acres elementary school, 4.1 acres office space
2018	37.7 acres LDR, 11.46 acres MDR, 13.27 acres HDR, 4.2 acres park, 30 acres commercial space, 4.1 acres office space
2019	37.7 acres LDR, 11.46 acres MDR, 13.27 acres HDR, 4.2 acres park, 30 acres commercial space, 4.1 acres office space
Phase C	
2020	39.3 acres LDR, 28.36 acres MDR, 1.79 acres HDR, 2.32 acres Commercial Mixed Use housing, 13.6 acres park, 12 acres elementary school, 3.1 acres office space, 2.2 acres wastewater treatment facility, 0.3 acres solid waste recycling facility, 19.4 acres commercial space, 0.3 acre well site
2021	39.3 acres LDR, 28.36 acres MDR, 1.79 acres HDR, 2.32 acres Commercial Mixed Use housing, 13.6 acres park, 3.1 acres office space, 19.4 acres commercial space
2022	39.3 acres LDR, 28.36 acres MDR, 1.79 acres HDR, 2.32 acres Commercial Mixed Use housing, 13.6 acres park, 3.1 acres office space, 19.4 acres commercial space
2023	39.3 acres LDR, 28.36 acres MDR, 1.79 acres HDR, 2.32 acres Commercial Mixed Use housing, 13.6 acres park, 3.1 acres office space, 19.4 acres commercial space
Phase D	
2024	18.45 acres LDR, 62.83 acres MDR, 7.94 acres HDR, 1.7 acres parks, 1.8 acres water tank storage, 4.2 acres church, 0.8 acres electric substation, 0.4 acres recycle center

URBEMIS 2007 estimates the type of construction equipment used for each construction phase. Because a detailed schedule of construction activity was not available, this analysis assumes that the four phases of construction would be spread over a 13-year period beginning in January 2013 and completed by December 2004.

According to the URBEMIS 2007 model set-up, construction of any project is generally broken down into four phases: grading, paving, building construction, and architectural coating. It was assumed that grading, paving, building construction, and architectural coating would occur during each year of project construction. Table A-2 shows the construction equipment assumed for each phase of project construction.

All URBEMIS2007 mitigation was turned on for construction related activities. Emission estimates after mitigation are included in the main report.

Table A-2. Anticipated Construction Equipment

Equipment Pieces by Phase	Number of Equipment Pieces Used	Horsepower	Hours per Day
Site grading			
Excavator	1	168	8
Grader	1	174	8
Rubber tired dozer	1	357	8
Tractor/loader/backhoe	3	108	8
Scraper	2	313	8
Water truck	1	189	8
Paving			
Paving Equipment	2	104	8
Pavers	1	100	8
Rollers	2	95	6
Building Construction			
Forklift	3	145	8
Generator Sets	1	49	8
Crane	1	399	7
Welders	1	45	8
Tractor/loader/backhoe	3	108	7

Operation

Two types of air pollutant sources are expected during operation of the proposed project: area and mobile sources. The primary operational emissions associated with the project are ozone precursors, CO, PM10, PM2.5, and CO_2. These emissions were evaluated using the URBEMIS2007 model for each year of project construction and operation (2013-2025), while the effects of CO "hot spot" emissions were evaluated through CO dispersion modeling for existing year and cumulative year with and without project conditions. The effects of operation-related CO emissions were evaluated using the CALINE4 dispersion model. This analysis used meteorological conditions most conducive to high CO concentrations in the SVAB. CO emission factors generated by ARB's EMFAC2007 emission factor model were used as inputs to the CALINE4 model. The meteorological conditions assumed for the modeling included a worst-case wind speed of 0.5 meter per second, "F" atmospheric stability, worst-case wind angle search, and a sigma theta (wind fluctuation) of 15 degrees.

To be conservative, receptors were placed near the edge of the roadway, regardless of the land use. The traffic volumes were based on the average daily volumes included in the draft traffic report (DKS Associates, 2009). Emission factors for all road links were based on the 1 mile-per-hour emission rates generated for 2035 using the EMFAC2007 model.

Background CO concentrations were added to the 1-hour concentrations estimated using CALINE4. One-hour concentrations were multiplied by a persistence factor of 0.6 to estimate 8-hour concentrations. A background 8-hour CO concentration was then added to the estimated 8-hour concentration to determine the maximum 8-hour concentration. The background 1-hour and 8-hour concentrations were based on the maximum CO values, 5.73 ppm, and 2.06 ppm respectively (EPA 2008).

Greenhouse Gas Emissions

CO_2 emissions for construction and operation of the proposed project were estimated using the URBEMIS2007 model. For operational emissions, URBEMIS2007 only estimates area source and on-road emissions. Electricity-related emissions and emissions associated with solid waste were estimated separately as

described below. Greenhouse gas emissions were estimated for full buildout of the project in 2025 and cumulative buildout in 2035.

Electricity

For the 2025 buildout, CapitolUtility 2009 estimated electricity demand to be 24MVA (CapitolUtility Services 2009). For the purposes of this analysis, 1VA was assumed to be equal to 1 Watt. California Climate Action Registry electricity emission factors for CH_4 and N_2O were used to estimate emissions associated with electricity use in 2025 and 2035 (California Climate Action Registry 2009). Roseville Electric's reported 2007 CO_2 emissions factor was used to estimate CO_2 emissions from electricity (Roseville Electric, 2007).

Cumulative buildout in 2035 includes the construction of 3,340 additional homes. The California Energy Commission's "Residential Appliance Saturation Survey" was used to estimate average electricity demand of a new home in California, which is 7,035 kWh per year (Itron 2004).

California's Renewable Portfolio Standard will require that 33% of electricity generation be from renewable energy sources. Assuming Roseville Electric complies with the RPS Standard and the project implements the recommended mitigation, emissions associated with electricity use should be reduced by about 20%. Mitigated emissions for the 2025 buildout and 2035 cumulative buildout include this 20% reduction in emissions associated with electricity use. Unmitigated emissions do not include emissions reductions associated with the California RPS standard.

Area Sources

Area source examples include lawnmowers and other landscape maintenance equipment, natural gas fired water and space heaters, and consumer products such as paints, hairspray, deodorant, and similar products with evaporative emissions. Area sources of CO_2 were estimated using the URBEMIS2007 model for 2025 buildout and 2035 cumulative buildout. CH_4 and N_2O emissions were not estimated for area sources.

Transportation

Mobile sources refer to emissions from motor vehicles, including tailpipe, evaporative, and fugitive emissions. URBEMIS2007 was used to estimate emissions from project traffic in 2025 and 2035. The EPA recommends assuming that CH_4, N_2O, and HFC emissions account for 5% of on-road GHG emissions, accounting for their GWPs (Environmental Protection Agency 2005). The annual CO_2 emissions from transportation were divided by 0.95 to account for emissions of CH_4, N_2O, and HFCs.

For mitigation in 2025 and 2035, a 10% decrease in traffic emissions was assumed to occur because of the Low Carbon Fuel Standard.

Water/Wastewater

The proposed project predicts a demand of 5,500 acre-feet of water and 2,712 acre-feet of recycled water per year. Electricity consumption is embedded in the supply, treatment, distribution, wastewater treatment and water reclamation. Table A-3 lists the embedded electricity in the supply, treatment and distribution of water, wastewater treatment and water reclamation (Pacific Institute 2005).

Table A-3. Water/Wastewater Embedded Electricity

	Electricity	Units
Water Supply	238	kWh/acre-foot
Water Treatment	55	kWh/acre-foot
Water Distribution	395	kWh/acre-foot
Wastewater Treatment	440	kWh/acre-foot
Water Reclamation (Recycled water)	350	kWh/acre-foot

Source: Pacific Institute, 2005.

Water demand estimates for 2035 were based on the average of estimated annual water use for households in 3 cities in California (Demand Response Research Center 2007). The average household water use was multiplied by the 3,340 additional homes projected to be built in the cumulative scenario. Embedded electricity was calculated using the assumptions in Table A-3 and the emission factors for electricity described above.

After mitigation, the emissions associated with the embedded electricity in water use were reduced by 20% for the 2025 and 2035 cumulative scenarios.

Solid Waste

Emissions from solid waste generated by the SVSP in 2025 and the 2035 cumulative scenario were based on California Air Resources Board estimates of CH_4 emissions per capita per standard cubic foot of landfill gas and predicted populations in 2025 and 2035. The 2025 buildout population was based on 2.54 persons per household, as indicated in the project description, and estimated to be 16,904 people. The 2035 population estimate based on the same criteria, is estimated to be 25,387. The 2006 California population (37,086,191) and the estimated emissions of landfill gas in California in 2006 were used to obtain a per capita estimate of landfill gas emissions (California Department of Finance 2009; California Air Resources Board 2009). The projected project area population was multiplied by this per capita emissions estimate to obtain landfill gas methane emissions. Emissions of N_2O and CO_2 were ignored for the purposes of this analysis.

Alternative 1, 2, and 3 GHG Emissions

Greenhouse gas emissions were estimated directly for the 2025 preferred project and 2035 build out of the preferred alternative. For Alternatives 1, 2, and 3, GHG emissions were estimated by scaling up the 2025 preferred GHG emission estimates.

All numbers were adjusted by assuming that there would be 2.54 persons per dwelling unit and the number of dwelling units for each alternative was based on information in the project description. Therefore, all greenhouse gas emissions are based on the original preferred alternative GHG emissions for 2025 and adjusted on a per capita or per housing unit basis.

Appendix B. Modeling Results

Table of Contents **Page Appendix B-**

Construction

2013 Construction Emissions

9/21/2009 10:57:37 AM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Construction 2013.urb924

Project Name: 2013 Phase A

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2013 TOTALS (lbs/day unmitigated)	963.82	83.96	109.85	0.17	483.25	4.54	487.79	100.93	4.17	105.10
2013 TOTALS (lbs/day mitigated)	868.17	79.88	109.85	0.17	109.62	3.36	112.97	22.90	3.09	25.99

2014 Construction Emissions

9/21/2009 10:59:26 AM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Construction 2014.urb924

Project Name: 2014 Phase A

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2014 TOTALS (lbs/day unmitigated)	1,177.24	77.89	103.78	0.15	481.85	4.14	485.99	100.64	3.80	104.44
2014 TOTALS (lbs/day mitigated)	1,060.14	74.02	103.78	0.15	109.30	3.03	112.33	22.83	2.78	25.62

2015 Construction Emissions

9/22/2009 10:22:02 AM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Roseville SVSP Construction Emission Files\Construction 2015.urb924

Project Name: 2015 Phase A

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2015 TOTALS (lbs/day unmitigated)	981.48	54.93	94.56	0.15	481.81	2.56	484.37	100.62	2.35	102.97
2015 TOTALS (lbs/day mitigated)	883.89	54.93	94.56	0.15	109.26	2.56	111.82	22.82	2.35	25.17

2016 Construction Emissions

9/21/2009 11:01:43 AM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Construction 2016.urb924

Project Name: 2016 Phase A

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2016 TOTALS (lbs/day unmitigated)	688.17	64.94	65.75	0.11	421.84	3.41	425.25	88.10	3.14	91.24
2016 TOTALS (lbs/day mitigated)	619.79	61.54	65.75	0.11	95.69	2.47	98.16	19.99	2.27	22.26

2017 Construction Emissions

9/21/2009 11:02:27 AM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Construction 2017.urb924

Project Name: 2017 Phase B

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2017 TOTALS (lbs/day unmitigated)	1,784.73	56.43	133.79	0.26	734.21	2.48	736.69	153.34	2.28	155.61
2017 TOTALS (lbs/day mitigated)	1,606.90	56.43	133.79	0.26	166.49	2.48	168.97	34.77	2.28	37.05

2018 Construction Emissions

9/21/2009 11:03:07 AM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Construction 2018.urb924

Project Name: 2018 Phase B

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2018 TOTALS (lbs/day unmitigated)	1,464.31	42.08	105.28	0.22	674.81	1.85	676.66	140.93	1.70	142.63
2018 TOTALS (lbs/day mitigated)	1,318.40	42.08	105.28	0.22	153.02	1.85	154.87	31.96	1.70	33.66

2019 Construction Emissions

9/21/2009 11:03:48 AM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Construction 2019.urb924

Project Name: 2019 Phase B

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2019 TOTALS (lbs/day unmitigated)	1,707.12	38.38	99.65	0.22	674.81	1.63	676.44	140.93	1.50	142.43
2019 TOTALS (lbs/day mitigated)	1,536.88	38.38	99.65	0.22	153.02	1.63	154.66	31.96	1.50	33.46

2020 Construction Emissions

9/21/2009 11:04:25 AM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Construction 2020.urb924

Project Name: 2020 Phase C

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2020 TOTALS (lbs/day unmitigated)	1,486.11	56.38	101.33	0.24	687.67	2.65	690.32	143.62	2.44	146.06
2020 TOTALS (lbs/day mitigated)	1,337.96	53.46	101.33	0.24	155.98	1.90	157.88	32.58	1.74	34.33

2021 Construction Emissions

9/21/2009 11:05:07 AM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Construction 2021.urb924

Project Name: 2021 Phase C

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2021 TOTALS (lbs/day unmitigated)	1,131.90	46.88	67.93	0.19	555.25	2.32	557.57	115.97	2.13	118.10
2021 TOTALS (lbs/day mitigated)	1,019.03	43.96	67.93	0.19	125.94	1.56	127.50	26.31	1.44	27.74

2022 Construction Emissions

9/22/2009 10:24:18 AM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Roseville SVSP Construction Emission Files\Construction 2022.urb924

Project Name: 2022 Phase C

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	
2022 TOTALS (lbs/day unmitigated)	1,165.10	34.95	61.16	0.19	555.21	1.45	556.66	115.95	1.33	117.28	21,5
2022 TOTALS (lbs/day mitigated)	1,048.91	34.95	61.16	0.19	125.90	1.45	127.35	26.30	1.33	27.63	21,5

2023 Construction Emissions

9/22/2009 10:26:26 AM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Roseville SVSP Construction Emission Files\Construction 2023.urb924

Project Name: 2023 Phase C

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2023 TOTALS (lbs/day unmitigated)	1,200.32	46.85	61.28	0.19	555.25	2.32	557.57	115.97	2.13	118.10
2023 TOTALS (lbs/day mitigated)	1,080.60	43.92	61.28	0.19	125.94	1.56	127.50	26.31	1.43	27.74

2024 Construction Emissions

9/21/2009 11:07:25 AM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Construction 2024.urb924

Project Name: 2024 Phase D

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5
2024 TOTALS (lbs/day unmitigated)	1,134.06	46.80	69.84	0.20	597.65	2.32	599.97	124.82	2.13	126.95
2024 TOTALS (lbs/day mitigated)	1,021.00	43.88	69.84	0.20	135.56	1.56	137.11	28.32	1.43	29.75

Operational Criteria Pollutants

Operational Specific Plan Buildout 2025

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Roseville SVSP Operational Criteria Pollutant Files\2025 Operational.urb924
Project Name: 2025 Operational

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	492.29	170.55	245.73	0.01	0.67	0.67	207,830.51

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1,093.24	823.39	9,334.38	18.68	3,224.31	613.50	1,920,726.28

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2

TOTALS (lbs/day, unmitigated)	1,585.53	993.94	9,580.11	18.69	3,224.98	614.17	2,128,556.79

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	12.56	169.04	116.20	0.00	0.31	0.31	207,617.94
Hearth - No Summer Emissions							
Landscape	21.22	1.51	129.53	0.01	0.36	0.36	212.57
Consumer Products	325.58						
Architectural Coatings	132.93						
TOTALS (lbs/day, unmitigated)	492.29	170.55	245.73	0.01	0.67	0.67	207,830.51

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	87.80	67.73	798.48	1.63	279.58	53.16	166,557.67
Apartments low rise	85.37	65.85	776.34	1.58	271.83	51.69	161,940.64
Apartments mid rise	45.17	33.05	389.62	0.79	136.42	25.94	81,272.76
Apartments high rise	7.05	5.16	60.84	0.12	21.30	4.05	12,691.09
Elementary school	69.40	51.09	582.63	1.17	201.58	38.35	120,079.36
Junior high school	22.86	17.21	196.08	0.40	68.65	13.05	40,811.99

Place of worship	5.46	3.89	43.35	0.09	15.45	2.94	9,146.55
City park	1.01	0.48	5.38	0.01	1.93	0.37	1,142.27
Supermarket	659.22	489.20	5,432.78	10.76	1,859.60	353.99	1,108,102.44
Office park	109.64	89.57	1,047.03	2.13	367.29	69.83	218,578.26
Well SIte/Electric Substation	0.02	0.01	0.11	0.00	0.04	0.01	24.17
Fire Station	0.17	0.10	1.14	0.00	0.42	0.08	248.65
Water Tank Storage	0.02	0.01	0.14	0.00	0.05	0.01	31.08
Wastewater Treatment	0.04	0.03	0.35	0.00	0.13	0.02	75.37
Solid Waste Recycling/ Recycle Center	0.01	0.01	0.11	0.00	0.04	0.01	23.98
TOTALS (lbs/day, unmitigated)	1,093.24	823.39	9,334.38	18.68	3,224.31	613.50	1,920,726.28

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	484.60	9.00	dwelling units	2,417.00	21,753.00	162,826.91
Apartments low rise	261.60	9.00	dwelling units	2,350.00	21,150.00	158,313.30
Apartments mid rise	66.10	6.50	dwelling units	1,633.00	10,614.50	79,452.32
Apartments high rise	34.30	6.50	dwelling units	255.00	1,657.50	12,406.82
Elementary school		14.49	1000 sq ft	1,568.16	22,722.64	117,383.33

Junior high school	13.78	1000 sq ft	522.72	7,203.08	39,984.52
Place of worship	9.30	1000 sq ft	182.95	1,701.44	9,001.01
City park	2.20	acres	89.90	197.78	1,125.38
Supermarket	35.00	1000 sq ft	7,587.28	265,554.79	1,082,730.48
Office park	17.70	1000 sq ft	1,720.62	30,454.98	213,919.28
Well SIte/Electric Substation	2.50	acres	1.40	3.50	23.93
Fire Station	3.00	acres	12.00	36.00	246.19
Water Tank Storage	2.50	acres	1.80	4.50	30.77
Wastewater Treatment	4.96	acres	2.20	10.91	74.62
Solid Waste Recycling/ Recycle Center	4.96	acres	0.70	3.47	23.74
				383,068.09	1,877,542.60

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	40.3	0.0	100.0	0.0
Light Truck < 3750 lbs	13.9	0.0	97.8	2.2
Light Truck 3751-5750 lbs	22.4	0.0	100.0	0.0
Med Truck 5751-8500 lbs	11.0	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	76.9	23.1
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.0	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	34.5	65.5	0.0

School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0
Junior high school				20.0	10.0	70.0
Place of worship				3.0	1.5	95.5
City park				5.0	2.5	92.5
Supermarket				2.0	1.0	97.0
Office park				48.0	24.0	28.0
Well SIte/Electric Substation				2.0	1.0	97.0
Fire Station				2.0	1.0	97.0
Water Tank Storage				2.0	1.0	97.0
Wastewater Treatment				2.0	1.0	97.0
Solid Waste Recycling/ Recycle Center				2.0	1.0	97.0

Operational Specific Plan Cumulative Buildout 2035

9/22/2009
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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Roseville SVSP Operational Criteria Pollutant Files\2035 Cumulative Operational.urb924
Project Name: 2035 Cumulative Operation

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	704.50	220.55	307.59	0.01	0.85	0.84	269,680.24

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	2,775.96	3,232.79	27,920.79	23.11	3,975.73	775.34	2,361,491.00

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	3,480.46	3,453.34	28,228.38	23.12	3,976.58	776.18	2,631,171.24

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	16.30	218.69	145.90	0.00	0.40	0.40	269,416.37
Hearth - No Summer Emissions							
Landscape	27.19	1.86	161.69	0.01	0.45	0.44	263.87
Consumer Products	488.99						
Architectural Coatings	172.02						
TOTALS (lbs/day, unmitigated)	704.50	220.55	307.59	0.01	0.85	0.84	269,680.24

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	235.95	287.31	2,556.70	2.15	369.47	72.00	219,392.33
Apartments low rise	295.90	360.32	3,206.35	2.70	463.35	90.30	275,139.56
Apartments mid rise	142.61	166.03	1,477.44	1.24	213.50	41.61	126,779.99
Apartments high rise	17.25	20.08	178.71	0.15	25.83	5.03	15,335.48
Elementary school	190.10	218.74	1,897.60	1.57	270.65	52.78	160,748.07
Junior high school	46.88	55.33	478.85	0.40	69.13	13.47	40,973.76
Place of worship	11.07	12.49	105.87	0.09	15.56	3.03	9,183.73
City park	3.19	2.54	21.58	0.02	3.20	0.62	1,884.19

Supermarket	1,670.34	1,906.41	16,204.94	13.27	2,284.61	445.76	1,357,688.59
Office park	147.83	188.87	1,668.97	1.41	241.58	47.08	143,302.15
Fire Station	14.61	14.42	121.66	0.11	18.53	3.60	10,873.55
Well Sites/Electric Substation	0.03	0.03	0.27	0.00	0.04	0.01	24.27
Solid Waste Recycle/ Recycle Center/Wastewater treatment	0.16	0.18	1.50	0.00	0.23	0.04	134.13
Water Tank Storage	0.04	0.04	0.35	0.00	0.05	0.01	31.20
TOTALS (lbs/day, unmitigated)	2,775.96	3,232.79	27,920.79	23.11	3,975.73	775.34	2,361,491.00

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	635.90	9.00	dwelling units	3,172.00	28,548.00	213,689.27
Apartments low rise	397.80	9.00	dwelling units	3,978.00	35,802.00	267,987.37
Apartments mid rise	114.40	6.50	dwelling units	2,538.00	16,497.00	123,484.38
Apartments high rise	42.50	6.50	dwelling units	307.00	1,995.50	14,936.84
Elementary school		14.49	1000 sq ft	2,090.88	30,296.85	156,511.10
Junior high school		13.78	1000 sq ft	522.72	7,203.08	39,984.52
Place of worship		9.30	1000 sq ft	182.95	1,701.44	9,001.01
City park		2.20	acres	147.70	324.94	1,848.93

Supermarket	35.00	1000 sq ft	9,256.50	323,977.50	1,320,933.84
Office park	17.70	1000 sq ft	1,123.85	19,892.15	139,724.74
Fire Station	3.00	1000 sq ft	522.72	1,568.16	10,723.90
Well Sites/Electric Substation	2.50	acres	1.40	3.50	23.93
Solid Waste Recycle/ Recycle Center/Wastewater treatment	4.96	acres	3.90	19.34	132.28
Water Tank Storage	2.50	acres	1.80	4.50	30.77
				467,833.96	2,299,012.88

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.8	1.3	98.4	0.3
Light Truck < 3750 lbs	14.2	2.8	88.7	8.5
Light Truck 3751-5750 lbs	22.4	0.9	98.7	0.4
Med Truck 5751-8500 lbs	11.0	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	67.3	32.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

Residential	Commercial

	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0
Junior high school				20.0	10.0	70.0
Place of worship				3.0	1.5	95.5
City park				5.0	2.5	92.5
Supermarket				2.0	1.0	97.0
Office park				48.0	24.0	28.0
Fire Station				2.0	1.0	97.0
Well Sites/Electric Substation				2.0	1.0	97.0
Solid Waste Recycle/ Recycle Center/Wastewater treatment				2.0	1.0	97.0
Water Tank Storage				2.0	1.0	97.0

Operational Alternative 1 Buildout 2025

9/22/2009
10:41:57 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Roseville SVSP Operational Criteria Pollutant Files\Alternative I.urb924

Project Name: Alternative 1 reduced footprint, increased density

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	439.11	134.62	121.69	0.00	0.35	0.34	165,076.92

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	851.12	639.80	7,274.97	14.59	2,516.56	478.79	1,499,022.62

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1,290.23	774.42	7,396.66	14.59	2,516.91	479.13	1,664,099.54

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	9.98	134.24	91.47	0.00	0.25	0.24	165,024.14
Hearth - No Summer Emissions							
Landscape	3.43	0.38	30.22	0.00	0.10	0.10	52.78
Consumer Products	325.97						
Architectural Coatings	99.73						
TOTALS (lbs/day, unmitigated)	439.11	134.62	121.69	0.00	0.35	0.34	165,076.92

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	8.25	6.36	74.99	0.15	26.26	4.99	15,642.78
Apartments low rise	140.01	107.99	1,273.20	2.59	445.80	84.77	265,582.65
Apartments mid rise	66.35	48.55	572.38	1.17	200.42	38.11	119,395.81
Apartments high rise	5.06	3.70	43.66	0.09	15.29	2.91	9,107.73
Elementary school	69.40	51.09	582.63	1.17	201.58	38.35	120,079.36
Junior high school	40.00	30.12	343.14	0.70	120.14	22.84	71,420.99
Place of worship	6.11	4.35	48.51	0.10	17.29	3.28	10,235.43
City park	0.61	0.29	3.24	0.01	1.16	0.22	688.66

Supermarket	449.09	333.27	3,701.08	7.33	1,266.85	241.15	754,894.17
Office park	66.07	53.97	630.93	1.28	221.33	42.08	131,713.27
Fire Station	0.05	0.03	0.31	0.00	0.11	0.02	66.31
Well Site/electric substation	0.02	0.01	0.11	0.00	0.04	0.01	24.17
Domestic Water/Recycled Water	0.09	0.06	0.71	0.00	0.26	0.05	154.16
Recycle Center	0.01	0.01	0.08	0.00	0.03	0.01	17.13
TOTALS (lbs/day, unmitigated)	851.12	639.80	7,274.97	14.59	2,516.56	478.79	1,499,022.62

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	45.40	9.00	dwelling units	227.00	2,043.00	15,292.39
Apartments low rise	426.30	9.00	dwelling units	3,854.00	34,686.00	259,633.81
Apartments mid rise	104.10	6.50	dwelling units	2,399.00	15,593.50	116,721.44
Apartments high rise	15.40	6.50	dwelling units	183.00	1,189.50	8,903.72
Elementary school		14.49	1000 sq ft	1,568.16	22,722.64	117,383.33
Junior high school		13.78	1000 sq ft	914.76	12,605.39	69,972.91
Place of worship		9.30	1000 sq ft	204.73	1,903.99	10,072.57
City park		2.20	acres	54.20	119.24	678.48
Supermarket		35.00	1000 sq ft	5,168.83	180,909.05	737,609.53

Office park	17.70	1000 sq ft	1,036.83	18,351.89	128,905.81
Fire Station	3.00	acres	3.20	9.60	65.65
Well Site/electric substation	2.50	acres	1.40	3.50	23.93
Domestic Water/Recycled Water	4.96	acres	4.50	22.32	152.64
Recycle Center	4.96	acres	0.50	2.48	16.96
				290,162.10	1,465,433.17

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	40.3	0.0	100.0	0.0
Light Truck < 3750 lbs	13.9	0.0	97.8	2.2
Light Truck 3751-5750 lbs	22.4	0.0	100.0	0.0
Med Truck 5751-8500 lbs	11.0	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	76.9	23.1
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.0	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	34.5	65.5	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer

Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0
Junior high school				20.0	10.0	70.0
Place of worship				3.0	1.5	95.5
City park				5.0	2.5	92.5
Supermarket				2.0	1.0	97.0
Office park				48.0	24.0	28.0
Fire Station				2.0	1.0	97.0
Well Site/electric substation				2.0	1.0	97.0
Domestic Water/Recycled Water				2.0	1.0	97.0
Recycle Center				2.0	1.0	97.0

Operational Alternative 2 Buildout 2025

9/22/2009
10:40:08 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Roseville SVSP Operational Criteria Pollutant Files\Alternative 2.urb924

Project Name: Alternative 2 reduced footprint, same density

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	363.39	123.17	181.89	0.00	0.50	0.50	150,108.92

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	763.82	580.10	6,612.70	13.28	2,291.08	435.86	1,364,516.97

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1,127.21	703.27	6,794.59	13.28	2,291.58	436.36	1,514,625.89

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	9.07	122.02	83.46	0.00	0.22	0.22	149,946.61
Hearth - No Summer Emissions							
Landscape	15.76	1.15	98.43	0.00	0.28	0.28	162.31
Consumer Products	241.14						
Architectural Coatings	97.42						
TOTALS (lbs/day, unmitigated)	363.39	123.17	181.89	0.00	0.50	0.50	150,108.92

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	63.76	49.18	579.78	1.18	203.01	38.60	120,938.65
Apartments low rise	64.63	49.85	587.71	1.20	205.78	39.13	122,592.51
Apartments mid rise	35.85	26.23	309.22	0.63	108.27	20.59	64,500.61
Apartments high rise	2.74	2.00	23.62	0.05	8.27	1.57	4,927.13
Elementary school	46.26	34.06	388.42	0.78	134.39	25.57	80,052.90
Junior high school	40.00	30.12	343.14	0.70	120.14	22.84	71,420.99
Place of worship	6.11	4.35	48.51	0.10	17.29	3.28	10,235.43
City park	0.39	0.16	1.77	0.00	0.64	0.12	375.58

Supermarket	369.01	273.84	3,041.08	6.02	1,040.94	198.15	620,277.90
Office park	134.90	110.20	1,288.24	2.62	451.91	85.92	268,933.50
Fire Station	0.05	0.03	0.31	0.00	0.11	0.02	66.31
Well Site/electric substation	0.02	0.01	0.11	0.00	0.04	0.01	24.17
Domestic Water/Recycled Water	0.09	0.06	0.71	0.00	0.26	0.05	154.16
Recycle Center	0.01	0.01	0.08	0.00	0.03	0.01	17.13
TOTALS (lbs/day, unmitigated)	763.82	580.10	6,612.70	13.28	2,291.08	435.86	1,364,516.97

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	351.10	9.00	dwelling units	1,755.00	15,795.00	118,229.72
Apartments low rise	197.70	9.00	dwelling units	1,779.00	16,011.00	119,846.54
Apartments mid rise	51.10	6.50	dwelling units	1,296.00	8,424.00	63,055.85
Apartments high rise	12.40	6.50	dwelling units	99.00	643.50	4,816.77
Elementary school		14.49	1000 sq ft	1,045.44	15,148.42	78,255.55
Junior high school		13.78	1000 sq ft	914.76	12,605.39	69,972.91
Place of worship		9.30	1000 sq ft	204.73	1,903.99	10,072.57
City park		1.59	acres	40.90	65.03	370.03
Supermarket		35.00	1000 sq ft	4,247.10	148,648.50	606,075.54

Office park	17.70	1000 sq ft	2,117.01	37,471.08	263,201.20
Fire Station	3.00	acres	3.20	9.60	65.65
Well Site/electric substation	2.50	acres	1.40	3.50	23.93
Domestic Water/Recycled Water	4.96	acres	4.50	22.32	152.64
Recycle Center	4.96	acres	0.50	2.48	16.96
				256,753.81	1,334,155.86

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	40.3	0.0	100.0	0.0
Light Truck < 3750 lbs	13.9	0.0	97.8	2.2
Light Truck 3751-5750 lbs	22.4	0.0	100.0	0.0
Med Truck 5751-8500 lbs	11.0	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	76.9	23.1
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.0	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	34.5	65.5	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer

Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0
Junior high school				20.0	10.0	70.0
Place of worship				3.0	1.5	95.5
City park				5.0	2.5	92.5
Supermarket				2.0	1.0	97.0
Office park				48.0	24.0	28.0
Fire Station				2.0	1.0	97.0
Well Site/electric substation				2.0	1.0	97.0
Domestic Water/Recycled Water				2.0	1.0	97.0
Recycle Center				2.0	1.0	97.0

Operational Alternative 3 Buildout 2025

9/22/2009
10:41:06 AM

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\Roseville SVSP Operational Criteria Pollutant Files\Alternative 3.urb924

Project Name: Alternative 3 project footprint, reduced density

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	413.91	158.57	297.77	0.01	0.81	0.80	192,327.38

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	954.42	717.31	8,116.15	16.23	2,801.98	533.17	1,669,098.58

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1,368.33	875.88	8,413.92	16.24	2,802.79	533.97	1,861,425.96

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	11.62	156.39	107.85	0.00	0.29	0.28	192,018.51
Hearth - No Summer Emissions							
Landscape	32.45	2.18	189.92	0.01	0.52	0.52	308.87
Consumer Products	243.93						
Architectural Coatings	125.91						
TOTALS (lbs/day, unmitigated)	413.91	158.57	297.77	0.01	0.81	0.80	192,327.38

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	139.46	107.57	1,268.25	2.58	444.07	84.44	264,548.99
Apartments mid rise	24.67	18.05	212.82	0.43	74.52	14.17	44,393.94
Apartments high rise	7.05	5.16	60.84	0.12	21.30	4.05	12,691.09
Elementary school	69.40	51.09	582.63	1.17	201.58	38.35	120,079.36
Junior high school	41.14	30.98	352.95	0.72	123.58	23.50	73,461.90
Place of worship	5.46	3.89	43.35	0.09	15.45	2.94	9,146.55
City park	0.90	0.43	4.80	0.01	1.72	0.33	1,019.02
Supermarket	590.41	438.14	4,865.74	9.64	1,665.50	317.04	992,444.60

Office park	75.78	61.90	723.64	1.47	253.85	48.27	151,068.26
Fire Station	0.04	0.02	0.27	0.00	0.10	0.02	58.02
Well Site/electric substation	0.01	0.01	0.09	0.00	0.03	0.01	18.99
Domestic Water/Recycled Water	0.09	0.06	0.71	0.00	0.26	0.05	154.16
Recycle Center	0.01	0.01	0.06	0.00	0.02	0.00	13.70
TOTALS (lbs/day, unmitigated)	954.42	717.31	8,116.15	16.23	2,801.98	533.17	1,669,098.58

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	767.80	9.00	dwelling units	3,839.00	34,551.00	258,623.30
Apartments mid rise	66.10	6.50	dwelling units	892.00	5,798.00	43,399.55
Apartments high rise	31.90	6.50	dwelling units	255.00	1,657.50	12,406.82
Elementary school		14.49	1000 sq ft	1,568.16	22,722.64	117,383.33
Junior high school		13.78	1000 sq ft	940.90	12,965.60	71,972.45
Place of worship		9.30	1000 sq ft	182.95	1,701.44	9,001.01
City park		2.20	acres	80.20	176.44	1,003.96
Supermarket		35.00	1000 sq ft	6,795.36	237,837.60	969,720.83
Office park		17.70	1000 sq ft	1,189.19	21,048.66	147,848.25
Fire Station		3.00	acres	2.80	8.40	57.44

Well Site/electric substation	2.50	acres	1.10	2.75	18.81
Domestic Water/Recycled Water	4.96	acres	4.50	22.32	152.64
Recycle Center	4.96	acres	0.40	1.98	13.57
				338,494.33	1,631,601.96

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	40.3	0.0	100.0	0.0
Light Truck < 3750 lbs	13.9	0.0	97.8	2.2
Light Truck 3751-5750 lbs	22.4	0.0	100.0	0.0
Med Truck 5751-8500 lbs	11.0	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	76.9	23.1
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.0	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	34.5	65.5	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6

Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0
Junior high school				20.0	10.0	70.0
Place of worship				3.0	1.5	95.5
City park				5.0	2.5	92.5
Supermarket				2.0	1.0	97.0
Office park				48.0	24.0	28.0
Fire Station				2.0	1.0	97.0
Well Site/electric substation				2.0	1.0	97.0
Domestic Water/Recycled Water				2.0	1.0	97.0
Recycle Center				2.0	1.0	97.0

Operational GHGs

Water – Preferred Alternative: 2025 and 2035

2025 Water Delivery, Treatment				
				TOTAL
Demand (AF/yr)				5,500
Recycled Water Demand (AF/yr)				2,712
	CO2	CH4	N2O	
Emissions CO2e (treatment) pounds/yr	240,125	2	1	109
Emissions CO2e (distribution) pounds/yr	2,574,796	22	12	1,170
Emissions CO2e (supply) pounds/yr	1,039,084	9	5	472
Metric tons/year	1,747.79	0.01	0.01	1,750.98

2035 Water Delivery, Treatment				
				TOTAL
Demand (AF/yr)				11181
Recycled Water Demand (AF/yr)				2712
	CO2	CH4	N2O	
Emissions CO2e (treatment) pounds/yr	488,142.76	4.12	2.28	221.78
Emissions CO2e (distribution) lbs/yr	4,356,018.53	36.77	20.30	1,979.06
Emissions CO2e (supply) lbs/yr	2,112,326.86	17.83	9.85	959.69
Metric tons/year	3,154.77	0.03	0.01	3,160.53

Wastewater – Preferred Alternative: 2025 and 2035

Wastewater 2025				**TOTAL**
Demand (AF/yr)				2,442.80
	CO2	CH4	N2O	
Emissions CO2e (treatment)	853,201.29	7.20	3.98	387.63
Emissions CO2e (reclamation)	678,682.85	5.73	3.16	308.34
	694.71	0.01	0.00	695.98

Wastewater 2035				
				TOTAL
Demand (AF/yr)	CO2	CH4	N2O	8123.60
Emissions CO2e (treatment)	2,837,347.39	23.95	13.23	1,289.1
Emissions CO2e (reclamation)	2,256,980.88	19.05	10.52	1,025.4
	2,310.28	0.02	0.01	2,314.5

Solid Waste - Preferred Alternative: 2025 and 2035

2025 Population		CH4 Emissions	CO2e
	16904	136.823231	2873.287851
2.54 persons per household			

2035 Population		CH4 Emissions	CO2e
	25387.3	205.4881929	4315.252051

Electricity – Preferred Alternative: 2025 and 2035

Electricity	for this analysis 1 VA = 1 W						
	residential	**commercial**	**business**	**schools**	**public fac.**	**TOTAL**	
Avg Demand (MVA)	15.5	5.8	0.7	0.3	1.7	24	
Annual Avg Demand (MWh/yr)	135,780	50,808	6,132	2,628	14,892	210,240	
							After Line Loss
Emissions CO2 (metric tpy)	48,879	18,290	22,074	946	5,361	75,683.94	65,845.03
Emissions CH4 (metric tpy)	0	0	0	0	0	0.64	0.56
Emissions N2O (metric tpy)	0	0	0	0	0	0.35	0.31
Emissions CO2e (metric tpy)	48,968	18,324	2,211	948	5,371	75,822.15	65,965.27
							TOTAL + 2035 cumulative project
2035 additional homes	23,497	MWh/yr				8,458.61	74,303.64
						0.07	0.63
						0.04	0.35
						8,474.06	74,439.33

Source(s)

Sierra Vista Specific Plan Technical Dry Utilities Study (2009)

GWPs

CO2	1
CH4	21
N2O	310

0.0005 metric ton/lb

ELECTRICITY EMISSION FACTORS

http://www.roseville.ca.us/electric/default.asp

CO2	793.8	lb/MWh delivered	
CH4	0.0067	lb/MWh	CCAR GENERAL REPORTING PROTOCOL
N2O	0.0037	lb/MWh	CCAR GENERAL REPORTING PROTOCOL
CO2e	795.0877	lb/MWh	
CO2e	**0.3606**	**metric ton/MWh**	

Transportation and Area Sources – URBEMIS Results 2025

9/22/2009 10:57:51 AM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\2025 Operational.urb924

Project Name: 2025 Operational

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	45,516.41

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	335,235.11

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	380,751.52

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	CO2
Natural Gas	37,890.27
Hearth	7,607.01
Landscape	19.13
Consumer Products	
Architectural Coatings	
TOTALS (tons/year, unmitigated)	45,516.41

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	CO2
Single family housing	29,070.13
Apartments low rise	28,264.30
Apartments mid rise	14,184.93
Apartments high rise	2,215.04
Elementary school	20,958.09
Junior high school	7,122.41
Place of worship	1,595.91
City park	199.29
Supermarket	193,407.06

Office park	38,147.61
Well SIte/Electric Substation	4.22
Fire Station	43.37
Water Tank Storage	5.42
Wastewater Treatment	13.15
Solid Waste Recycling/ Recycle Center	4.18
TOTALS (tons/year, unmitigated)	335,235.11

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2025 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	484.60	9.00	dwelling units	2,417.00	21,753.00	162,826.91
Apartments low rise	261.60	9.00	dwelling units	2,350.00	21,150.00	158,313.30
Apartments mid rise	66.10	6.50	dwelling units	1,633.00	10,614.50	79,452.32
Apartments high rise	34.30	6.50	dwelling units	255.00	1,657.50	12,406.82
Elementary school		14.49	1000 sq ft	1,568.16	22,722.64	117,383.33
Junior high school		13.78	1000 sq ft	522.72	7,203.08	39,984.52
Place of worship		9.30	1000 sq ft	182.95	1,701.44	9,001.01
City park		2.20	acres	89.90	197.78	1,125.38
Supermarket		35.00	1000 sq ft	7,587.28	265,554.79	1,082,730.48
Office park		17.70	1000 sq ft	1,720.62	30,454.98	213,919.28

Well SIte/Electric Substation	2.50	acres	1.40	3.50	23.93
Fire Station	3.00	acres	12.00	36.00	246.19
Water Tank Storage	2.50	acres	1.80	4.50	30.77
Wastewater Treatment	4.96	acres	2.20	10.91	74.62
Solid Waste Recycling/ Recycle Center	4.96	acres	0.70	3.47	23.74
				383,068.09	1,877,542.60

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	40.3	0.0	100.0	0.0
Light Truck < 3750 lbs	13.9	0.0	97.8	2.2
Light Truck 3751-5750 lbs	22.4	0.0	100.0	0.0
Med Truck 5751-8500 lbs	11.0	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	76.9	23.1
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.0	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	34.5	65.5	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6

Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0
Junior high school				20.0	10.0	70.0
Place of worship				3.0	1.5	95.5
City park				5.0	2.5	92.5
Supermarket				2.0	1.0	97.0
Office park				48.0	24.0	28.0
Well SIte/Electric Substation				2.0	1.0	97.0
Fire Station				2.0	1.0	97.0
Water Tank Storage				2.0	1.0	97.0
Wastewater Treatment				2.0	1.0	97.0
Solid Waste Recycling/ Recycle Center				2.0	1.0	97.0

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Projects\Roseville Sierra Vista Specific Plan\Subconsultant\2035 Cumulative Operational.urb924

Project Name: 2035 Cumulative Operation

Project Location: Placer County APCD

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	60,616.59

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	412,930.68

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	CO2
TOTALS (tons/year, unmitigated)	473,547.27

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	CO2
Natural Gas	49,168.49
Hearth	11,424.35
Landscape	23.75
Consumer Products	
Architectural Coatings	
TOTALS (tons/year, unmitigated)	60,616.59

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	CO2
Single family housing	38,362.18
Apartments low rise	48,109.95
Apartments mid rise	22,168.31
Apartments high rise	2,681.51
Elementary school	28,108.31
Junior high school	7,163.93
Place of worship	1,605.40
City park	329.36
Supermarket	237,412.17

Office park	25,056.16
Fire Station	1,900.27
Well Sites/Electric Substation	4.24
Solid Waste Recycle/ Recycle Center/Wastewater treatment	23.44
Water Tank Storage	5.45
TOTALS (tons/year, unmitigated)	412,930.68

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	635.90	9.00	dwelling units	3,172.00	28,548.00	213,689.27
Apartments low rise	397.80	9.00	dwelling units	3,978.00	35,802.00	267,987.37
Apartments mid rise	114.40	6.50	dwelling units	2,538.00	16,497.00	123,484.38
Apartments high rise	42.50	6.50	dwelling units	307.00	1,995.50	14,936.84
Elementary school		14.49	1000 sq ft	2,090.88	30,296.85	156,511.10
Junior high school		13.78	1000 sq ft	522.72	7,203.08	39,984.52
Place of worship		9.30	1000 sq ft	182.95	1,701.44	9,001.01
City park		2.20	acres	147.70	324.94	1,848.93
Supermarket		35.00	1000 sq ft	9,256.50	323,977.50	1,320,933.84
Office park		17.70	1000 sq ft	1,123.85	19,892.15	139,724.74
Fire Station		3.00	1000 sq ft	522.72	1,568.16	10,723.90

Well Sites/Electric Substation	2.50	acres	1.40	3.50	23.93
Solid Waste Recycle/ Recycle Center/Wastewater treatment	4.96	acres	3.90	19.34	132.28
Water Tank Storage	2.50	acres	1.80	4.50	30.77
				467,833.96	2,299,012.88

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.8	1.3	98.4	0.3
Light Truck < 3750 lbs	14.2	2.8	88.7	8.5
Light Truck 3751-5750 lbs	22.4	0.9	98.7	0.4
Med Truck 5751-8500 lbs	11.0	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.6	0.0	73.1	26.9
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	44.4	55.6
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.5	67.3	32.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.3	0.0	84.6	15.4

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0

% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Elementary school				20.0	10.0	70.0
Junior high school				20.0	10.0	70.0
Place of worship				3.0	1.5	95.5
City park				5.0	2.5	92.5
Supermarket				2.0	1.0	97.0
Office park				48.0	24.0	28.0
Fire Station				2.0	1.0	97.0
Well Sites/Electric Substation				2.0	1.0	97.0
Solid Waste Recycle/ Recycle Center/Wastewater treatment				2.0	1.0	97.0
Water Tank Storage				2.0	1.0	97.0

Alternative 1, 2, and 3 GHG Emissions - Unmitigated

UNMITIGATED

Alternative 1

Buildout (2025)	CO_2	CH_4	N_2O	CO_2e
Water	1,749.90	0.01	0.01	1,753.22
Wastewater	695.54	0.01	0.00	695.75
Solid Waste	-	136.96	-	2,876.20
Area Sources	27,330.33	-	-	27,330.33
Electricity	65,924.15	0.60	0.31	66,032.98
Transportation	248,180.00	-	-	260,589.00
Total	343,879.92	137.58	0.32	359,277.48

Alternative 2

Buildout (2025)				
Water	1,294.50	0.01	0.01	1,296.95
Wastewater	514.53	0.01	0.00	514.68
Solid Waste	-	101.32	-	2,127.69
Area Sources	24,852.21	-	-	24,852.21
Electricity	48,767.84	0.44	0.23	48,848.35
Transportation	225,911.09	-	-	237,206.65
Total	301,340.18	101.78	0.24	314,846.54

Alternative 3

Buildout (2025)				
Water	1,309.47	0.01	0.01	1,311.95
Wastewater	520.48	0.01	0.00	520.63
Solid Waste	-	102.49	-	2,152.30

Notes on Alternatives GHG Estimates

All numbers adjusted according to 2.54 persons per dwelling unit estimate included in project description. As different numbers of dwelling units changed for each alternative, the total population changed. Therefore, all greenhouse gas emissions are based on original GHG emission estimates for 2025 and adjusted on a per capita, or per dwelling unit basis.

Sources:

Sierra Vista Specific Plan Technical Dry Utilities Study (2009)

http://www.eia.doe.gov/emeu/cbecs/pba99/lodging/lodgingbtu.html

http://www.energy.ca.gov/2005publications/CEC-500-2005-031/CEC-500-2005-031.PDF

http://www.energy.ca.gov/2005publications/CEC-500-2005-031/CEC-500-2005-031.PDF

http://www.arb.ca.gov/cc/inventory/doc/docs4/4a1_landfills_landfillemissions_landfillgas_ch4_2006.ht

http://www.dof.ca.gov/research/demographic/reports/estimates/e-4/2001-09/

Area Sources	31,841.96	-	-	31,841.96
Electricity	49,331.81	0.45	0.23	49,413.25
Transportation	276,337.99	-	-	290,154.89
Total	359,341.70	102.95	0.24	375,394.98

Alternative 1, 2, and 3 GHG Emissions - Mitigated

MITIGATED

Alternative 1

Buildout (2025)	CO_2	CH_4	N_2O	CO_2e
Water	1,749.90	0.01	0.01	1,753.22
Wastewater	695.54	0.01	0.00	695.75
Solid Waste	-	136.96	-	2,876.20
Area Sources	27,330.33	-	-	27,330.33
Electricity	65,924.15	0.60	0.31	66,032.98
Transportation	223,362.00	-	-	234,530.10
Total	319,061.92	137.58	0.32	333,218.58

Alternative 2

Buildout (2025)				
Water	1,294.50	0.01	0.01	1,296.95
Wasewater	514.53	0.01	0.00	514.68
Solid Waste	-	101.32	-	2,127.69
Area Sources	24,852.21	-	-	24,852.21
Electricity	48,767.84	0.44	0.23	48,848.35
Transportation	203,319.98	-	-	214,021.03
Total	278,749.07	101.78	0.24	291,660.93

Alternative 3

Buildout (2025)				
Water	1,309.47	0.01	0.01	1,311.95
Wastewater	520.48	0.01	0.00	520.63
Solid Waste	-	102.49	-	2,152.30
Area Sources	31,841.96	-	-	31,841.96
Electricity	49,331.81	0.45	0.23	49,413.25
Transportation	248,704.19	-	-	261,793.89
Total	331,707.91	102.95	0.24	347,033.97

APPENDIX 3.4

Biological Resources Documentation

Effects of Changed Water Management Operations on Fisheries and Water Quality Impacts Previously Disclosed in the Water Forum Proposal EIR

SIERRA VISTA SPECIFIC PLAN EIR TECHNICAL MEMORANDUM: EFFECTS OF CHANGED WATER MANAGEMENT OPERATIONS ON FISHERIES AND WATER QUALITY IMPACTS PREVIOUSLY DISCLOSED IN THE WATER FORUM PROPOSAL EIR

Prepared for:

City of Roseville
Environmental Utilities Department

Prepared by:

ROBERTSON - BRYAN, INC.
Solutions for Progress

and

HDR

October 2009

SIERRA VISTA SPECIFIC PLAN EIR TECHNICAL MEMORANDUM: EFFECTS OF CHANGED WATER MANAGEMENT OPERATIONS ON FISHERIES AND WATER QUALITY IMPACTS PREVIOUSLY DISCLOSED IN THE WATER FORUM PROPOSAL EIR

Prepared for:

City of Roseville
Environmental Utilities Department
2005 Hilltop Circle
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1.1 Background

1.1.1 Sierra Vista Specific Plan

The Sierra Vista Specific Plan (SVSP) is an approximately 2,064 acre mixed-use development project plan proposed in Placer County, California, south and west of the City of Roseville (City). The project site is located approximately 5 miles west of downtown Roseville, 6 miles west of Interstate 80 and State Route 65, and 10 miles northeast of the City of Sacramento. The proposed specific plan project (Project) would include development of a mix of land uses, including 6,650 residential units, approximately 216 acres of commercial and office uses, approximately 61 acres of public/quasi-public, 267 acres of open space uses, and 97 acres of parks. The majority of the proposed project site, which is currently undeveloped annual grasslands that were historically used for seasonal cattle grazing, is within the City's Sphere of Influence, which was expanded in 2004, as part of the West Roseville Specific Plan (WRSP) annexation.

1.1.2 Water Supply for the Sierra Vista Development

The City is a signatory to the Water Forum Agreement (WFA), which provides a framework for future surface water and groundwater supplies in the region through the year 2030. The City's WFA specifies the maximum allowable surface water diversions based on unimpaired flows into Folsom Lake with diversions by the City restricted during drier and driest years, with the objective of supporting environmental needs in the lower American River (LAR).

Although the City's water contract entitlements total 66,000 acre-feet per year (AFY), the diversions from the American River are limited by the WFA to 58,900 AFY in normal/wet years. This includes 54,900 AFY of diversion by the City of Roseville plus 4,000 AFY of San Juan Water District water from PCWA's Middle Fork Project that is reallocated to the City during normal/wet years. In critically dry years, the maximum City diversion from the American River is limited to 39,800 AFY with a requirement for an additional 20,000 AFY of water to be made available for release by Placer County Water Agency (PCWA) through re-operation of its Middle Fork project. In drier years, the City may divert an amount between 58,900 and 39,800 AFY from the American River based on unimpaired flow into Folsom Lake with similar release requirements from PCWA.

At buildout of the City's current General Plan, water demands are estimated to reach approximately 58,582 AFY. The Project would include development of new residential, commercial, business professional, and school uses that would require water. The total water demand for the Project is estimated to be 3,612 AFY, which includes 2% for system loss, 4 AFY (with losses) for the Urban Reserve parcels, and a water demand reduction of 729 AFY for water conservation measures. Implementation of the SVSP project in combination with projected water demand for buildout of the City would be 62,194 AFY (58,582 AFY + 3,612 AFY). By subtracting the City's anticipated recycled water usage at buildout of 4,388 AFY (i.e., 563 AFY for SVSP and 3,825 AFY for other City areas) from the City's "with-Project" demand of 62,194 AFY, the net with-SVSP surface water demand is 57,806 AFY.

In a normal water year, the WFA assumes there is 58,900 AFY available from the American River. Although buildout demand are not expected to reach 58,900 AFY (but rather 57,806 AFY), to allow for a conservative CEQA approach, the City assumes a buildout 58,900 AFY, the amount allotted to the City via the WFA, as the City plus Project net buildout water demand.

Based on over 107 years of historical hydrology (and WFA restrictions), the 58,900 AFY contract surface water supply is assumed to be available to the City in about 83 percent of the years. In about 17 percent of the years, quantities from 58,900 AFY to a minimum of 39,800 AFY of surface water would be available per the WFA. Thus, in drought years, supplemental supplies potentially totaling up to 19,100 AFY (the difference between the average/wet year supply and the dry year supply) is needed to make up for the dry year and critically dry year deficiencies.

To meet water supply demands during dry and critically dry years, the City may utilize other supplies like recycled water and groundwater and implement the water conservation strategies outlined in the Roseville Municipal Code (RMC). Recycled water offsets the use of surface water supplies by reducing the City's reliance on American River supplies by filling irrigation demands that would otherwise use surface water supplies. Groundwater is used to make up any additional water supply shortfall. The RMC identifies "stages" of conservation designed to achieve a specific amount of reduction in water use to match available supplies for that year and outlines five drought stages with specific actions a water customer can implement to achieve a 10 to 50 percent water reduction.

Because the City's "with-Project" net buildout water demand is less than the amount of water allotted to the City in the WFA, and because the City can utilize recycled water, groundwater and water conservation strategies to offset potential decreases in American River water during dry and critically dry years, the water supply for the Project falls within the City's 2030 demand as agreed to under the WFA and as assessed, for CEQA purposes, under the Water Forum Proposal Environmental Impact Report (WFP EIR) which was certified in 1999.

1.1.3 Sierra Vista Specific Plan (Project) EIR

Pursuant to CEQA, the City is preparing an EIR for the Project that evaluates the environmental impacts of the Project. The SVSP EIR examines the potential effects of a proposed project that includes: 1) amending a 2,064-acre area, immediately west of the City corporate boundaries, north of Baseline Road, west of Fiddyment Road in unincorporated Placer County into the City's jurisdiction (annexation); 2) expanding approximately 353 acres of the City's sphere of influence (SOI) over a small portion of the western boundary, and 3) adopting the SVSP and associated entitlements. The EIR includes extensive analysis of the potential environmental impacts of the water supply strategy for the Project.

The water supply section of the Administrative Draft SVSP EIR (ADEIR) relies heavily upon the WFP EIR, which was certified in October 1999, for addressing project-specific impacts associated with supplying water to the Sierra Vista development, as discussed above. Although water supply for the City at buildout, including the 3,612 AFY for the Project, still fall within the 58,900 AFY American River demand allocated to the City under the Water Forum Agreement,

the ADEIR needs to include discussion that fully complies with the California Supreme Court's 2007 decision in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (40 Cal.4th 412) and confirms or updates the impact determinations of the WFP EIR based upon current regional water supply issues/changed conditions.

1.2 Purpose and Intended Use of this Document

This Technical Memorandum (TM) addresses changed water supply/water management conditions in the region and evaluates whether these changed conditions and Central Valley Project (CVP) and State Water Project (SWP) operations would make the impacts to fisheries resources and water quality from the WFA demands (which include diversion of the City's full American River demand) more severe than previously disclosed in the WFP EIR. Specifically, this TM has two main purposes:

- Identify potential and reasonably foreseeable changes in CVP/SWP operations resulting from changed water supply/water management conditions and decisions (such as the recent NOAA Fisheries and USFWS Biological Opinions on the Operations Criteria and Plan (OCAP)), and any associated changes in:
    - system hydrology, and
    - the probable quantity and dry-year reliability of deliveries under the WFA, and Roseville's purveyor-specific agreement in particular.
- Identify, on a qualitative basis, any changes in the severity of the project-specific fisheries and water quality impacts that were identified in the WFP EIR, and identify any new and thus previously undisclosed fisheries or water quality impacts associated with the City's use of its American River supply, part of which will be used to meet the SVSP Project demand.

Findings from these assessments will be used to either validate the reliance of the SVSP EIR on the WFP EIR for assessing the fisheries and water quality impacts of the City's full buildout water supply demand on the American River, lower Sacramento River, and Delta, or determine that updates to the previous WFA project-specific impacts determinations are warranted, due to changed regional hydrologic and water supply conditions.

2 Recent Regulatory Decisions and other Proposed Actions that may Affect Future CVP/SWP Operations

The one constant in the universe of California water is that there is constant change responding to policy, regulatory, and judicial decisions. The ten years that have passed since the WFP EIR was prepared in 1999 have been a particularly dynamic period in the history of Central Valley Project (CVP) water operations. A listing of significant events during this period that affected CVP operations includes the following.

- 1999 - San Joaquin River Agreement; Agreement for providing San Joaquin River flows and exports
- 1999 - Department of Interior (DOI) Final Decision Accounting of Central Valley Improvement Project (CVPIA) 3406 (b)(2); Defined metrics and accounting for CVPIA 3406(b)(2) operations
- 2000 - State Water Resources Control Board (SWRCB) Revised Water Right Decision 1641; Revised order to provide for operations of the CVP and SWP to protect Bay-Delta water quality
- 2000 - CALFED Record of Decision (ROD); Presented a long-term plan and strategy designed to fix the Bay-Delta
- 2000 - Trinity River ROD; Defined minimum flow regime of 369,000 acre-feet in critical dry years ranging up to 816,000 acre-feet in wet years
- 2001 - CVPIA ROD; Implemented provisions of CVPIA including allocating 800,000 acre-feet of CVP yield for environmental purposes
- 2001 - National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) Biological Opinion for Spring-Run Chinook Salmon and Steelhead; Established criteria for operations to protect spring-run chinook salmon and steelhead
- 2002 - NOAA Fisheries Biological Opinion for Spring-Run Chinook Salmon and Steelhead; Established criteria for operations to protect spring-run chinook salmon and steelhead
- 2003 - Revised DOI Final Decision Accounting of CVPIA 3406 (b)(2); Defined metrics and accounting for CVPIA 3406(b)(2) operations
- 2004 - NOAA Fisheries Biological Opinion for Spring-Run Chinook Salmon and Steelhead; Established criteria for operations to protect spring-run chinook salmon and steelhead
- 2005 - U.S. Fish and Wildlife Service (USFWS) Biological Opinion for Reinitiation of Formal and Early Section 7 Endangered Species Consultation on the Coordinated Operations of the Central Valley Project and State Water Project and the Operational Criteria and Plan to Address Potential Critical Habitat Issues
- 2007 - Judge Wanger issued a summary judgment that invalidated the 2005 USFWS Biological Opinion and ordered a new biological opinion be developed by September 15, 2008
- 2007 - Judge Wanger issued an interim order to direct actions at the export facilities to protect delta smelt until a new biological opinion is completed
- 2008 - USFWS Biological Opinion on the effects of the continued operation of the Federal Central Valley Project and the California State Water Project on the delta smelt and its designated critical habitat
- 2008 - Judge Wanger issued a memorandum decision and order that invalidated the 2004 NOAA Fisheries Biological Opinion and ordered a new biological opinion be developed
- 2009 – NOAA Fisheries Biological Opinion and Conference Opinion on the Long-Term Operations of the Central Valley Project and State Water Project

While this inventory of actions illustrates the many changes affecting operations of the CVP and SWP, implementation of most of them have been shown through quantitative analyses, to be

achievable within the flexibility of CVP/SWP operations contemplated in the WFP EIR. However, effects of the most recent actions, specifically the 2008 and 2009 OCAP Biological Opinions and the 2007 Wanger Decision are not yet quantifiable (at the time this Technical Memorandum was prepared) with existing analysis tools and, therefore, can only be assessed on a qualitative basis at this time.

2.1 USFWS Biological Opinion on the OCAP and Wanger Decisions

The operation of CVP/SWP is described in the OCAP. As updated in 2004, the OCAP provides a detailed description of the coordinated operations of the CVP and SWP based on historical data and serves as a starting point for planning project operations in the future. Under the federal Endangered Species Act (ESA), USFWS must produce formal Biological Opinions analyzing the impact of OCAP implementation on ESA-listed species (including the delta smelt). In effect, the ESA authorizes USFWS to require changes to the OCAP for the protection of the delta smelt and other federally listed species.

In 2005, USFWS issued a Biological Opinion for OCAP, and concluded that CVP/SWP operations did not jeopardize delta smelt populations. However, that opinion was struck down by a federal judge (Judge Wanger) following a lawsuit filed by environmentalists. USFWS was ultimately ordered to revise the Biological Opinion. The court also severely restricted CVP and SWP pumping in the Delta (Wanger Decision) pending the USFWS's completion of the new Biological Opinion. Those restrictions took effect in December 2007.

In December 2008, USFWS released a new Biological Opinion concluding that CVP and SWP operations would jeopardize the continued existence of endangered delta smelt. USFWS further detailed a "reasonable and prudent alternative" (RPA) to the proposed OCAP protocol that would, it claimed, protect the delta smelt and its habitat from the adverse effects of pumping operations. The "reasonable and prudent alternative" would restrict Delta pumping operations and would thus limit deliveries of water to CVP/SWP contractors south of the Delta. Extrapolating from the text of the RPA there are several Actions (1, 2, and 3) that will affect Delta exports by virtue of limitations on Old and Middle River ("OMR") flows, and Action 4 requiring additional X2[1] flows in the fall months that will affect reservoir releases.

2.2 NOAA Fisheries Biological Opinion on the OCAP

Like the USFWS, under the ESA, NOAA Fisheries must produce a formal Biological Opinion analyzing the impact of OCAP implementation on ESA-listed species under NOAA's jurisdiction, in this case including; endangered Sacramento River winter-run chinook salmon, threatened Central Valley spring-run chinook salmon, threatened Central Valley steelhead, and threatened Southern Distinct Population Segment (DPS) of North American green sturgeon. As

[1] X2 is the location of the 2 parts per thousand salinity contour (isohaline), one meter off the bottom of the estuary, as measured in kilometers upstream from the Golden Gate Bridge. The abundance of several estuarine species has been correlated with X2. Maintaining the location of X2 is accomplished via Project reservoir releases that increase inflow to the Delta thus "pushing" X2 towards the Golden Gate Bridge.

stated earlier, in effect, the ESA authorizes NOAA Fisheries to require changes to the OCAP for the protection of the federally listed species identified above.

In October 2004, NOAA Fisheries issued a Biological Opinion for OCAP, and concluded that CVP/SWP operations were not likely to jeopardize the continued existence of the Sacramento River winter-run chinook salmon, spring-run chinook salmon, and Central Valley steelhead populations. In April, 2008, that opinion was struck down by a federal judge (Judge Wanger) following a lawsuit filed by Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, and others. The court found that NOAA Fisheries failed to analyze multiple factors and the 2004 Biological Opinion was remanded to NOAA Fisheries and the Reclamation for further consultation.

In June 2009, NOAA Fisheries released a new Biological Opinion concluding that CVP and SWP operations would jeopardize the continued existence of endangered Sacramento River winter-run chinook salmon, threatened Central Valley spring-run chinook salmon, threatened Central Valley steelhead, threatened Southern Distinct Population Segment (DPS) of North American green sturgeon, and Southern Resident killer whales. NOAA Fisheries further detailed a "reasonable and prudent alternative" to the proposed OCAP protocol that would, it claimed, protect these species and their habitat from the adverse effects CVP/SWP. The "reasonable and prudent alternative" would restrict Delta pumping operations and NOAA Fisheries estimated that deliveries of water to CVP/SWP contractors south of the Delta would be reduced by 5% to 7% of average annual exports. The RPA includes multiple actions applied to various CVP-influenced watersheds.

2.3 Other Reasonably Foreseeable Actions that may Affect CVP/SWP Operations

The foregoing listed and described actions are primarily the result of federal regulatory requirements. Other, reasonably foreseeable actions and initiatives that can potentially affect CVP/SWP operations include:

- El Dorado Water & Power Authority (EDWPA) Supplemental Water Supply Project. This project proposes to perfect water rights senior to U.S. Bureau of Reclamation (Reclamation) water rights, and would divert 40,000 acre-feet of water upstream of, or directly from Folsom Reservoir, thereby potentially reducing the CVP water supply to others in the American River basin.
- Bay Delta Conservation Plan (BDCP). The Bay Delta Conservation Plan is a planning and environmental permitting process to restore habitat for Delta fisheries in a way that reliably delivers water supplies to 25 million Californians. The BDCP is:
    - identifying conservation strategies to improve the overall ecological health of the Delta;
    - identifying ecologically friendly ways to move fresh water through and/or around the Delta; and
    - addressing toxic pollutants, invasive species, and impairments to water quality.

The BDCP is being developed under the federal ESA and the California Natural Community Conservation Planning Act (NCCPA) and will undergo extensive environmental analysis that will include opportunities for public review and comment. As the BDCP evaluates alternatives necessary to restore the Delta ecosystem while providing water supply reliability, state and federal agencies are developing a joint Environmental Impact Report/Statement (EIR/EIS) to determine the environmental impacts of the BDCP. Presently, the alternatives are being formulated but are not yet public. The draft EIR/EIS is expected to be ready for public review and comment no sooner than early 2010.

- Folsom Flood Control. The Corps of Engineers has been directed by Congress to update the Folsom Dam and Reservoir Water Control Manual to recognize the Auxiliary Spillway presently under construction at Folsom Dam. The implementation of the new spillway will reduce the risk of flooding in Sacramento, compared to the existing interim flood control operation, while potentially increasing water supplies to CVP contractors.

- Climate Change. Two aspects of climate change directly affecting CVP/SWP operations are of concern: 1) sea level rise, and 2) changes to the temporal/spatial/state (rain or snow) distribution of precipitation. The CALFED has a strong science program that assists in narrowing uncertainty in climate impacts so the best information is available on water issues to policy-makers. For example, the CALFED Independent Science Board (ISB) recently prepared a memo recommending which sea level rise projections are most appropriate for ongoing Delta planning. In addition, the CALFED Science Program has funded an effort to develop and apply a model-based approach for evaluating plausible future scenarios of the Bay-Delta-River-Watershed system. The Department of Water Resources (DWR) is developing a policy considering its existing demands in managing water resources for the state with meeting the state's climate policy goals. Despite the numerous on-going activities, this information cannot yet be quantified as effects on the CVP/SWP.

- Interagency Ecological Program (IEP). A consortium of nine state and federal agencies has been monitoring aquatic organisms and water quality in the San Francisco estuary for decades. Since late 2004, scientific and public attention has focused on the unexpected decline of several pelagic (open-water) fishes (delta smelt, longfin smelt, striped bass, and threadfin shad) in the freshwater portion of the estuary known as the Delta.

  This decline has collectively become known as the Pelagic Organism Decline (POD). In 2005, the IEP formed a multi-agency POD Management Team tasked with designing and managing a comprehensive study to evaluate the causes of the decline and to synthesize and report the results. The causes under investigation include stock-recruitment effects, a decline in habitat quality; increased mortality rates; and reduced food availability due to invasive species.

  The SWRCB continues to hold workshops and receive information regarding POD, climate change, and San Joaquin salinity and flows, and will coordinate updates of the Bay-Delta Plan with on-going development of the comprehensive Salinity Management Plan.

The effects of the preceding list of actions and initiatives on the CVP/SWP are, at this time, insufficiently defined to allow quantifiable identification of probable effects on CVP/SWP operations.

3 Implications of Recent Regulatory Decisions and Other Proposed Actions to CVP/SWP Operations and Resulting System Hydrology

3.1 Effects on CVP/SWP Operations

In the years following the certification of the WFP EIR, numerous regulatory and development actions have occurred that altered, to some extent, the operation of the CVP/SWP, and a list of many of those actions is presented in Section 2. This section reviews changes in operations with respect to a baseline consistent with that described as the "Water Forum Agreement" in the WFP EIR.

Defining the changes would be straightforward if unambiguous modeling studies were available to describe the progression of events from 1999 to present. Unfortunately, such is not the case. So many changes have been made to the modeling tools and basic underlying hydrologic input during the last ten years, that quantitative comparisons to identify the effects of a single action are not possible. Consequently, we are left with bits and pieces of information gleaned from previous analyses and inferences based on the opinions of Project operators and professional opinion. Where possible, quantifiable effects are reported in the following sections; however, much of what is expressed is, by necessity, qualitative, though it reflects the professional opinions of sophisticated observers immediately familiar with the CVP/SWP operations.

3.1.1 Key Changes to Existing Condition CVP/SWP Operations Compared to that Used for the WFP EIR

Identifying assumption changes in the modeled Base Condition for the WFP EIR, with those applied in present "Current Condition" modeling, can be achieved by looking at the modeling technical support documents. For this purpose it is appropriate to compare the PROSIM Model WFP EIR assumptions with the CALSIMII 2008 OCAP Biological Assessment Study 7.0 assumptions (**Table 3-1**). Study 7.0 captures all of the intervening regulatory changes occurring between 1999 and 2008, but does not include the Wanger Decision, USFWS 2008 OCAP Biological Opinion, or NOAA Fisheries 2009 OCAP Biological Opinion.

Because this study was prepared during the development of Reclamation's Biological Assessment for the OCAP, it does not contain the subsequent RPAs identified by USFWS and NOAA Fisheries in their respective Biological Opinions. Reclamation in concert with DWR, USFWS, and NOAA Fisheries is presently working on modifying the CALSIMII analytical model to incorporate the RPAs into the modeling code. This activity is not yet complete and is, therefore, unavailable for operations analyses. Thus, the best model information available is that contained in Study 7.0., consequently, this best available information was used in support of this TM.

Table 3-1. Existing Conditions.

	WFP EIR 1999	OCAP BA Study 7.0 2008
Model	PROSIM	CALSIMII
Period of Simulation	1922 - 1991	1922 - 2003
SWP Demands	Variable 3.6 Million Acre Feet (MAF)/Yr	Variable 3.1 - 4.2 MAF/Yr
CVP Demands		
North of Delta	Based on 1995 Land Use & Max Historic Use	Land-use based, limited by contract amounts
American River	WFA Current Use Estimate	Land-use based, limited by contract amounts
EBMUD	0	0
South of Delta	3.1 MAF	3.5 MAF
CVP Water Allocation		
CVP Settlement / Exchange	100% - 75% Based on Shasta Index	100% - 75% Based on Shasta Index
CVP Ag	100% - 10% Based on Supply	100% - 0% Based on Supply
CVP M&I	100% - 50% Based on Supply	100% - 50% Based on Supply
Refuge	100% - 50% Based on Supply	100% - 75% Based on Shasta Index
Instream Flow Requirements		
Trinity River	340 Thousand Acre Feet (TAF)	Trinity EIS Preferred Alternative (369-815 TAF/year)
Sacramento River	November 20, 1997 AFRP	Flows for SWRCB WR 90-5 temperature control, and USFWS discretionary use of CVPIA 3406(b)(2)
Clear Creek	November 20, 1997 AFRP	Downstream water rights, 1963 USBR Proposal to USFWS and NPS, and USFWS discretionary use of CVPIA 3406(b)(2)
Yuba River	Available Yuba River Data	Yuba Accord Adjusted Data
American River	November 20, 1997 AFRP	Minimum Instream Flow Management Standard
Delta Requirements	Delta Accord	SWRCB D-1641
Temperature Modeling		
Optimal Cold Water Pool Management	Yes	Yes
Folsom Lake TCD	No	Yes
Flood Control at Folsom	400/670	400/670
Hydrology	160-98 (PROSIM)	160-98 (CALSIMII)

EBMUD = East Bay Municipal Utility District.
AFRP = USFWS Anadromous Fish Restoration Program.
TCD = Urban water intake temperature control device.
OCAP BA + Operations Criteria and Plan Biological Assessment.

3.1.2 Key Changes to the 2030 Cumulative Condition CVP/SWP Operations Compared to that Used for the WFP EIR

Identifying assumption changes in the modeled Cumulative Condition for the WFP EIR, with those applied in present Future Condition modeling, can be achieved by looking at the modeling technical report descriptions. For this purpose it is appropriate to compare the PROSIM Model WFP EIR assumptions with the CALSIMII 2008 OCAP Biological Assessment Study 8.0 assumptions (**Table 3-2**). Study 8.0 captures all of the intervening regulatory changes occurring between 1999 and 2008, foreseeable future projects, but does not include the Wanger Decision, USFWS 2008 OCAP Biological Opinion, or NOAA Fisheries 2009 OCAP Biological Opinion. This is because the effects of the USWFS Biological Opinion on CVP/SWP operations were not fully understood or integrated into modeling Study 8.0 in 2008 when the modeling was performed, and because the NOAA Fisheries 2009 OCAP Biological Opinion was not available at the time.

Moreover, there are additional anticipated future events/actions that have been identified for which there is no explicit data available to compare, specifically the BDCP, EDWPA Supplemental Water Supply Project, and climate change. Therefore, quantifying their effects on CVP/SWP operations under the future cumulative conditions is not currently possible. **Because the BDCP, EDWPA Supplemental Water Supply Project and climate change would collectively have profound effects on CVP/SWP operations and resulting system hydrology, yet these effects remain unclear at this time, the future cumulative condition that includes these actions/phenomena remains speculative at this time.**

Table 3-2. Cumulative Conditions.

	WFP EIR 1999	Study 8.0 2008
Model	PROSIM	CALSIMII
Period of Simulation	1922 - 1991	1922 - 2003
SWP Demands	Variable 4.2 MAF/Yr.	Variable 3.1 - 4.2 MAF/Yr
CVP Demands		
North of Delta	Based on 2020 Land Use & Max Historic Use	Land-use based, full build out of CVP contract amounts
American River	WFA	Land-use based, limited by contract amounts
EBMUD	EBMUD 8/3/98 Proposal	133 TAF
South of Delta	3.1 MAF	3.5 MAF
CVP Water Allocation		
CVP Settlement / Exchange	100% - 75% Based on Shasta Index	100% - 75% Based on Shasta Index
CVP Ag	100% - 10% Based on Supply	100% - 0% Based on Supply
CVP M&I	100% - 50% Based on Supply	100% - 50% Based on Supply
Refuge	100% - 50% Based on Supply	100% - 75% Based on Shasta Index
Instream Flow Requirements		
Trinity River	390 - 750 TAF	Trinity EIS Preferred Alternative (369-815 TAF/year)
Sacramento River	November 20, 1997 AFRP	Flows for SWRCB WR 90-5 temperature control, and USFWS discretionary use of CVPIA 3406(b)(2)
Clear Creek	November 20, 1997 AFRP	Downstream water rights, 1963 USBR Proposal to USFWS and NPS, and USFWS discretionary use of CVPIA 3406(b)(2)
Yuba River	Available Yuba River Data	Yuba Accord Adjusted Data
American River	November 20, 1997 AFRP	Minimum Instream Flow Management Standard
Delta Requirements	Delta Accord	SWRCB D-1641
Temperature Modeling		
Optimal Cold Water Pool Management	Yes	Yes
Folsom Lake TCD	Yes	Yes
Flood Control at Folsom	400/670	400/670
Hydrology	160-98 (PROSIM)	160-98 (CALSIMII)

EBMUD = East Bay Municipal Utility District.
AFRP = USFWS Anadromous Fish Restoration Program.
TCD = Urban water intake temperature control device.
OCAP BA = Operations Criteria and Plan Biological Assessment.
NPS= National Park Service.

3.2 Anticipated Changes to System Hydrology Compared to that Used for the WFP EIR

The information presented in **Table 3.1** identifies significant assumption changes between existing condition studies. Although the assumptions change, the effect on CVP/SWP operations may or may not be recognizable. In this section, quantitative and qualitative effects on current CVP/SWP operations are associated with the various assumption changes.

3.2.1 PROSIM to CALSIMII

Subsequent to the preparation of the 1999 WFP EIR, Reclamation and DWR completed the development and acceptance of a new CVP/SWP system-wide model that replaced the PROSIM model. The new model, now referred to as CALSIMII, incorporated new algorithms for surface and groundwater operations, as well as updated hydrology, which better characterized the CVP/SWP operations. The change in modeling tools affected CVP/SWP performance in a variety of ways due to hydrology and model logic differences. Work performed for the City of Roseville, at the time that the shift to CALSIMII occurred, concluded that:

- Statistically, Folsom Reservoir storage is lower in the PROSIM simulation during all examined periods of the year.
- Statistically, Nimbus Dam release is equivalent in the PROSIM and CALSIMII simulations during the October through November and July through September periods, and PROSIM releases are greater in the December through March and April through June periods.
- The two periods in which PROSIM releases are greater are those in which average monthly flows are greatest for both simulations.
- The frequency and magnitude of potential environmental impacts is typically relatively small during the December through June period.
- Statistically, Watt Avenue water temperature is higher in the PROSIM simulation during the April through June and July through September periods, equivalent to the CALSIMII simulation during the October through November period, and lower than the CALSIMII simulation during the December through March period.
- Every month of the December through March period is less than 54°F in both simulations. Although specific thermal requirements of anadromous salmonids vary by species and life stage, water temperatures $\leq$ 54°F are protective of all the life stages of anadromous salmonids present in the lower American River during this time period (Rich 1987; McCullough et al. 2001; NOAA Fisheries 1993, 2000, 2001, 2002);
- During the hottest months of the year (i.e., April through September), water temperatures are higher in the PROSIM simulation than the CALSIMII simulation. Because anadromous salmonids are coldwater species, the warmer temperatures of the PROSIM simulation suggest an increased number of negative effects on anadromous salmonids than would be identified in the CALSIMII simulation, therefore, providing a more conservative estimation of potential thermal impacts on these species.

In general, the switch from PROSIM to CALSIM affects simulated reservoir storages, reservoir releases and CVP/SWP deliveries to Project contractors. These changes, some of which are identified above, are mostly associated with the frequency for which a given storage/release/delivery parameter might be expected to occur. There is little difference in the

model results at the extremes of these parameters, but over the course of a modeled year or years, the balancing of available reservoir water sources and subsequent project operations are portrayed differently in response to the advances in modeling. CALSIMII best represents the current conditions/simulated operations for planning and assessment purposes.

3.2.2 Period of Simulation

The period of simulation for CALSIMII increased by 12 years by including the years 1992 through 2003. Of these 12 years, 2 years were classified as critical water years, 2 water years were dry, 0 (zero) were below normal, 3 years were above normal, and 5 were wet years. This distribution of year types is somewhat "wetter" than the 1922-1991 period, but the dry years were no drier than those in the 1922-1991 period and the wet years were no wetter than those in the 1922-1992 period.

- *Folsom Reservoir Storage:* not expected to have a significant effect on assumptions drawn from 1922-1991 period.
- *Lower American River Flows at Nimbus Dam:* not expected to have a significant effect on assumptions drawn from 1922-1991 period.
- *Other CVP Reservoir Storage:* not expected to have a significant effect on assumptions drawn from 1922-1991 period.
- *Lower Sacramento River Flow at Freeport:* not expected to have a significant effect on assumptions drawn from 1922-1991 period.
- *Delta Inflow:* not expected to have a significant effect on assumptions drawn from 1922-1991 period.

3.2.3 CVP Demands

CVP demands north of the Delta are essentially equivalent between the studies. South of Delta CVP demands are higher in recent modeling. These higher demands could affect Folsom Reservoir storage in some years by requiring additional release. However, because the inflow to storage ratio for Folsom Reservoir is quite high, Folsom is operated as an annual reservoir, meaning that it is not expected to store water for future years, but rather is operated to maintain at least minimally acceptable storage in the fall months in order to provide minimum levels of instream flows below Nimbus Dam, American River water rights deliveries, and flood protection for each upcoming winter. In nearly all years the storage will recover by the following spring. Other upstream CVP reservoirs do carry over storage as insurance for a following dry year. These reservoirs could experience lower storage but would remain within the range of operations identified in the WFP EIR.

- *Folsom Reservoir Storage:* not be expected to cause Folsom Reservoir storage levels to be outside the range identified in the WFP EIR.
- *Lower American River Flows at Nimbus Dam:* not be expected to cause American river flows outside the range identified in the WFP EIR.
- *Other CVP Reservoir Storage:* not be expected to cause other CVP reservoir storage levels to be outside the range identified in the WFP EIR.
- *Lower Sacramento River Flow at Freeport:* not be expected to cause Sacramento River flows at Freeport outside the range identified in the WFP EIR.

- *Delta Inflow:* not be expected to cause Delta Inflows outside the range identified in the WFP EIR.

3.2.4 SWP Demands

SWP demands south of the Delta are variable in recent modeling studies, being greater in some years and smaller in some years. SWP demands are met from surplus Delta inflow and releases from Oroville Reservoir. Effects of these demand changes on CVP operations are negligible.

- *Folsom Reservoir Storage:* effects on Folsom Reservoir storage are inconsequential.
- *Lower American River Flows at Nimbus Dam:* effects on American River flows are insignificant.
- *Other CVP Reservoir Storage:* effects on other CVP reservoir storages are insignificant.
- *Lower Sacramento River Flow at Freeport:* effects on Sacramento River flows at Freeport are insignificant.
- *Delta Inflow:* effects on Delta Inflow are insignificant.

3.2.5 CVP Water Allocations

CVP water allocations reflect the application of water shortages to CVP customers based on contract type. CVP water shortage policy has evolved through time in response in part to regulatory changes and to increased demands. Studies subsequent to the WFP EIR have assumed different shortage policies for agriculture and refuge water supplies. CVP M&I water shortage criteria has remained within the same 0% to 50% range; however, the frequency for which any given delivery allocation occurs within this range has changed. Generally, CVP allocations are higher in the WFP EIR as the result of the combination of modeling tool and assumption changes used for more recent modeling tends to reduce project flexibility in meeting system wide demands.

- *Folsom Reservoir Storage:* effects on Folsom Reservoir storage are insignificant.
- *Lower American River Flows at Nimbus Dam:* effects on American River flows are insignificant.
- *Other CVP Reservoir Storage:* effects on other CVP reservoir storages are insignificant.
- *Lower Sacramento River Flow at Freeport:* effects on Sacramento River flows at Freeport are insignificant.
- *Delta Inflow:* effects on Delta Inflow are insignificant.

3.2.6 Trinity River Flow Requirements

The Trinity River flows are somewhat lower in the WFP EIR modeling than in recent studies. With higher flow requirements in more recent studies, the availability for cross basin export to the Sacramento River is diminished, creating a potential for increased Shasta reservoir releases. This results in less water available for CVP project purposes. Because of the hierarchy of water user contracts, this would be expected to increase the frequency of export Ag water shortages. The effect on M&I water users is much less pronounced, although some additional shortages would be expected.

- *Folsom Reservoir Storage:* effects on Folsom Reservoir storage are insignificant.

- *Other CVP Reservoir Storage:* effects on other CVP reservoir storage are common but within the range of elevations identified in the WFP EIR.
- *Lower American River Flows at Nimbus Dam:* effects on American River Flows are insignificant.
- *Lower Sacramento River Flow at Freeport:* effects on Sacramento River flows at Freeport are common but within the range of flows identified in the WFP EIR.
- *Delta Inflow:* effects on Delta inflow are common but within the range of inflows identified in the WFP EIR.

3.2.7 Clear Creek Flow Requirements

In the WFP EIR, the USFWS Anadromous Fisheries Restoration Program (AFRP) Clear Creek flows were supported by CVPIA 3406(b)(2) water. These flows were subsequently made more permanent by CVPIA policy and USFWS Biological Opinions. The magnitude of any changes in Clear Creek flow requirements between studies, with respect to Sacramento River operations, is too small to influence overall CVP/SWP operations.

- *Folsom Reservoir Storage:* effects on Folsom Reservoir storage are insignificant.
- *Lower American River Flows at Nimbus Dam:* effects on American River flows are insignificant.
- *Other CVP Reservoir Storage:* effects on other CVP Reservoir storage are insignificant.
- *Lower Sacramento River Flow at Freeport:* effects on Sacramento River flow at Freeport are insignificant.
- *Delta Inflow:* effects on Delta inflows is insignificant.

3.2.8 Sacramento River Flow Requirements

The Sacramento River flow requirements are those necessary to meet a minimum level of flow and temperature performance. Frequently, flows exceed the minimums as a result of flood control, navigation, Delta water quality, or Delta export requirements. Although changes are to be expected in some months, the difference in CVP/SWP operations between the WFP EIR and more recent modeling caused by this assumption change is small.

- *Folsom Reservoir Storage:* effects on Folsom Reservoir storage are insignificant.
- *Lower American River Flows at Nimbus Dam:* effects on American River flows are insignificant.
- *Other CVP Reservoir Storage:* effects on other CVP reservoir storages are small, and within the range of elevations identified in the WFP EIR.
- *Lower Sacramento River Flow at Freeport:* effects on Sacramento River flow at Freeport are small, and within the range of flows identified in the WFP EIR.
- *Delta Inflow:* effects on Sacramento River flow are small, and within the range of inflow identified in the WFP EIR.

3.2.9 Yuba River Flow Requirements

The Yuba Accord combines increased instream fisheries flows with increased supplemental water supplies for export in the Delta. Because the Yuba River Accord was not in existence at

the time of the WFP EIR modeling it was not included. Effects of the accord are focused on the Yuba River, lower Sacramento River and Delta exports.

- *Folsom Reservoir Storage:* the Yuba Accord does not affect Folsom Reservoir operations.
- *Lower American River Flows at Nimbus Dam:* the Yuba Accord does not affect American River flows at Nimbus.
- *Other CVP Reservoir Storage:* the Yuba Accord effects on storage in other CVP reservoirs are occasional, but within the range identified in the WFP EIR.
- *Lower Sacramento River Flow at Freeport:* The Yuba Accord results in higher Sacramento River flows at Freeport.
- *Delta Inflow:* The Yuba Accord results in higher Delta inflow.

3.2.10 American River Flow Requirements

American River minimum flow requirements in the WFP EIR are quite different from current flows. Since the WFP EIR was certified, the Water Forum in conjunction with Reclamation and federal and state resource agencies developed a lower American River Flow Management Standard (FMS). Reclamation has voluntarily operated to the minimum instream flow component[2] of the FMS for the last two years and has represented in its modeling of American River operations for existing conditions, its intention to continue doing so. The FMS has two underlying co-equal objectives, providing a safe and reliable water supply for the region, and preserving the fishery, wildlife, recreational and aesthetic values of the lower American River. While different in magnitude from those flows contemplated in the WFP EIR, present FMS flows provide a level of compliance with the co-equal objectives equivalent to the WFP EIR.

It also is important to note, that just as is the case for Sacramento River flows, frequently meeting other CVP purposes causes flows in excess of the minimums. On the American River this is particularly evident in months outside of the fall (October through December period).

- *Folsom Reservoir Storage*: effects on Folsom storage are occasional, in most years lower storage is restored by reservoir inflow in the spring, and within the range of elevations identified in the WFP EIR.
- *Lower American River Flows at Nimbus Dam:* effects on American River flows are occasional, but within the range of flows identified in the WFP EIR.
- *Other CVP Reservoir Storage:* effects of on Other CVP storages are occasional, but within the range of elevations identified in the WFP EIR.
- *Lower Sacramento River Flow at Freeport:* effects on Sacramento River flows at Freeport are occasional, but within the range of flows identified in the WFP EIR.
- *Delta Inflow:* effects on Delta inflow are occasional, but within the range of flows identified in the WFP EIR.

[2] The flow component of the FMS was included in the 2009 NOAA Fisheries OCAP Biological Opinion RPA and is, therefore, a directive of the ESA process. Further acknowledgement of the FMS may be forthcoming in actions before the SWRCB, although this effort has not yet been initiated.

3.2.11 Delta Water Quality Requirements

The December 1994 Bay-Delta Accord, formally known as the "Principles for Agreement on Bay-Delta Standards Between the State and Federal Governments," brought together urban, agricultural, and environmental interests around a consensus on setting new Bay-Delta water quality standards (including flow requirements for the Sacramento and San Joaquin Rivers). This facilitated coordinating the operations in the SWP and the CVP to help achieve those standards, and developing new long-term approaches to address a variety of fish and wildlife, water supply, and water quality issues involving the Bay-Delta. Among other things, the Bay-Delta Accord was intended to reduce uncertainties in how the ESA would be applied going forward as a tool for managing Bay-Delta water resources.

The accord provided for an integrated ecosystem approach to management of the Bay- Delta that would allow for protection of species without impairing seasonal water supply allocations. In May 1995, the California State Water Resources Control Board (State Water Board) adopted a final Water Quality Control Plan for the Bay-Delta (1995 Bay-Delta Plan). The 1995 Bay-Delta Plan incorporated the basic standards and strategies laid out in the 1994 Bay-Delta Accord. In addition, the State Water Board initiated one of the longest and most complicated water rights proceeding in state history to modify previously issued permits (principally held by the CVP and the SWP) for the long-term appropriation of water from the Delta and to manage that resource in a reliable and environmentally sensitive way. The State Board's water rights proceeding resulted in the adoption of Water Rights Decision 1641 (D-641) on Dec. 29, 1999 (revised on March 15, 2000).

For modeling purposes, D-1641 can be assumed as codifying the Bay-Delta Accord principles. Thus, there is no recognizable change in the modeling.

- *Folsom Reservoir Storage:* effects on Folsom Reservoir storage are insignificant
- *Lower American River Flows at Nimbus Dam:* effects on American River flows are insignificant
- *Other CVP Reservoir Storage:* effects on other CVP Reservoir storage are insignificant
- *Lower Sacramento River Flow at Freeport:* effects on Sacramento River flow at Freeport are insignificant
- *Delta Inflow:* effects on Delta inflows is insignificant

3.2.12 Wanger Decision

The CVP/SWP operational changes required by the Wanger Decision addressing the 2004 OCAP USFWS OCAP Biological Opinion for delta smelt was not in effect at the time of the WFP EIR. Had it been so, the resultant effect in CVP/SWP operations would have been a reduction in CVP/SWP Delta exports associated with not exceeding maximum prescribed net upstream flow in Old and Middle Rivers. This reduction in exports would have affected CVP and SWP delivery allocations and potentially and/or resulted in additional releases from upstream reservoirs.

- *Folsom Reservoir Storage:* effects of the Wanger Decision on Folsom Reservoir storage would likely be occasionally lower storage, in most years restored by reservoir inflow in the spring, but within the range of elevations identified in the WFP EIR.

- *Lower American River Flows at Nimbus Dam:* effects on American River flows at Nimbus would be occasional (+/-), but within the range of flows identified in the WFP EIR.
- *Other CVP Reservoir Storage:* effects of the Wanger Decision on Other CVP reservoir storages would likely be occasionally lower storage, but within the range of elevations identified in the WFP EIR.
- *Lower Sacramento River Flow at Freeport:* effects on Sacramento River flows at Freeport would be occasional (+/-), but within the range of flows identified in the WFP EIR.
- *Delta Inflow:* effects on Delta inflow would be occasional (+/-), but within the range of inflows identified in the WFP EIR.

3.2.13 USFWS 2008 OCAP Biological Opinion for Delta Smelt

The USFWS Biological Opinion is not presently included in current modeling at any level of development. Modelers are in the process of incorporating the Reasonable and Prudent Alternative (RPA) for this Biological Opinion into CALSIMII so that its effects may be quantified. Extrapolating from the text of the RPA there are several Actions (1, 2, and 3) that will affect Delta exports by virtue of limitations on Old and Middle River ("OMR") flows, and Action 4 requiring additional X2 flows in the fall months that will affect reservoir releases. RPA Actions 1 through 4 address the following measures:

- RPA Action 1: limits exports at the Project pumps so that the average daily OMR flow is no more negative than -2,000 cfs for a total duration of 14 days, with a 5-day running average no more negative than -2,500 cfs (within 25 percent). This action would occur at some time within the December – March window.
- RPA Action 2: requires that the range of net daily OMR flows will be no more negative than -1,250 to -5,000 cfs. This action would occur immediately following Action 1.
- RPA Action 3: requires that net daily OMR flow will be no more negative than -1,250 to -5,000 cfs based on a 14-day running average with a simultaneous 5-day running average within 25 percent of the applicable requirement for OMR. This action would occur at the onset of spawning and extending to as late as June 30.
- RPA Action 4: improves fall estuarine habitat for delta smelt by managing of X2 through increasing Delta outflow during fall when the preceding water year was wetter than normal. This action would occur on September 1 through November 30.

Folsom reservoir storage will likely be lower in the fall as a result of these RPAs; however, in most years the storage would recover by spring.

- *Folsom Reservoir Storage:* Folsom Reservoir storage will likely be frequently lower in the fall as a result of the RPAs; however, in most years the storage would recover by spring, and be within the range of elevations identified in the WFP EIR.
- *Lower American River Flows at Nimbus Dam:* effects on American River flows at Nimbus particularly in the fall months could be frequent (+/-), but within the range of flows identified in the WFP EIR.

- *Other CVP Reservoir Storage:* other CVP reservoir storage will likely be frequently lower in the fall as a result of the RPAs; however, it should remain within the range of elevations identified in the WFP EIR .
- *Lower Sacramento River Flow at Freeport:* effects on Sacramento River flows at Freeport, particularly in the fall months, could be frequently higher, but within the range of flows identified in the WFP EIR.
- *Delta Inflow:* effects on Delta inflow, particularly in the fall months could be frequently higher, but within the range of flows identified in the WFP EIR.

3.2.14 NOAA Fisheries 2009 OCAP Biological Opinion

The NOAA Fisheries Biological Opinion is also not presently included in current modeling at any level of development. As with the USFWS Opinion, modelers are in the process of incorporating the Reasonable and Prudent Alternative (RPA) for this Opinion into CALSIMII so that its effects may be quantified. Extrapolating from the text of the RPA there are multiple Actions applied to various CVP-influenced watersheds.

RPA Action I is specific to the Sacramento River, primarily affecting Shasta reservoir storage operations necessary to achieve water temperature requirements in the Sacramento River below Keswick Dam. RPA Action II applies to the American River and is quite similar with respect to flows, to the Flow Management Standard used in recent modeling. RPA Action III applies to the San Joaquin River operations. RPA Action IV applies to Delta operations and includes requirements for Delta Cross Channel Gate operations and OMR flows. Included within the RPA actions are other components dealing with fish passage and physical feature changes. Actions I and IV are those which will have the most effects on CVP operations with respect to reservoir storage and CVP water deliveries.

- *Folsom Reservoir Storage:* Folsom reservoir storage will be lower in the fall as a result of the RPAs; however, it is likely in most years the storage would recover by spring, and be within the range of elevations identified in the WFP EIR.
- *Lower American River Flows at Nimbus Dam:* effects on American River flows at Nimbus particularly in the fall months could be frequently (+/-), but within the range of flows identified in the WFP EIR.
- *Other CVP Reservoir Storage:* other CVP reservoir storage, particularly Shasta, will be frequently higher as a result of the RPAs; however, it is likely in most years the storage would be within the range of elevations identified in the WFP EIR.
- *Lower Sacramento River Flow at Freeport:* effects on Sacramento River flows at Freeport, could frequently be (+/-), but within the range of flows identified in the WFP EIR.
- *Delta Inflow:* effects on Delta inflow, could frequently be (+/-), but within the range of flows identified in the WFP EIR.

3.2.15 Summary of Changes in System Hydrology at Existing Conditions

Table 3-3 shows a summary matrix of the anticipated changes in system hydrology and changes in key storage and flow parameters of importance to the assessment of fisheries resources and

water quality impacts in the WFP EIR. These changes reflect a qualitative assessment of effects promulgated by the identified changed conditions. It may be seen in the table that a given change in condition does not always indicate a "negative" effect on a key parameter, but frequency of effects are variable. In some cases the lack of effect is a function of operational flexibility within the CVP/SWP, while in other cases there are temporal effects that occur but without any overall annual effect.

While the table is indicative of individual parameter effects, it is necessary for the assessment of environmental impacts to combine the individual effects and determine the net effect. Therefore, Table 3-3 includes a final row that provides the estimated net change in the key storage and flow parameters, based on all changed conditions identified and discussed herein.

Overall, the effects of the multiple analytical, regulatory, and hydrologic changes of the past ten years have not radically changed the performance of CVP facilities with respect to American River operations identified in the WFP EIR. Folsom Reservoir levels remain within the WFP EIR limits, as do minimum and typical lower American River flows.

There are many similarities between the operations identified in the WFP EIR and those that presently exist. There are identified increases in water demands by contractors, but these have taken place coincident with regulatory actions intended to maintain or improve conditions for the environment. Consequently, the environmental protections envisioned by the WFP EIR remain.

Today, the operation of the CVP/SWP is significantly guided by the USFWS and NOAA Fisheries OCAP Biological Opinions. The Biological Opinions limit many aspects of CVP/SWP reservoir storage, river release, and contractor diversions. Because there is a finite water supply, and environmental protections are not discretionary, ultimately, these limitations manifest themselves in reduced contractor diversions in some conditions. By virtue of the CVP contract priorities based on a contractor's geographical location and intended use for the water, diversion reductions are applied when water supplies are limited. The majority of the delivery reduction effects will occur to the export contractors south of the Delta who will experience much more frequent reductions and greater cuts to deliveries.

Table 3-3. Summary of Changes and Key CALSIMII Modeling Outputs.

Changed Condition	Key Parameters for Impact Assessment				
	Folsom Reservoir Storage	Lower American River Flows	Other CVP Reservoir Storage	Lower Sacramento River Flow	Delta Inflow
PROSIM to CALSIMII	+	○/-	○	○	○
Period of Simulation	○	○	○	○	○
CVP Demands: (North of Delta/South of Delta)	○/-	○/-	○/-	○/+	○/+
SWP Demands	○	○	○	○	○
CVP Water Allocations	○	○	○	○	○
Trinity River Flow Requirements	○	○	+/-	+/-	+/-
Clear Ck Flow Requirements	○	○	○	○	○
Sacramento River Flow Requirements	○	○	+/-	+/-	+/-
Yuba River Flow Requirements	None	None	+/-	+	+
American River Flow Requirements	+/-	**+/–**	+/-	+/-	+/-
Delta Water Quality Requirements	○	○	○	○	○
Wanger Decision	**–**	+/-	-	+/-	+/-
USFWS 2008 OCAP Biological Opinion	**–**	**+/–**	**–**	**+**	**+**
NOAA Fisheries 2009 OCAP Biological Opinion	**–**	**+/–**	**+**	**+/–**	**+/–**
Overall Net Effects	+/-	+/-	+/-	**+/–**	**+/–**

Notes:
None = The changed condition does not affect the parameter.
○ = No appreciable change.
-, +, and +/- = Overall occasional decreases (-), increases (+), or both (+/-) relative to WFP EIR.
–, **+**, and **+/–** = Overall frequent decreases (**–**), increases (**+**), or both (**+/–**) relative to WFP EIR.

4 Evaluation of Fisheries and Water Quality Impacts Identified in the Water Forum EIR in light of Anticipated CVP/SWP System Hydrologic Changes

This section provides an assessment to determine whether the fisheries and water quality impact determinations disclosed in the WFP EIR would differ today, due to changes in current baseline conditions as a result of changed CVP/SWP operations and system hydrological conditions described in Section 3, that were not present when the WFP EIR was prepared. As indicated in Section 3, the potential changes in CVP operations and system hydrological conditions have not been assessed quantitatively through revised CALSIMII modeling. Likewise, related modeling with Reclamation's reservoir and river temperature models, or early life-stage salmon mortality, has not been conducted. A key reason for this is because the resource agencies, including Reclamation and DWR, have not yet determined how CVP/SWP operations are to be modified to adequately address the USFWS and NOAA Fisheries Biological Opinions on OCAP discussed above, nor has Reclamation or any other party codified the "Reasonable and Prudent Alternatives" of the 2008 and 2009 Biological Opinions into CALSIMII. In other words, CALSIMII, the standard tool used to model the effects of a project on CVP/SWP system operations and resulting system-wide hydrologic conditions has not been updated to account for implementation by the agencies of the USFWS and NOAA Fisheries Biological Opinions on OCAP. Therefore, this evaluation, by necessity, was performed in a qualitative manner by leading experts.

Based on the anticipated changes to system operations and hydrology, the key factors upon which the WFP EIR impact determinations were based were reevaluated to determine whether there would be any new previously undisclosed significant impacts requiring mitigation, or whether the impacts would be substantially more severe than previously disclosed. Lastly, the assessment considered whether any new significant impacts rise to the level that would warrant new quantitative analyses with the CALSIMII model (or Reclamation's related models) to provide and adequate impact assessment for the purposes of assessing the effects of the SVSP Project's 3,612 AFY water supply, which is part of the City's overall American River water supply previously assessed under the WFP EIR.

4.1 Fisheries Impacts

The WFP EIR, Chapter 4.5, "Fisheries Resources and Aquatic Habitat," addressed a total of seventeen individual numbered impacts. This section provides a qualitative assessment of each numbered impact based on the present understanding of CVP/SWP operations and resulting system hydrology upon which WFA demands, including the City of Roseville's American River demands, would be imposed. The impact discussions are organized by the general location where the primary effects would occur, which are Folsom Reservoir and Lake Natoma, Lower American River, Upper CVP Reservoirs, Sacramento River, and the Delta.

4.1.1 Folsom Reservoir and Lake Natoma

Impacts to Folsom Reservoir Coldwater and Warmwater Species (WFP EIR Impacts 4.5-1 and 4.5-2). The WFP EIR found the impacts in Folsom Reservoir to coldwater fisheries to be less than significant, and impacts to warmwater species to be potentially significant due to reduced availability of littoral habitat. Mitigation for the impact to warmwater fisheries was identified in the WFP EIR. However, it was determined that due to uncertainty regarding future conditions, the impact would remain significant and unavoidable following mitigation.

Based on the assessment of changes to CVP/SWP operations and anticipated resultant changes to hydrologic conditions identified in Table 3.3 above, the seasonal reductions in Folsom Reservoir storage levels would be more frequent and occasionally of greater magnitude, relative to conditions modeled in the WFP EIR. Minimum storage levels in late fall, and storage levels in the spring following reservoir refilling during the winter, are expected to change minimally. Under current conditions and system operations, WFA demands would be anticipated to result in a similar pattern of seasonal reductions in Folsom Reservoir storage as previously determined in the WFP EIR.

Anticipated changes in seasonal storage levels within the reservoir's normal operational range would not cause substantial adverse effects on habitat quality or quantity or prey availability for coldwater species. Thus, the anticipated incremental changes to Folsom Reservoir storage, due to changed conditions and WFA demands, would not change the impact determination for Folsom Reservoir coldwater fisheries, relative to that made in the WFP EIR. Likewise, the anticipated seasonal changes to reservoir storage and surface elevations would result in similar reductions to littoral habitat for warmwater species as previously determined in the WFP EIR. Therefore, the reduced reservoir storage and elevations would not be expected to cause new or substantially more severe impacts to Folsom Reservoir warmwater fisheries, relative to that determined in the WFP EIR, and thus this impact would remain potentially significant under current conditions as originally characterized in the WFP EIR.

Impact to Coldwater and Warmwater Species in Lake Natoma (Impact 4.5-3) and Temperature Impacts to Nimbus Fish Hatchery Operations and Fish Production (Impact 4.5-4). The WFP EIR found the impacts to coldwater and warmwater fish populations in Lake Natoma to be less than significant. The impacts to operations and fish production of the Nimbus Fish Hatchery also were less than significant.

Based on the assessment of changes to CVP/SWP operations and anticipated resultant changes to hydrologic conditions identified in Table 3.3 above, the seasonal reservoir storage, elevations, and flows through Lake Natoma would not change appreciably from those defined in the WFP EIR. As a regulating after bay for power production at Folsom Dam, Lake Natoma storage and surface elevation fluctuations would remain similar under current conditions and operations, and any changes in Lake Natoma operations as a result of WFA demands would be negligible, as previously determined in the WFP EIR. The WFP EIR found that water temperature patterns within Lake Natoma would be somewhat cooler during the June through September period as a result of a new temperature control device (TCD) for the Folsom Dam urban water intake structure and optimal coldwater pool management. The TCD was installed in 2003 and thus represents a new baseline for thermal conditions within the lake.

Based on the anticipated minimal changes to Lake Natoma storage, surface elevation fluctuations, and temperatures that may occur, due to changed conditions and system operations, WFA demands imposed on the changed conditions and system operations would not be expected to cause any new significant impacts to Lake Natoma's coldwater and warmwater fish populations or Nimbus Fish Hatchery operations and fish production, relative to those determined in the WFP EIR. Therefore, these impacts would remain less than significant under current conditions and operations as originally characterized in the WFP EIR.

4.1.2 Lower American River

Impact to Fall-run Chinook Salmon (WFP EIR Impact 4.5-5). The WFP EIR found the impacts to fall-run chinook salmon to be potentially significant, primarily as a result of frequent reductions in lower American River (LAR) flows during October through December. Mitigation for the impact was identified in the WFP EIR. However, it was determined that due to uncertainty regarding future conditions, the impact would remain significant and unavoidable following mitigation.

Based on the assessment of changes to CVP/SWP operations and anticipated resultant changes to hydrologic conditions identified in Table 3.3 above, seasonal LAR flows would be occasionally different (either higher or lower) relative to conditions modeled in the WFP EIR. CVP's implementation of the LAR Flow Management Standard (FMS) and the NOAA Fisheries 2009 OCAP Biological Opinion are specifically for the purpose of modifying operations to benefit LAR coldwater fish resources. Under current conditions and system operations, WFA demands would be anticipated to result in a similar pattern of seasonal reductions in LAR flows as previously determined in the WFP EIR. Therefore, the seasonal LAR flows would be expected to be similar to that assessed in the WFP EIR and there may be some flow improvement related to meeting the life-cycle needs of the fall-run chinook salmon resulting from the FMS and NOAA Fisheries 2009 OCAP Biological Opinion.

When imposed on the changed conditions, WFA demands are anticipated to result in reduced LAR flows in October through December period, as previously determined in the WFP EIR, which may reduce available spawning habitat and lead to redd superimposition and reduced size of the initial year-class. The anticipated incremental changes to LAR flows, due to changed conditions and WFA demands, would be expected to result in similar, or possibly lesser, seasonal reductions in spawning habitat availability. The changes in LAR flows would not be expected to result in new or substantially more severe impacts to fall-run chinook salmon, relative to those determined in the WFP EIR. Therefore, this impact would remain potentially significant under current conditions and operations as originally characterized in the WFP EIR.

Impact to Steelhead (WFP EIR Impacts 4.5-6). The WFP EIR found the impact to steelhead to be less than significant.

Based on the assessment of changes to CVP/SWP operations and anticipated resultant changes to hydrologic conditions identified in Table 3.3 above, the seasonal LAR flows would occasionally be both higher and lower, relative to conditions modeled in the WFP EIR. As noted for the discussion of fall-run chinook salmon, the seasonal LAR flows would be similar to those

assessed in the WFP EIR and there may be some flow improvement related to meet the life-cycle needs (including thermal needs) of the steelhead population as a result of CVP's implementation of requirements in the NOAA Fisheries 2009 OCAP Biological Opinion and/or the FMS. The WFA demands would be anticipated to result in similar seasonal reductions in LAR flows and increases in LAR water temperatures as previously determined in the WFP EIR.

The WFP EIR found that the TCD and optimal coldwater pool management would reduce temperatures in the juvenile steelhead rearing period of June through September and offset potential flow-related effects (e.g., reduced juvenile rearing habitat). Based on the anticipated occasional changes to LAR flows, due to changed conditions and system operations, and implementation of the TCD at Folsom Dam and optimal coldwater pool management, WFA demands would not be expected to cause any new significant impacts to steelhead. Therefore, these impacts would remain less than significant under current conditions and operations as originally characterized in the WFP EIR.

Flow- and Temperature-Related Impacts to Splittail (Impact 4.5-7). The WFP EIR found flow-related impacts to splittail to be potentially significant as a result of reductions in inundated riparian spawning habitat in the LAR during the February through May period. Mitigation for the significant impact was identified in the WFP EIR. However, it was determined that due to uncertainty regarding future conditions, the impact would remain significant and unavoidable following mitigation.

Based on the assessment of changes to CVP/SWP operations and anticipated resultant changes to hydrologic conditions identified in Table 3.3 above, the seasonal LAR flows would occasionally be both higher and lower relative to conditions modeled in the WFP EIR. As noted above, the seasonal LAR flows would be similar to those assessed in the WFP EIR and the WFA demands would be anticipated to result in similar seasonal reductions in LAR flows, particularly during the February through May period, which is a period of flood-control operations.

WFA demands would be anticipated to result in reduced LAR flows in the February through May period, as previously determined in the WFP EIR, which may reduce available spawning habitat for splittail. The anticipated incremental reduction in spawning habitat availability for splittail is not expected to change substantially under current conditions and operations, relative to that identified under the WFP EIR. Consequently, WFA demands imposed on the changed conditions and system operations would not be expected to result in new or substantially more severe impacts to splittail, relative to those determined in the WFP EIR. Therefore, this impact would remain potentially significant under current conditions as originally characterized in the WFP EIR.

Flow- and Temperature-Related Impacts to American Shad (Impact 4.5-8) and Striped Bass (Impact 4.5-9). The WFP EIR found the impacts to shad and striped bass to be less than significant.

Based on the assessment of changes to CVP/SWP operations and anticipated resultant changes to hydrologic conditions identified in Table 3.3 above, the seasonal LAR flows would occasionally be both higher and lower, relative to conditions modeled in the WFP EIR. As noted above, the

May and June LAR flows are not expected to be substantially reduced, relative to those identified in the WFP EIR, due to changed conditions and system operations. The WFA demands would be anticipated to result in similar seasonal reductions in LAR flows.

When imposed on the changed conditions, WFA demands would be anticipated to result in only minimal reductions in the suitable range of LAR flows in the May and June period for attraction and spawning of American shad, as previously determined in the WFP EIR. Likewise, the minimal changes in LAR flows in May and June would not substantially reduce striped bass spawning and rearing activity within the LAR. Based on the anticipated occasional changes to LAR flows, due to changed conditions and system operations, WFA demands imposed on the changed conditions and system operations would not be expected to cause any new significant impacts to American shad or striped bass. Therefore, these impacts would remain less than significant under current conditions and operations as originally characterized in the WFP EIR.

4.1.3 Other CVP Reservoir Storage

Impacts to Coldwater and Warmwater Species in Shasta Reservoir (WFP EIR Impacts 4.5-10 and 4.5-11), Trinity Reservoir (WFP EIR Impacts 4.5-12 and 4.5-13), and Keswick Reservoir (WFP EIR Impacts 4.5-14). The WFP EIR found the impacts to coldwater and warmwater fisheries in Shasta Reservoir, Trinity Reservoir, and Keswick Reservoir to be less than significant.

Based on the assessment of changes to CVP/SWP operations and anticipated resultant changes to hydrologic conditions identified in Table 3.3 above, the seasonal reductions in storage levels at Trinity Reservoir would be more frequent and generally of greater magnitude, relative to conditions modeled in the WFP EIR. Likewise, CVP operations in response to some changed conditions may result in more frequent seasonal reductions in storage levels at Shasta Reservoir. However, as a result of the NOAA Fisheries 2009 OCAP Biological Opinion, seasonal Shasta Reservoir storage may be maintained at higher levels relative to conditions assessed in the WFP EIR. Overall, the minimum storage levels in late fall and storage levels in the spring following reservoir refilling during the winter are often expected to be similar in upper CVP reservoirs relative to that identified in the WFP EIR. No measurable changes would be expected to occur in Keswick Reservoir storage or elevation because, as a regulating afterbay of Shasta Reservoir, its operations would not change notably. Additionally, under current conditions and system operations, WFA demands would be anticipated to result in a similar pattern of generally small and infrequent reductions in seasonal Shasta Reservoir and Trinity Reservoir storage levels, as previously determined in the WFP EIR.

Anticipated minimal WFA-related changes in seasonal storage levels within the normal operational range of Shasta Reservoir and Trinity Reservoir would not adversely affect the habitat or prey for coldwater species. Likewise, the incremental effects of WFA demands would not substantially reduce seasonal near-shore habitat availability in the March through September period, or spring nest-building activity, of warmwater species. Thus, the anticipated incremental changes to upper CVP reservoir storage, due to changed conditions and WFA demands, would not change the impact determination for coldwater or warmwater fisheries in upper Shasta Reservoir and Trinity Reservoir, relative to that made in the WFP EIR. As disclosed in the WFP EIR, potential flow and temperature effects in Keswick Reservoir would not be expected to

occur because its operations as a regulating reservoir would not change. Therefore, the potential impacts to upper CVP reservoirs would remain less than significant under current conditions and operations as originally characterized in the WFP EIR.

4.1.4 Sacramento River

Flow-Related Impacts to Sacramento River Fisheries (WFP EIR Impacts 4.5-15). The WFP EIR found the flow-related impacts to fisheries resources in the upper and lower Sacramento River to be less than significant.

Based on the assessment of changes to CVP/SWP operations and anticipated resultant changes to hydrologic conditions identified in Table 3.3 above, the seasonal flows in the upper and lower Sacramento River would frequently be both higher and lower, relative to conditions modeled in the WFP EIR. In particular, flows may frequently be higher in the fall months as a result of CVP's implementation of requirements in the USFWS 2008 OCAP Biological Opinion, which requires additional Delta inflows for improved habitat quality as reflected by the "X2" location objectives. The WFA demands would be anticipated to result in generally small and infrequent reductions in seasonal Sacramento River flows as previously determined in the WFP EIR.

As previously determined in the WFP EIR, flows in the upper Sacramento River would not be expected to be reduced below levels for protection of winter-run chinook salmon rearing and downstream passage in the October through March period as a result of WFA demands. WFA demands would be anticipated to result in only minimal and occasional flow reductions in the lower Sacramento River, such that there would be no substantial reductions in physical habitat availability, or reduced immigration of adult or emigration of juvenile anadromous fishes. Based on the anticipated occasional changes to Sacramento River flows, due to changed conditions and system operations, WFA demands imposed on the changed conditions and system operations would not be expected to cause any new significant impacts to Sacramento River fisheries resources. Therefore, this impact would remain less than significant under current conditions and operations as originally characterized in the WFP EIR.

Temperature-Related Impacts to Sacramento River Fisheries (WFP EIR Impacts 4.5-16). The WFP EIR found the temperature-related impacts to fish resources in the lower Sacramento River to be less than significant.

Based on the assessment of changes to CVP/SWP operations and anticipated resultant changes to hydrologic conditions identified in Table 3.3 above, the seasonal flows in the Sacramento River would frequently be both higher and lower, relative to conditions modeled in the WFP EIR. In particular, flows may frequently be higher in the fall months as a result of CVP's implementation of X2 requirements in the USFWS 2008 OCAP Biological Opinion. Additionally, there may be some flow- and temperature-related improvements associated with CVP requirements for the winter-run chinook salmon populations in the NOAA Fisheries 2009 OCAP Biological Opinion. The WFA demands would be anticipated to result in generally small and infrequent reductions in seasonal Sacramento River flows, and thus temperatures, as previously determined in the WFP EIR.

As previously determined in the WFP EIR, there would be no substantial changes to average temperature below Keswick Dam for any month of the year, for the number of years exceeding 56ºF in the upper Sacramento River during the April through September period. Additionally, there would be no substantial decreases in annual early life stage survival of fall-run, late fall-run, winter-run, or spring-run chinook salmon in any individual year. Based on the anticipated occasional changes to Sacramento River flows, due to changed conditions and system operations, WFA demands imposed on the changed conditions and system operations would not be expected to cause any new significant temperature-related impacts to fish resources of the Sacramento River. Therefore, this impact would remain less than significant under current conditions and operations as originally characterized in the WFP EIR.

4.1.5 Delta

Impacts to Delta Fish Populations (WFP EIR Impacts 4.5-17). The WFP EIR found the impacts to Delta fish resources to be less than significant.

Based on the assessment of changes to CVP/SWP operations and anticipated resultant changes to hydrologic conditions identified in Table 3.3 above, the seasonal Delta inflows would frequently be both higher and lower, relative to conditions modeled in the WFP EIR. In particular, Delta inflows may frequently be higher in the fall months as a result of CVP's implementation of X2 requirements in the USFWS 2008 OCAP Biological Opinion. Additionally, there may be some Delta operations-related improvements to meet the life-cycle needs of ESA-listed fish species as a result of CVP's implementation of requirements in the USFWS 2008 OCAP Biological Opinion and NOAA Fisheries 2009 OCAP Biological Opinion. The WFA demands would be anticipated to result in generally small and relatively infrequent reductions in Delta inflows as previously determined in the WFP EIR.

As previously determined in the WFP EIR, there would be no substantial flow-related upstream shifts in the X2 position during the February through June period. Additionally, there would be no anticipated substantial changes in CVP's Delta export-to-inflow ratio. Based on the anticipated occasional changes to Delta inflows, due to changed conditions and system operations, WFA demands imposed on the changed conditions and system operations would not be expected to cause any new significant habitat-related impacts to fish resources in the Delta. Therefore, this impact would remain less than significant under current conditions and operations as originally characterized in the WFP EIR.

4.2 Water Quality Impacts

The WFP EIR, Chapter 4.4, "Water Quality," addressed a total of two individual numbered impacts. This section provides a qualitative assessment of each numbered impact based on the present understanding of CVP/SWP operations and resulting system hydrology upon which WFA demands, including the City of Roseville's American River demands, would be imposed.

4.2.1 Lower American River and Folsom Reservoir Water Quality (WFP EIR Impact 4.4-1)

The WFP EIR found the WFA-related impacts to water quality in Folsom Reservoir and the LAR to be less than significant.

Based on the assessment of changes to CVP/SWP operations and anticipated resultant changes to hydrologic conditions identified in Table 3.3 above, seasonal reductions in Folsom Reservoir storage levels would be more frequent, and seasonal LAR flows would be occasionally different (both higher and lower), relative to conditions modeled in the WFP EIR. Under current conditions and system operations, WFA demands would be anticipated to result in a similar pattern of seasonal reductions in Folsom Reservoir storage and LAR flows as previously determined in the WFP EIR.

As previously determined in the WFP EIR, reduced reservoir storage and LAR flows would be expected to result in minor increases in concentrations of contaminants (e.g., nutrients, pathogens, turbidity, or priority trace metal and organic compounds) due to reduced dilution capacity. Based on the anticipated reductions to Folsom Reservoir storage and LAR flows, due to changed conditions and system operations, WFA demands imposed on the changed conditions and system operations would not be expected to cause any new significant impacts to water quality. Therefore, this impact would remain less than significant under current conditions and operations as originally characterized in the WFP EIR.

4.2.2 Lower Sacramento River and Delta Water Quality (WFP EIR Impact 4.4-2)

The WFP EIR found the indirect water quality impacts to the lower Sacramento River to be potentially significant, primarily as a result of increased urban runoff and domestic wastewater discharge from the Sacramento Regional County Sanitation District's Sacramento Region Wastewater Treatment Plant (SRWTP) associated with the development and growth supported by increased WFA deliveries. Mitigation for the impact was identified in the WFP EIR. However, it was determined that due to uncertainty regarding future conditions, namely uncertainty in level of treatment of the additional urban runoff and municipal wastewater flows, the impact would remain significant and unavoidable following mitigation.

Based on the assessment of changes to CVP/SWP operations and anticipated resultant changes to hydrologic conditions identified in Table 3.3 above, the lower Sacramento River flows and Delta inflows would frequently be both higher and lower, relative to conditions modeled in the WFP EIR. Flows would be frequently higher in the fall months as a result of CVP's implementation of X2 requirements in the USFWS 2008 OCAP Biological Opinion. The WFA demands imposed on the changed conditions would be anticipated to result in generally small and occasional reductions in lower Sacramento River flows and Delta inflows as previously determined in the WFP EIR.

As previously determined in the WFP EIR, increased urbanization in the area served by WFA purveyors would indirectly result in substantial increases in the amount of treated effluent discharged from the SRWTP into the Sacramento River at Freeport. Coupled with seasonal flows, minor increases in concentrations of contaminants (e.g., nutrients, pathogens, turbidity, or

priority trace metal and organic compounds) could occur due to reduced dilution capacity. The imposing of WFA demands on current conditions and operations would be expected to result in similar water quality effects as those disclosed under the WFP EIR. The changed system conditions and operations would not be expected to result in new or substantially more severe water quality impacts, relative to that determined in the WFP EIR. Therefore, this impact would remain potentially significant under current conditions as originally characterized in the WFP EIR.

5 Evaluation of Roseville's Water Supply and Reliability in light of Anticipated CVP/SWP System Operational Changes

In general, with the progression of time and imposition of new and revised regulatory actions affecting CVP/SWP operations, the ability to "flex" project operations to maintain historical performance and hydrologic conditions has been eroded. There is now, virtually no action that does not precipitate some effect on water storage, reservoir releases, and/or water deliveries. Given that most often, storage or releases are requirements for complying with regulatory standards, the "give" in the systems becomes water deliveries.

Even when there was more flexibility in the CVP/SWP systems than exists today, increased demands on project water resources created occasional change in the frequency and/or magnitude of annual water deliveries. The magnitude of annual water diversions on the American River is still increasing. However, CVP operations can still honor senior American River water rights in all years and meet full American River CVP water contractor diversions in many years.

What has changed on the American River is the frequency of water shortages (years with less than full CVP contract deliveries). Compared to those identified in the WFP EIR, modeled future CVP deliveries will be less than full more frequently and shortages in those years may be greater, but the range of annual deliveries can be expected to comport with that shown in the WFP EIR.

In short, the City of Roseville's 58,900 AFY water supply from the American River remains highly reliable under the WFA and anticipated current and future CVP operations. However, the percent of time under dry and critical water year conditions that deliveries from the American River may be reduced below the City's full demand may occur somewhat more often in the future than previously identified, and as identified in the WFP EIR.

Based on over 82 years of historical hydrology (and WFA restrictions), the 58,900 AFY contract surface water supply is assumed to be available to the City in about 83 percent of the years. In about 17 percent of the years, quantities from 58,900 AFY to a minimum of 39,800 AFY of surface water would be available per the WFA. Thus, in drought years, supplemental supplies potentially totaling up to 19,100 AFY (the difference between the average/wet year supply and the dry year supply) are needed to make up for the dry year and critical year deficiencies

To meet water supply demands during dry and critical water years, the City may utilize other supplies like recycled water and groundwater and implement the water conservation strategies outlined in the Roseville Municipal Code (RMC). Recycled water offsets the use of surface

water supplies by reducing the City's reliance on American River supplies by filling irrigation demands that would otherwise use surface water supplies. Groundwater is used to make up any additional water supply shortfall.

Based on the above, the City's water supply reliability for the SVSP Project remains very high.

5.1 Water Supply Reliability Under Future Cumulative Conditions

As described in Section 3.1.2, quantifying the effects of future cumulative conditions and related CVP/SWP operations, in consideration of the future implementation of the BDCP, EDWPA Supplemental Water Supply Project, and implementation of the USFWS 2008 OCAP Biological Opinion and the NOAA Fisheries 2009 OCAP Biological Opinion, is not currently possible. The effects of these future projects are not fully understood and, thus, have not been fully integrated into the current versions of DWR's CALSIMII water supply operations model. In addition to the new regulatory requirements and future projects that may arise under the BDCP, climate change also may affect water supply conditions. Future climate change will affect the characteristics of runoff into CVP reservoirs (both in timing and volume) as well as exacerbate water quality conditions in the Delta as a result of sea level rise. Climate change without infrastructure changes will certainly lead to additional reductions in CVP water supplies. Consequently, the future cumulative conditions may have profound effects on CVP/SWP operations and resulting system hydrology, yet these effects remain unclear at this time.

History has shown that the availability of unused surface water supplies suitable for beneficial uses has diminished with time. In the American River basin, the contracted CVP surface water supplies that the City of Roseville depends on have been affected by this reduction in unused surface water. Water supplies that were believed to exist and be available for contractor deliveries when water supply contracts were initially signed, and subsequently renewed, are now insufficient to meet 100% deliveries as frequently as once assumed. Allocation reductions to Delta exports already are more frequent than in the past, and deliveries to these contractors are most tenuous because they are at the furthest extreme of the CVP delivery system, and can receive supplies only after all of the environmental requirements are met upstream of their location. At Roseville's location in the system, deliveries are indirectly affected by Reclamation's reservation of American River (Folsom) water to serve a portion of downstream flow, water quality, and environmental requirements placed on the CVP, but Roseville's diversions are not dependent on the American River meeting all of the downstream needs.

CVP's obligations to ongoing changes in environmental protections, changes to CVP water supply obligations, increased demand for previously unused surface water supplies, and climate change, collectively will affect Roseville's water supply. Compared to historical deliveries, there will be fewer years in the future when the CVP will be able to deliver 100% of Roseville's contract supply. At this moment in time, the environmental actions designed to maintain or restore historical ecological values in the American River will continue (i.e., through the OCAP Biological Opinions), while at the same time viable CVP water supplies will be available to the City of Roseville.

Summary of Impacts and Mitigation Measures in the Water Forum Proposal EIR

2. EXECUTIVE SUMMARY

2.1 INTRODUCTION

The ***Water Forum***, a diverse group of water agencies, business groups, agricultural interests, environmentalists, citizen groups, and local governments (also known as stakeholders), has been working since the fall of 1993 evaluating future water needs and supplies in the Sacramento area, including parts of Sacramento, Placer and El Dorado counties. The Water Forum has formulated a ***Water Forum Proposal*** (WFP) for the effective long-term management of the region's water resources. This proposal is incorporated in the Water Forum Action Plan which is being circulated concurrently with this document. The WFP was formulated based on the two coequal objectives of the Water Forum: 1) provide a reliable and safe water supply for the region's economic health and planned development through the year 2030; and 2) preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River.

The environmental analysis in this EIR is based on an evaluation of how environmental conditions would be expected to change as a result of implementing the WFP. As a first-tier, Program EIR of the WFP, the impact analysis addresses both the impacts resulting from the WFP and a cumulative evaluation of all the participating purveyors' water resource actions in the region, along with many other water management actions outside the region.

Public response to the Draft EIR will be important input for the Water Forum. Based on comments and final negotiations, the stakeholder representatives will finalize the Water Forum EIR and revise their recommendations for the WFP accordingly. These will be presented to stakeholder boards for their approval as a Memorandum of Understanding in the summer of 1999.

This section summarizes information contained in the ***Draft Environmental Impact Report*** on the WFP, including elements of the WFP, environmental impacts, mitigation measures, and alternatives.

2.2 THE EIR PROCESS

The ***Lead Agencies***, or public agencies that have responsibility for certifying the WFP EIR, are the City and County of Sacramento. Other public agency stakeholders may rely on the EIR when considering their approval of the WFP, and if so, are considered ***Responsible Agencies***. The purpose of a Program EIR is to identify and assess the environmental impacts of a series of actions that comprise an overall program, such as the WFP. The EIR has been prepared pursuant to the California Environmental Quality Act (CEQA), Public Resources Code §21000, *et seq.*, and State CEQA Guidelines, California Code of Regulations §15000, *et seq.* It is anticipated that subsequent actions by Lead and Responsible Agencies to implement the WFP will be reviewed in light of the Program EIR to determine what additional environmental documentation must be prepared, pursuant to the tiering provisions of the State CEQA Guidelines (§15152).

The Draft EIR has been released for public review to receive comments from interested parties on its completeness and adequacy in disclosing the environmental effects of the WFP. Written responses to significant environmental points raised in the comments will be prepared and published. Together, the Draft EIR and the responses to comments will constitute the Final EIR, which will be forwarded to the Sacramento City Council and Sacramento County Board of Supervisors for certification with regard to CEQA adequacy.

2.3 SUMMARY OF THE WATER FORUM PROPOSAL

2.3.1 Location of EIR Study Areas

Water Forum stakeholders represent water-related interests in the cities of Sacramento, Folsom, Galt, and Citrus Heights; the County of Sacramento; the City of Roseville, South Placer County and western El Dorado County (see Exhibit 3-1). For purposes of the EIR, three study areas are considered: the direct effect study area, the indirect effect study area, and the water service study area.

Preservation of the Lower American River is one of the coequal objectives of the WFP. The direct effect study area, therefore, consists of those areas that would be directly affected by additional surface water diversions from the American River. Such diversions would occur above Folsom Reservoir, from Folsom Reservoir proper, Lake Natoma, and from the Lower American River, defined as the reach from Nimbus Dam to the confluence with the Sacramento River. Therefore, the direct effect study area consists of the in-stream and riparian areas of these surface water resources (see Exhibit 3-2).

The indirect effect study area is the broader geographic area that encompasses the surface water resources and facilities outside of the Lower American River that may be affected by the WFP. This area includes the Central Valley Project (CVP) and State Water Project (SWP) systems both upstream of the confluence of the Sacramento and American rivers (exclusive of the direct effect study area), along with associated reservoirs and rivers, and downstream of the confluence, into and including the Sacramento-San Joaquin Delta (see Exhibit 3-3).

The water service study area consists of the communities served by Water Forum stakeholders, and is coincident with the boundaries of stakeholder purveyors in the cities of Sacramento, Folsom, Citrus Heights, and Galt; County of Sacramento (excluding the Delta); the City of Roseville; South Placer County and western El Dorado County (refer to Exhibit 3-1).

2.3.2 Elements of the Water Forum Proposal

To achieve the Water Forum's coequal objectives, a comprehensive package of linked actions has been developed to make more water available for consumption while protecting the natural resources of the Lower American River from environmental damage. This approach requires the support and participation of each of the Water Forum stakeholders. The WFP was developed

over a period of years by representatives of the Water Forum stakeholder groups, and includes seven elements:

Element	
I	**Increased Surface Water Diversions**
II	**Actions to Meet Customers 'Needs While Reducing Diversion Impacts on the Lower American River in Drier Years**
III	**Support for an Improved Pattern of Fishery Flow Releases from Folsom Reservoir**
IV	**Lower American River Habitat Management Element**
V	**Water Conservation**
VI	**Groundwater Management**
VII	**Water Forum Successor Effort**

Element I: Increased Surface Water Diversions

This element provides for increased surface water diversions. These increased diversions will be needed to serve planned growth through the year 2030 even with the active conservation programs and the recommended sustainable use of the groundwater which are also part of the WFP. As part of the WFP, all signatory organizations would support the diversions agreed to for each supplier as summarized in Table 3-1. All signatory organizations would also support the facilities needed to divert, treat and distribute this water. Support for increased diversions is linked to the suppliers' endorsement and, where appropriate, participation in each of the seven elements.

Element II: Actions to Meet Customers 'Needs While Reducing Diversion Impacts on the Lower American River in Drier Years

This element is to ensure that sufficient water supplies will be available to customers in dry years as well as wet years, and that suppliers continue to meet their customers' needs to the year 2030 while minimizing diversion impacts on the Lower American River in the drier and driest years. It is envisioned that Lower American River diversions above the H Street Bridge in average and wetter years will increase from the current level of about 216,500 acre-feet (AF) annually to about 481,000 AF annually. This represents a significant portion of the total annual flow of the American River which averages about 2.6 million AF with a range of less than 400,000 AF to greater than 6.3 million AF. Actions to meet customers 'needs while reducing diversion impacts on the Lower American River in drier years include: conjunctive use of groundwater basins consistent with the sustainable yield objectives; utilizing other surface water resources; reoperation of reservoirs on the Middle Fork of the American River; increased conservation during drier and driest years; and reclamation. Some of these actions would also help reduce impacts outside of the American River watershed.

Element III: Support for an Improved Pattern of Fishery Flow Releases from Folsom Reservoir

This element supports needed assurances for continued implementation of a pattern of water releases from Folsom Reservoir that more closely matches the needs of anadromous fish, in particular fall run chinook salmon, which need more cool water in the fall and are not present in the American River in the summer.

Beginning in December 1994, the Water Forum convened a Fish Biologists' Working Session of fish experts with special knowledge of the Lower American River. Their charge was to develop recommendations for an improved pattern of releases from Folsom Reservoir. Participants included representatives from the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), State Water Resources Control Board (SWRCB), U.S. Bureau of Reclamation (USBR), and representatives from the Water Forum. The group came to general agreement regarding which fish species in the Lower American River should be given priority when there are constraints in water availability and developed an Improved Pattern by which available water can be released from Folsom Reservoir in a "fish friendly" manner consistent with the reservoir's flood control objectives.

The Central Valley Project Improvement Act was passed in 1992. This law authorized fish and wildlife restoration as an additional purpose of the Central Valley Project. It also required the federal government to develop an Anadromous Fish Restoration Program (AFRP) plan including implementation of an improved pattern of fishery flow releases from Folsom Reservoir to benefit anadromous fish. The Water Forum recommendations were considered by the U.S. Department of the Interior when it developed its recommendations for AFRP flows for the Lower American River.

Since 1995 USBR, in consultation with the USFWS and CDFG, has attempted on a voluntary basis to release water from Folsom Reservoir in a manner consistent with the flow objectives for the Lower American River to the extent USBR's available water supply has permitted it to do so. Their AFRP flow objectives for the Lower American River are set forth in the November 20, 1997 "Department of the Interior Final Administrative Proposal on the Management of Section 3406 (b) (2) Water." They are essentially the same as the Improved Pattern of Fishery Flow Releases developed by the Fish Biologists' Working Session which was convened by the Water Forum. It is recognized that as additional information becomes available in the future it could be beneficial to further refine this Improved Pattern.

For purposes of the Water Forum Proposal, the Improved Pattern of Fishery Flow Releases is defined as the AFRP flow objective for the Lower American River as set forth in the November 20, 1997 "Department of the Interior Final Administrative Proposal on the Management of Section 3406 (b) (2) Water."

Signatories agree to recommend that the updated Lower American River standard be included in the USBR's permit for operation of Folsom and Nimbus dams. It will incorporate two of the Water Forum Proposal provisions:

(1) Agreement on water diversions upstream of Nimbus Dam under varying hydrologic conditions; and

(2) The Improved Pattern of Fishery Flow Releases which would be implemented essentially the same as the AFRP Lower American River flow objectives in the November 20, 1997 Final Administrative Proposal.

Element IV: Lower American River Habitat Management Element

This element, combined with an "Improved Pattern of Fishery Flow Releases from Folsom Reservoir" and "Actions to Meet Customers' Needs While Reducing Diversion Impacts on the Lower American River in the Drier Years," is included to mitigate the impacts of the increased diversions on the Lower American River. The Water Forum Habitat Management Element (HME) will be part of a coordinated multi-agency Lower American River ecosystem partnership established by a Memorandum of Understanding. Agencies expected to participate include: the Water Forum Successor Effort (legally administered by the City of Sacramento under the auspices of the City-County Office of Metropolitan Water Planning); the Sacramento Area Flood Control Agency (SAFCA); CALFED (or its successor); USBR (responsible for administering the Central Valley Project [CVP] and the Central Valley Project Improvement Act [CVPIA]); USFWS; National Marine Fisheries Service (NMFS); CDFG; and the Sacramento County Parks Department (which administers the Lower American River Parkway Plan). The multi-agency program will contain four components that together will address flow, temperature, and physical habitat issues for the Lower American River:

, Habitat Management Plan Development, Updating, and Technical Assistance;

, Projects that benefit the Lower American River Ecosystem;

, Monitoring and Evaluation Program; and

, Project-Specific Mitigation (which will remain the responsibility of each supplier).

In addition, because summertime recreation flows in the Lower American River are expected to be adversely affected by increased diversions, the Water Forum Proposal also includes commitments to fund projects to mitigate recreational impacts.

Element V: Water Conservation

The Water Conservation Element of the WFP promotes more efficient use of limited water resources. This element is essential to meeting both of the coequal objectives of the Water Forum. Conserved water will be available to help supply the region's water needs and will

minimize the need for increased groundwater pumping and increased use of surface water, including water diverted from the American River.

Major components of the Water Conservation Element include: residential water meters; other water conservation programs similar to the Best Management Practices included in the statewide Memorandum of Understanding Regarding Urban Water Conservation; public involvement; water conservation plans; and agricultural water conservation. The water conservation practices in the element have been defined considering the specific circumstances of the Water Forum stakeholders. The element does not preclude implementing other, more aggressive conservation approaches to the extent additional, feasible measures become available in the future.

Element VI: Groundwater Management

This element provides a framework by which the groundwater resource in Sacramento County can be protected and used in a sustainable manner and a mechanism for coordination with those adjacent counties that share the groundwater basin. A key provision of the element includes recommendations on "sustainable yield," which is the amount of water that can be safely pumped from the basin over a long period of time without damaging the aquifer. Estimated average annual sustainable yield recommendations for each of the three sub-areas of the basin are: North Area: 131,000 AF; South Area: 273,000 AF; and Galt Area: 115,000 AF. Recommendations for locally controlled groundwater management include monitoring groundwater withdrawal and "conjunctive use", or the planned use of surface water in conjunction with groundwater.

The Sacramento North Area Groundwater Management Authority was established in August, 1998 through adoption of a joint powers authority using the existing authority of the City of Sacramento, the City of Folsom, the City of Citrus Heights, and the County of Sacramento. The Authority will be charged with facilitating conjunctive use programs and maintaining long-term sustainable yield. Discussions about groundwater management in the South Area and the Galt Area will be undertaken by the Water Forum Successor Effort.

The groundwater management governance structure should facilitate participation by water agencies with specific and relevant interest in the groundwater governance structure outside of Sacramento County and encourage cooperation and collaboration with such agencies.

Element VII: Water Forum Successor Effort

In order to ensure implementation of the WFP, a Water Forum Successor Effort will be created with membership consisting of those organizations signatory to the WFP. Its responsibilities will be to oversee, monitor, and report on implementation of the WFP. The Water Forum Successor Effort will not have any authority to govern or regulate.

2.3.3 Essential Actions to be Carried Out by Other Agencies

Three projects anticipated to be carried out by other agencies are essential for the overall WFP:

- Temperature Control Device for the urban water intake from Folsom Dam;
- Optimal use of the cold water pool in Folsom Reservoir; and
- Improved Pattern of Fishery Flow Releases from Folsom Reservoir.

In the analysis of the WFP impacts, each of these projects is assumed to be in place in the future.

2.3.4 Process for Environmental Review and Adoption of the Water Forum Agreement

The environmental review process and the WFP process are taking place concurrently in a manner that allows the integration of public and agency comments into the planning process. The public and agency review of the Draft EIR and the stakeholders' review of the Agreement will provide comments that will be used in refining the WFP. As the CEQA Lead Agencies, the City and County of Sacramento each have the authority to certify the Final EIR. After Final EIR certification, the stakeholders of the Water Forum will be asked to approve the Agreement and agree to participate in its implementation. If the public agency stakeholders rely on the EIR in deciding whether to approve the Agreement they will act as Responsible Agencies under CEQA. The Agreement will be implemented by the Water Forum Successor Effort representing the stakeholders who adopt the proposal.

After approval of the Agreement by the Water Forum stakeholders, the Final EIR will be forwarded to other agencies for their consideration in connection with (1) their responsibilities as State Trustee Agencies, as defined by State CEQA Guidelines §15386 and/or (2) separate, subsequent actions potentially needed for the plan's implementation. State Trustee Agencies and other affected state agencies include: California Department of Water Resources (DWR), State Water Resources Control Board (SWRCB), State Lands Commission (S.C.), CDFG, California Department of Parks and Recreation, and State Historic Preservation Office (SHPO). Federal agencies which may have separate, subsequent actions related to the plan's implementation include the USBR, USFWS, NMFS, and U. S. Army Corps of Engineers (USACE). The Final EIR will provide program-level technical analysis which may support environmental review of implementation actions and their project-level environmental documents.

2.3.5 Approach for Environmental Analysis Recognizing Mitigating Features of the Water Forum Proposal

In reviewing the environmental impacts and mitigation measures described in this document, it is important to understand the context in which the WFP was developed. Because one of the Water Forum's coequal objectives is the preservation of the fishery, wildlife, recreational and aesthetic values of the Lower American River, the WFP is designed to minimize adverse environmental impacts to the extent feasible. The WFP contains seven elements, each integral

to the overall agreement. Element I, Increased Surface Water Diversions, provides for increased diversions from the Lower American River. The remaining six elements all, in one way or another, are intended to reduce the adverse impacts of those increased diversions. Therefore, the project itself reduces the impacts to the environment, through negotiated measures throughout the proposal.

For example, Element II, Actions to Meet Customers 'Needs While Reducing Diversion Impacts on the Lower American River in Drier Years, contains provisions by which purveyors agree to reduce their diversions from the Lower American River by specified levels in defined drier years. These actions include extraordinary conservation during the driest years beyond that included in Element V of the WFP. These cutbacks will decrease the severity of the adverse impacts to the river in drier years. These reduced levels of diversions are an integral part of the WFP, and the modeling of impacts in this EIR assumes these reductions. In addition, in defined "driest" years (also known as "conference years"), the WFP signatories will meet and confer regarding diversions and river flows.

Similarly, Element III, Support for a Improved Pattern of Fishery Flow Releases From Folsom Reservoir, provides for the operation of Folsom in a manner that more closely matches the needs of anadromous fish, particularly fall run chinook salmon. One of the essential requirements of the WFP is that this improved flow standard be incorporated into the long-term management of Folsom and Nimbus Dams.

Element IV, the Habitat Management Element (HME), provides for Water Forum participation and funding of a multi-agency Habitat Management Program (HMP) for the Lower American River. The WFP supports habitat improvements and other ecosystem-enhancing projects for the river, which are to be contained in the Implementation Plan of the HMP, described in more detail in Appendix B to this EIR. The HME also includes commitments to fund projects to mitigate adverse recreational impacts of the WFP identified in this Draft EIR.

However, because the details of the Water Forum Successor Effort's Implementation Plan for the Habitat Management Program are still being worked out, this Draft EIR, in identifying the adverse impacts of the WFP, does *not* include the benefits of the habitat improvement components of the HMP.

It does, however, assume the implementation of an Improved Pattern of Fishery Flow Releases, the Folsom Dam Temperature Control Device, and Folsom Reservoir Optimal Cold Water Pool Management all of which are necessary for the WFP to be effective. Therefore, this EIR describes aspects of the proposed HMP that will provide additional benefit to the Lower American River beyond what is the basis of impact analysis of the EIR.

Element V, the Water Conservation Element of the WFP, commits purveyors to specified water conservation programs. The diversions identified in the WFP reflect the reduced demand resulting from these conservation programs.

Element VI, the Groundwater Management Element, includes conjunctive use programs that provide for storing water in the wet years so that groundwater can safely be used in dry years, conserving surface water supplies.

Several of the elements in the WFP would reduce impacts on, CVP and State Water Project (SWP) water deliveries, CVP hydropower generation, Shasta Reservoir, and Folsom Reservoir. These elements of the WFP include Water Conservation, Groundwater Management, and some of the Actions That Meet Customers 'Needs While Reducing Diversion Impacts on the Lower American River in Drier Years. The analysis on this Draft EIR reflects implementation of all of the elements.

Based on the State CEQA Guidelines, the impact assessment approach is focused on identifying potential impacts due to implementation of the WFP. It is important to note that there are numerous programs underway or planned to improve fishery conditions for Sacramento River Valley fisheries, particularly salmonid fisheries, including the AFRP of the CVPIA and the Ecosystem Restoration Program Plan of the CALFED Bay-Delta Program.

When implemented over the next several decades, these and other future programs are expected to improve fishery conditions. However, it is not possible at this time to quantify all the benefits of those programs. **This means that the quantitative analyses and impact determinations in the Water Forum Proposal EIR do not reflect anticipated benefits of those programs.**

The EIR identifies environmental impacts and additional mitigation measures, to further reduce adverse impacts, for consideration by the Water Forum stakeholders. As described below, certain impacts are considered significant and unavoidable.

2.3.6 Response to Impacts on the Sacramento River and the Bay-Delta

As discussed previously, the WFP already includes many provisions that would reduce impacts. These include potential aquatic impacts of increased diversions on the Sacramento River and the Bay-Delta. Even with these actions, unless additional water supplies are developed or diversions are reduced, there would still be remaining impacts on the Sacramento River and the Bay-Delta, especially under cumulative conditions, based on the scenario addressed in this EIR (refer to Table 2-3 and Chapter 6).

When purveyors in the American River watershed exercise area-of-origin water rights, it will reduce the amount of water available from Folsom Reservoir for use by USBR in meeting Sacramento River and Bay-Delta environmental and water delivery obligations. The USBR will have to operate its entire system, including Shasta and Folsom Reservoirs, differently in order to meet those obligations. Unless additional supplies are developed or diversions are reduced, this would result in impacts on the Sacramento River, above and below the American River, and the Bay-Delta.

The USBR will be involved in almost all of the diversion projects included in the WFP. In some cases the USBR needs to issue a contract for a new water supply. In other cases, it has to sign a Warren Act agreement or grant a right-of-way.

In order to take any of these actions, the USBR is required to consult with the resource agencies under Section 7 of the Endangered Species Act (ESA). In addition to Water Forum actions, the consultation will also cover the USBR's entire Operational Criteria and Plan (OCAP) for the CVP.

Under the ESA, the USBR is prohibited from taking any actions that will jeopardize the continued existence of threatened or endangered species. Resource agencies participate in the ESA process by developing biologic objectives for species listed or proposed for listing. Biological objectives serve as specific performance criteria which are included in the biological opinions under the ESA. The USBR is required by the ESA to operate the CVP in a way that meets the biologic objectives set for each species listed or proposed for listing.

Because resource agencies are in the process of developing these biological objectives, it is impossible to specify performance criteria at this time. That uncertainty is combined with uncertainty over the extent and effectiveness of several future actions to protect Sacramento River and Bay-Delta resources. Therefore, it is impossible at this time to formulate specific mitigation measures for Sacramento River or Bay-Delta aquatic impacts or to assign responsibility for the mitigation.

The Water Forum Proposal EIR is a Program EIR and it is recognized that individual projects included in the WFP will need to comply with CEQA and, where applicable, the National Environmental Policy Act (NEPA) and the state and federal Endangered Species Acts. Compliance with the state and federal Endangered Species Acts may result in diversion restrictions or other conditions beyond those that are included in the WFP.

2.4 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 2-1, beginning on page 2-13 contains a list of WFP impacts by issue. Table 2-2, beginning on page 2-16, contains a more detailed summary of environmental impacts identified in the EIR, mitigation measures, and level of significance after mitigation. Key impact conclusions are summarized below.

2.4.1 Lower American River and Folsom Reservoir Impacts

As described above, the WFP includes features that help preserve the values of the Lower American River, and also serve to reduce impacts on other resources, including Folsom Reservoir. These features, such as water conservation, dry-year diversion restrictions, revised pattern of releases for fisheries, and conjunctive use of surface and groundwater, reduce many environmental impacts of proposed diversions; however, they cannot entirely avoid significant

effects. The environmental analysis of the direct effect study area identified significant and potentially significant impacts within the Lower American River and Folsom Reservoir, including effects to certain fisheries recreational opportunities, and cultural resources.

Effects to fisheries include flow-related impacts to chinook salmon in the Lower American River which are proposed as threatened under the federal ESA. These impacts are considered potentially significant and mitigation is suggested as a part of the Habitat Mitigation Element. Potentially significant effects to Sacramento splittail of the Lower American River also occur.

In Folsom Reservoir, a potentially significant effect to warmwater fisheries is expected because of the reduction of littoral habitat and spawning success caused by more frequent declines in lake levels; mitigation measures to improve littoral habitat are identified. Coldwater fisheries in the reservoir are not significantly affected.

Effects to recreation opportunities include more frequent periods of inadequate recreation flows in the Lower American River during the summer which affects rafting and boating. In Folsom Reservoir, more frequent lake level declines result in significant impacts to boat ramp operations, use of marina wet slips, and opportunities for swimming at designated beaches.

The EIR also identifies adverse effects on cultural resources of Folsom Reservoir due varying water levels and increased cycles of inundation and exposure of cultural resources sites.

Potential mitigation is identified for each of these impacts. These and other impacts to the Lower American River and Folsom Reservoir identified in this EIR are presented in Tables 2-1 and 2-2.

2.4.2 Out-of-Area Impacts

The Draft EIR identifies that, under future (2030) conditions which include the WFP and other potential future system-wide actions (e.g., 2030 out-of-basin CVP/SWP demands, increased Sacramento Valley demands, and increased Trinity River flows), impacts outside the American River system would occur. These include impacts to water supply, water quality, and power supply.

The USBR may have to operate the CVP differently under a revised CVP-OCAP in the future when purveyors in the Water Forum exercise their water entitlements including water rights and CVP-contracted entitlements. DWR may also need to modify operation of the SWP, and, together with the USBR, may revise their Coordinated Operations Agreement (COA) in response to these changing conditions. The changed operation could affect their ability to meet their environmental and water supply obligations, including protection of the Sacramento River and Bay-Delta. For instance, deliveries to some CVP contractors, including some Water Forum purveyors, could be subject to greater and more frequent deficiencies being imposed by the USBR. It is also recognized that under some conditions, and depending on certain operational assumption, the analysis might indicate that there is an over-allocation of specific CVP resources.

CVP and SWP contractors north and south of the Delta would be affected to varying degrees. Modeling analysis of 2030 conditions with the WFP diversions showed reduced water available for delivery to municipal and industrial, and agricultural contractors north and south of the Delta, in some years and in varying magnitudes. Statutory and policy protections for the areas of origin, however, allow for implementation of the WFP (see Section 4.3, Water Supply). The assumptions on which these modeling results are based are explained in Appendix G.

Potentially significant impacts to Sacramento River and Delta water quality were also identified due to reduced flows in the Sacramento River in some years with implementation of the WFP. Reduced flows could cause seasonal elevations in river water temperatures and increased pollutant concentrations due to reduced dilution capacity.

Minor power supply impacts would also occur as a result of implementation of the WFP. Modeling indicates an overall reduction of less than 1% of annual average CVP energy production.

2.4.3 Water Service Study Area Impacts

Implementation of the WFP would not directly alter land uses in the water service study area. It would, however, allow water purveyors in the Sacramento region to provide a safe and reliable water supply for the region's planned development through the year 2030. Land use decisions would continue to be made by city and county government decision-makers. The WFP would accommodate substantial development, however, as it would remove water supply as an obstacle to growth. Therefore, the WFP is considered to be growth inducing in the water service study area, as defined by the State CEQA Guidelines.

This EIR cannot assess the precise impacts of the regional growth that may be facilitated by the WFP because of the many variables involved. With respect to land use designations already approved in adopted general plans, environmental analysis has already been completed in the general plan EIRs. Under the provisions of the State CEQA Guidelines (§15152[b]), the analysis in already certified general plan EIRs need not be repeated in a later EIR. For future development projects, more project-specific environmental review and analysis of impacts and mitigation measures will be required before such projects are approved.

Table 2-1
Water Forum Proposal Impact Summary

Resource Category	WFP Impact After Mitigation
GROUNDWATER RESOURCES	
Groundwater Quality	LESS THAN SIGNIFICANT
Movement of Groundwater Contaminants	LESS THAN SIGNIFICANT
Land Subsidence	LESS THAN SIGNIFICANT
Efficiency of Wells	LESS THAN SIGNIFICANT
WATER SUPPLY	
Decrease in Deliveries to SWP Customers	SIGNIFICANT
Decrease in Deliveries to CVP Customers	SIGNIFICANT
WATER QUALITY	
Lower American River and Folsom Reservoir Water Quality	LESS THAN SIGNIFICANT
Sacramento River and Delta Water Quality	POTENTIALLY SIGNIFICANT
FISHERIES RESOURCES AND AQUATIC HABITAT	
Impacts to Folsom Reservoir ŝ Coldwater Fisheries	LESS THAN SIGNIFICANT
Impacts to Folsom Reservoir ŝ Warmwater Fisheries	POTENTIALLY SIGNIFICANT
Impacts to the Warmwater and Coldwater Fisheries of Lake Natoma	LESS THAN SIGNIFICANT
Temperature Impacts to Nimbus Fisheries Hatchery Operations and Fish Production	LESS THAN SIGNIFICANT
Fall-run Chinook Salmon	POTENTIALLY SIGNIFICANT
Lower American River Steelhead	LESS THAN SIGNIFICANT
Flow- and Temperature-Related Impacts to Splittail (February Through May)	POTENTIALLY SIGNIFICANT
Flow- and Temperature-Related Impacts to American Shad (May and June)	LESS THAN SIGNIFICANT
Flow- and Temperature-Related Impacts to the Striped Bass Sport Fishery (May and June)	LESS THAN SIGNIFICANT
Impacts to Shasta Reservoir ŝ Coldwater Fisheries	LESS THAN SIGNIFICANT
Impacts to Trinity Reservoir ŝ Coldwater Fisheries	LESS THAN SIGNIFICANT
Impacts to Shasta Reservoir ŝ Warmwater Fisheries	LESS THAN SIGNIFICANT
Impacts to Trinity Reservoir ŝ Warmwater Fisheries	LESS THAN SIGNIFICANT
Impacts to Keswick Reservoir Fisheries	LESS THAN SIGNIFICANT
Flow-related Impacts to Sacramento River Fisheries	LESS THAN SIGNIFICANT
Temperature-Related Impacts to Sacramento River Fisheries Resources	LESS THAN SIGNIFICANT
Delta Fish Populations	LESS THAN SIGNIFICANT

Table 2-1
Water Forum Proposal Impact Summary

Resource Category	WFP Impact After Mitigation
FLOOD CONTROL	
Ability to Meet Flood Control Diagrams of CVP/SWP Reservoirs	LESS THAN SIGNIFICANT
Increased Stress on Lower American River Flood Control Structures	LESS THAN SIGNIFICANT
Increased Exposure to Flood Hazards	LESS THAN SIGNIFICANT
Substantial Change in Floodplain Characteristics	LESS THAN SIGNIFICANT
Changes in River Channel Geometry or Gradients Leading to Changes in Bank Erosion, Aggradation, Segradation, or Meander Processes	LESS THAN SIGNIFICANT
HYDROPOWER SUPPLY	
CVP Hydropower Capacity and Generation	LESS THAN SIGNIFICANT
Increased Energy Requirements for Diverters Pumping From Folsom Reservoir	LESS THAN SIGNIFICANT (ECONOMICALLY SIGNIFICANT)
VEGETATION AND WILDLIFE	
Lower American River Riparian Vegetation	LESS THAN SIGNIFICANT
Lower American River Backwater Ponds	LESS THAN SIGNIFICANT
Vegetation Associated With Reservoirs	LESS THAN SIGNIFICANT
Vegetation Associated With the Upper Sacramento River	LESS THAN SIGNIFICANT
Vegetation Associated With the Lower Sacramento and the Delta	LESS THAN SIGNIFICANT
Special-Status Species of Riparian and Open Water Habitats	LESS THAN SIGNIFICANT
Special-Status Species Dependent on Lower American River Backwater Pond/Marsh Habitats	LESS THAN SIGNIFICANT
Elderberry Shrubs and Valley Elderberry Longhorn Beetle	LESS THAN SIGNIFICANT
Sacramento-San Joaquin Delta Habitats of Special-Status Species (Non-fish)	LESS THAN SIGNIFICANT
RECREATION	
Reduced Rafting and Boating Opportunities on the Lower American River	SIGNIFICANT
Lake Natoma Recreation Opportunities	LESS THAN SIGNIFICANT
Reduced Folsom Reservoir Boating Opportunities	SIGNIFICANT
Reduced Availability of Folsom Reservoir Swimming Beaches	SIGNIFICANT
Shasta Lake Recreational Opportunities	LESS THAN SIGNIFICANT
Trinity Reservoir Recreation Opportunities	LESS THAN SIGNIFICANT
Recreation Opportunities on Whiskeytown and Keswick Reservoirs	LESS THAN SIGNIFICANT
Recreation Impacts on the Upper Sacramento River	LESS THAN SIGNIFICANT

Table 2-1
Water Forum Proposal Impact Summary

Resource Category	WFP Impact After Mitigation
Lower Sacramento River Recreation Opportunities	LESS THAN SIGNIFICANT
Delta Recreation Opportunities	LESS THAN SIGNIFICANT
Consistency With the American River Parkway Plan	LESS THAN SIGNIFICANT
Consistency With the Lower American River's Recreational River Designations	LESS THAN SIGNIFICANT
LAND USE AND GROWTH-INDUCING IMPACTS	
Land Use Impacts on Direct and Indirect Effect Study Areas	LESS THAN SIGNIFICANT
Land Use and Growth-Inducing Impact in the Water Service Study Area	SIGNIFICANT
Consistency With General Plan	LESS THAN SIGNIFICANT
Consistency With General Plan Water Supply and Conservation Policies	LESS THAN SIGNIFICANT
AESTHETICS	
Aesthetic Value of the Lower American River	LESS THAN SIGNIFICANT
Aesthetic Value of the Upper Sacramento River, Lower Sacramento River, and Sacramento-San Joaquin Delta	LESS THAN SIGNIFICANT
Aesthetic Value of Lake Natoma, Whiskeytown, and Keswick Reservoirs	LESS THAN SIGNIFICANT
Aesthetic Value of Folsom Reservoir	LESS THAN SIGNIFICANT
Aesthetic Value of Trinity and Shasta Reservoirs	LESS THAN SIGNIFICANT
CULTURAL RESOURCES	
Effect of Varying Water Levels on Cultural Resources in Folsom Reservoir	SIGNIFICANT
Effect of Varying Flows/River Stage on Cultural Resources Along the Lower American River Bank Near Nimbus Dam	LESS THAN SIGNIFICANT
Effect of Varying Flows/River Stage on Cultural Resources Along the Lower American River Bank Near the Mouth	LESS THAN SIGNIFICANT
Effect of Varying Flows/River Stage on Cultural Resources Along the Lower American River Bank Near Freeport	LESS THAN SIGNIFICANT
SOILS AND GEOLOGY	
Changes in Geologic Substructures	LESS THAN SIGNIFICANT
Exposure to Major Geologic Hazards	LESS THAN SIGNIFICANT
Increased Soil Erosion by Wind or Water	LESS THAN SIGNIFICANT
Loss of Soil Cover	LESS THAN SIGNIFICANT

Table 2-2
SUMMARY OF PROJECT IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
GROUNDWATER (Section 4.2)		
4.2-1: Groundwater Quality. Further lowering of groundwater levels is anticipated to occur until the elevation of the groundwater table would stabilize under the groundwater yield recommendations of the WFP. This lowering may result in continued deterioration of groundwater quality in the South Sacramento and Galt areas due to up-rising of poorer quality water from the lower aquifer zone. In the future, elevated manganese and iron levels may occur in groundwater but at levels that would represent an aesthetic, rather than health-related impact. Continued treatment of manganese and iron is expected for municipal wells in the future. Additionally, arsenic levels are not anticipated to exceed current Title 22 standards, and those for radon have yet to be established. This would be considered a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**
4.2-2: Movement of Groundwater Contaminants. Further lowering of the groundwater levels is anticipated to occur until the elevation of the groundwater table would stabilize under the groundwater yield recommendations of the WFP. This lowering would result in no substantial increase in the rate of groundwater contaminant movement. This is a less-than-significant impact because of the small magnitude of increase expected and because the contaminated sites are currently undergoing remediation.	No mitigation measures are required.	**less-than-significant**
4.2-3: Land Subsidence. Further lowering of groundwater levels is anticipated to occur until the elevation of the groundwater table would stabilize under the groundwater yield recommendations of the WFP. This lowering of groundwater levels is unlikely to result in substantial land subsidence. Historical data on subsidence in relation to past groundwater decline indicate that the area is not susceptible to substantial land subsidence given the anticipated level of groundwater level decline in the future. The range of land	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
subsidence estimated to occur with the projected groundwater decline is 0.13 to 0.35 feet, and would occur over the course of several decades. Since no substantial land subsidence is expected to occur, this would be considered a less-than-significant impact.		
4.2-4: Efficiency of Wells. Further lowering of groundwater elevations is anticipated to occur until the elevation of the groundwater table stabilizes under the recommended sustainable yields of the WFP. This further lowering may result in reduced efficiency of existing groundwater wells due to the need to: 1) deepen many existing wells, and 2) increase pumping at deepened wells. This reduced efficiency, however, would translate into an economic, rather than environmental impact, as the volume of groundwater available and its quality are not anticipated to be substantially affected following well deepening or increased pumping. The economic effects would be the increased costs associated with the implementation of these actions. This is considered a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**
WATER SUPPLY (Section 4.3)		
4.3-1: Decrease in Deliveries to SWP Customers. Implementation of the WFP could result in decreased water deliveries to SWP customers in 6 years of the 70-year record, ranging between 15 and 173 thousand acre-feet. This would represent a significant impact.	Development of additional water supplies by the SWP could reduce impacts to SWP deliveries.	**significant**
4.3-2: Decrease in Deliveries to CVP Customers. Implementation of WFP could result in a decrease in water deliveries to CVP customers in up to 27 years of the 70-year record, depending on the type of CVP contractor. This would represent a significant impact.	Development of additional water supplies by the CVP could reduce impacts to CVP deliveries.	**significant**

Table 2-2
SUMMARY OF PROJECT IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
WATER QUALITY (Section 4.4)		
4.4-1: Seasonal Changes to Water Quality in Folsom Reservoir, Lake Natoma, and the Lower American River. Implementation of the WFP would directly result in seasonal reductions in Folsom Reservoir storage and Lower American River flows during most years, but would have little effect on the volume of water maintained in Lake Natoma. Volume reductions in Folsom Reservoir and the Lower American River would be expected to alter water temperatures and could increase concentrations/levels of nutrients, pathogens, TDS, TOC, turbidity, and/or priority pollutants due to reduced dilution capacity. With the exception of water temperature (see Section 4.5.3, Fisheries Resources and Aquatic Habitat, for a discussion of temperature impacts to these waterbodies), program-level assessment indicated that any direct impacts to water quality in these waterbodies resulting from seasonal reductions in Folsom Reservoir storage and/or Lower American River flows would be less than significant. No mitigation measures are required.	No mitigation measure are required.	**less-than-significant**
4.4-2: Seasonal Changes to Sacramento River and Delta Water Quality. Implementation of the WFP would result in seasonal reductions in Shasta Reservoir storage and Sacramento River flow during some years. Such hydrologic changes would be expected to cause seasonal elevations in river water temperatures in some years, and could increase concentrations/levels of nutrients, pathogens, TDS, TOC, turbidity, and/or priority pollutants in the Sacramento River due to reduced dilution capacity. Reduced river flows would reduce Delta inflow which, if sufficiently large, could alter various water quality parameters in portions of the Delta. With the possible exception of water temperature (see Section 4.5, Fisheries Resources and Aquatic Habitat, for a discussion of temperature impacts to the Sacramento River), program-level assessments indicated that any direct impacts to Sacramento River or Delta	Changes to Sacramento River and Delta water quality would be an indirect impact of increased urban development facilitated, in part, by the additional diversions of surface and groundwater defined in the WFP. Water quality mitigation measures will be developed for specific projects as they occur in the future. Responsibility for this mitigation lies with the land use planning authorities and individual project proponents, and is beyond the Water Forum's control. Water quality mitigation anticipated to occur with planned growth is addressed in the Sacramento County and other regional General Plans. In addition, the Sacramento County Regional Sanitation District, which operates the SRWTP, is currently updating its Sacramento Regional Wastewater Treatment	**potentially significant**

Table 2-2
SUMMARY OF PROJECT IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
water quality, resulting from seasonal reductions in Sacramento River flow associated with the WFP, would be potentially significant.	Plan Master Plan, and plans to update this document every 5 years in the future.	
FISHERIES RESOURCES and AQUATIC HABITAT (Section 4.5)		
4.5-1: Impacts to Folsom Reservoir's Coldwater Fisheries. Additional diversions from Folsom Reservoir under the WFP would reduce reservoir storage by 10% or more, relative to the Base Condition, infrequently during the period April through August and occasionally during the period September through November. However, anticipated reductions in reservoir storage would not be expected to adversely affect the reservoir's coldwater fisheries because: 1) coldwater habitat would remain available within the reservoir during all months of all years; 2) physical habitat availability is not believed to be among the primary factors limiting coldwater fish populations; and 3) anticipated seasonal reductions in storage would not be expected to adversely affect the primary prey species utilized by coldwater fishes. This would be a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**
4.5-2: Impacts to Folsom Reservoir's Warmwater Fisheries. Additional diversions from Folsom Reservoir under the WFP would frequently reduce reservoir storage (and thus water levels) during the critical spawning and rearing period (i.e., March through September), which could reduce the availability of littoral (nearshore) habitat containing vegetation. Modeling output indicates that long-term average reductions in littoral habitat availability of up to 34% could occur in September. Average reductions in littoral habitat availability of this magnitude could result in increased predation on young-of-the-year warmwater fishes, thereby reducing initial year-class strength of warmwater fishes in many years. Unless willows and other nearshore vegetation	Through plantings and related activities, encourage existing willow and other terrestrial vegetative communities to become established at lower reservoir elevations. Doing so would provide greater availability of physical structure for warmwater fish spawning and rearing in the future when spring reservoir elevations are lower than under current conditions. Artificial habitat structures (e.g., artificial synthetic structures, submerged brush and debris, fish cribs, etc.) would provide structure in littoral habitats used by warmwater fishes for spawning and early lifestage rearing. Because the majority	**potentially significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
become established at lower reservoir elevations in the future in response to seasonal reductions in water levels, population declines for largemouth bass and other warmwater species could be expected to occur. Reduced littoral habitat availability would be a potentially significant impact to Folsom Reservoir warmwater fisheries.	of the reservoir's warmwater fishes spawn in shallow water habitats (i.e., generally less than 10 feet deep), artificial structures would be placed at reservoir elevations that would likely be used by these fishes for spawning and rearing. The location and number of artificial structures placed within the reservoir would increase in proportion to the loss of littoral habitat over time. Implementing habitat structures would help minimize the effects to Folsom Reservoir's warmwater fisheries that would be expected to result from increased diversions and resultant reduced water surface elevations in Folsom Reservoir. While acknowledging operational constraints due to flood control, power production and diversions, work cooperatively with USBR operators to minimize the frequency with which reservoir elevation changes potentially resulting in nest flooding/dewatering events would occur. Monthly/weekly rates of reservoir elevation change will be documented. This information will be compared to timing and average depth of spawning for key nest-building warmwater species in Folsom Reservoir to estimate probabilities of nest flooding/dewatering events. This measure will be implemented to the degree reasonable and feasible based on its integration into the Habitat Management Program. Place artificial structures in the reservoir to compensate for loss of littoral habitats containing natural structure (e.g., inundated willows). The abundance of representative warmwater species will be monitored periodically through creel surveys and/or through catch-per-unit effort (CPUE) rates for tournament anglers to determine the extent to which warmwater fish utilize the structures. The extent to which	

Table 2-2
SUMMARY OF PROJECT IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	this mitigation is to be implemented will be based on the results of these surveys. Frequency and timing of potential nest flooding/dewatering events that facilitate meeting current and future warmwater fish management goals will be determined by CDFG reservoir biologists. More specific performance criteria will be developed in the Habitat Management Program Plan. All three activities described above would, to the degree reasonable and feasible, be implemented, monitored, and maintained throughout the effective period of the Water Forum Agreement	
4.5-3: Impacts to The Warmwater and Coldwater Fisheries of Lake Natoma. Operations of Folsom Dam and Reservoir under the WFP would have minimal, if any, impact to Lake Natoma's seasonal storage, rates of elevation fluctuation, or temperature. Any changes to these lake parameters that could occur under the WFP would be expected to be minor and, therefore, would not adversely affect the lake's warmwater or coldwater fisheries. This would be a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**
4.5-4: Temperature Impacts to Nimbus Fish Hatchery Operations and Fish Production. Operations of Folsom Dam and Reservoir under the WFP would generally have little effect on May temperatures below Nimbus Dam, and would typically result in equivalent or colder temperatures during the June through September period, relative to the Base Condition. Improved water temperatures would result from a Folsom Dam urban water intake structure temperature control device, and optimal coldwater pool management. On a long-term basis, the frequent and substantial temperature reductions that would occur during the June through September period (when hatchery temperatures reach seasonal highs annually) would more than offset the less frequent adverse	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
impacts that would occur in some years. This would potentially benefit hatchery operations and resultant fish production in most years. Overall, this would be a less-than-significant impact.		
4.5-5: Fall-run Chinook Salmon. Operations of Folsom Dam and Reservoir under the WFP would result in periods of reduced flows in the lower American River during the October through December spawning period, when flows under the Base Condition would be 2,500 cfs or less. Further flow reductions occurring at already low flow levels could result in increased redd superimposition and eventual lower year-class strength. Improved water temperatures (resulting from a Folsom Dam urban water intake structure temperature control device and optimal coldwater pool management) and improved early life-stage survival, will benefit chinook salmon spawning success, as well as other life-stages. However, because of the broad, programmatic nature of the WFP, the extent to which these actions (combined with other future actions such as spawning gravel management, revised flow ramping rate criteria, etc.) will interact to counterbalance flow reductions is uncertain, as is the manner in which these actions will be implemented, managed, and coordinated. Consequently, the overall effects of the WFP on chinook salmon year-class strength also is uncertain, and therefore, is considered to represent a potentially significant impact.	The following actions would be implemented as part of the HME, which will be adopted as an integral component of the Water Forum Agreement. a) Dry Year Flow Augmentation. The Water Forum Successor Effort and the USBR would work together with Placer County Water Agency (PCWA) and the USFWS to augment Lower American River flows, particularly during the spawning period during years when impacts would occur. This measure would be implemented (within the constraints of water availability) during dry and critically dry years. The primary source of water for augmenting flows would be the purchase of American River water from upstream reservoirs operated by PCWA. b) Flow Fluctuation Criteria. Develop and implement flow fluctuation (i.e., ramping) criteria for the operation of Folsom and Nimbus dams that would reduce the frequency with which rapid flow fluctuations occur in the river. Reducing the occurrence of large, rapid flow reductions would help to minimize losses of chinook salmon due to redd dewatering (fall and winter) and fry and juvenile stranding (winter and spring), especially during periods of low flow. Flow fluctuation criteria would contribute to improving spawning and incubation success, which, in turn, would lead to an overall increase in annual production of chinook salmon. This action would off-set, in part, potential flow-related impacts to chinook salmon.	**potentially significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	c) Wetland/Slough Complex Restoration/Maintenance. Restore wetland/slough complexes occurring within habitat transitional zones between river channels, shoreline, and upland habitats. Restoration would involve grading areas for the appropriate elevations and hydrology, as well as planting appropriate vegetation, to achieve desired habitat characteristics. Because wetland/slough complexes are used by juvenile chinook salmon for rearing prior to emigration, restoration and maintenance of these complexes would increase the quantity, and possibly the quality, of rearing habitat available to juvenile chinook salmon. Thus, this action could improve juvenile rearing success prior to emigration, thereby contributing to an overall increase in annual production of chinook salmon. This action would off-set, in part, potential temperature-related impacts to juvenile steelhead. d) Instream Cover (woody debris). Most large woody debris has been, and continues to be, removed from the Lower American River by the U.S. Army Corps of Engineers to reduce potential hazards to recreationists. Discontinuation of this action in select reaches of the river would allow woody debris to accumulate. Instream woody cover is important for juvenile chinook salmon rearing as it provides structure that can be utilized to escape fish and avian predators. It also provides microhabitats with reduced current velocities where juvenile chinook salmon can feed more effectively. Increasing the amount of instream woody debris at specific sites could improve juvenile rearing success prior to emigration, thereby contributing to an overall increase in annual production. This action would off-set, in part, potential flow-related impacts to juvenile chinook salmon.	

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	e) Shaded Riverine Aquatic Habitat Protection/Management. SRA habitat can be restored along the Lower American River by constructing terraces along shorelines and planting terraces with appropriate herbaceous and woody vegetation. SRA habitat provides feeding and holding areas, escape cover, and local temperature refugia for juvenile chinook salmon. Development and implementation of a shaded riverine aquatic habitat protection/management program would facilitate improving rearing habitat. Thus, protecting and restoring SRA habitat could improve juvenile rearing success, thereby contributing to an overall increase in annual production. This action would off-set, in part, potential flow-related impacts to juvenile chinook salmon. f) Spawning Habitat Management/Maintenance. Improve spawning habitat in the Lower American River by breaking up and redistributing coarse subsurface deposits and reducing compaction and embeddedness which reduces gravel permeability. Development and implementation of a gravel management program for the Lower American River would facilitate improving spawning habitat for chinook salmon and reducing the deterioration of existing spawning gravel. This habitat improvement would be expected to increase the amount of available spawning habitat, thereby contributing to higher overall spawning and incubation success, and therefore chinook salmon production, annually. This action would off-set, in part, flow-related impacts to juvenile chinook salmon. Performance Criteria: a) Dry Year Flow Augmentation. Increase flows particularly during the period during dry and critically dry years to the maximum extent feasible, relative to non-augmented conditions. To assess whether flow augmentation is reducing	

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	flow-related impacts, flows would be monitored in the Lower American River. b) Flow Fluctuation Criteria. Reduce the frequency of large, rapid flow-reduction events throughout the year, particularly during the fall spawning and incubation period. c) Wetland/Slough Complex Restoration/Maintenance. Increase the amount of wetland/slough complex habitat in the Lower American River that is used by early life stages of chinook salmon for rearing prior to emigration. d) Instream Cover (woody debris). Increase the amount of woody debris within areas of the Lower American River channel that is used by early life stages of chinook salmon for rearing prior to emigration. e) Shaded Riverine Aquatic Habitat Protection/Management. Protect existing, and increase to the extent feasible, the amount of shaded riverine aquatic habitat within the Lower American River. f) Spawning Habitat Management. Restore armored gravels to conditions that will encourage chinook salmon to use restored areas for spawning. Timing: a) Dry Year Flow Augmentation. Flow augmentation would occur during the spawning period October through December, during dry and critically dry years. This measure would be implemented, as necessary, throughout the effective period of the Water Forum Agreement.	

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	b) Flow Fluctuation Criteria. Flow fluctuation criteria would be developed and implemented for the effective period of the Water Forum Agreement. c) Wetland/Slough Complex Restoration/Maintenance. Wetland/Slough complex restoration/management would be conducted throughout the effective period of the Water Forum Agreement, as warranted by the success of initial projects to be initiated during the first two years of the Agreement. d) Instream Cover (woody debris). Instream cover (woody debris) would be allowed to accumulate in the Lower American River throughout the effective period of the Water Forum Agreement. e) Shaded Riverine Aquatic Habitat Protection/Management. Shaded riverine aquatic habitat protection/management would be conducted throughout the effective period of the Water Forum Agreement, as warranted by the success of initial projects to be implemented within the first two years of the Agreement. f) Spawning Habitat Management. Spawning habitat management would be conducted throughout the effective period of the Water Forum Agreement.	
4.5-6: Lower American River Steelhead. Operations of Folsom Dam and Reservoir under the WFP would, on a long-term average basis, measurably reduce river temperatures during all months of the June through September rearing period. Reductions in the 69-year average temperature at Watt Avenue of 0.5EF would occur during June, August, and September, with a reduction of 0.8EF expected during July. This would provide significant thermal	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
benefits to steelhead over-summering in the Lower American River during most years. Conversely, flow reductions of 20% or greater, when flows under the Base Condition would be at or below the maximum AFRP requirement for the month, would occur approximately 4% to 33% of the time during one or more months of the April through September period. Such flow reductions could reduce the quantity and/or quality of juvenile rearing habitat in some of these years. Because steelhead in the Lower American River are believed to be more limited by over-summering temperatures than flows, the frequent and substantial temperature reductions would be expected to offset the flow reductions, on a long-term basis. Consequently, the combined temperature and flow changes under the WFP would not be expected to adversely affect the long-term population trends of steelhead in the Lower American River. This would be a less-than-significant impact.		
4.5-7: Flow- and Temperature-Related Impacts to Splittail (February through May). Operations of Folsom Dam and Reservoir under the WFP would typically reduce, to some degree, the amount of riparian vegetation inundated between RM 8 and 9 (which serves as an index for the lower portion of the river) under the Base Condition. However, with few exceptions, substantial amounts of inundated riparian vegetation would remain under the WFP in years when such habitat would occur under the Base Condition. In addition, flow changes under the WFP would have little effect on the availability of in-channel spawning habitat availability, or the amount of potential spawning habitat available from the mouth up to RM 5 - the reach of the river influenced by Sacramento River stage. Also, the frequency with which suitable temperatures for splittail spawning below Watt Avenue would not change substantially under the WFP, relative to the Base Condition. Given the uncertainty as to the magnitude and extent of splittail spawning in the Lower American River, and the actual amount of potential spawning habitat a specific flow rates	The following actions would be implemented as part of the HME, which will be adopted as an integral component of the Water Forum Agreement. a) Wetland/Slough Complex Restoration/Maintenance. Restore wetland/slough complexes occurring within habitat transitional zones between river channels, shoreline, and upland habitats. Restoration would involve grading areas for the appropriate elevations and hydrology, as well as planting appropriate vegetation, to achieve desired habitat characteristics. Because wetland/slough complexes are used by splittail for spawning, restoration and maintenance of these complexes would increase the quantity, and possibly the quality, of spawning habitat available to splittail. Wetland/slough complex restoration/maintenance would reduce flow-related impacts to splittail spawning.	**potentially significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
throughout the river, the effects of flow reductions from the February through May period also are uncertain and, therefore, represent a potentially significant impact.	b) Shaded Riverine Aquatic Habitat Protection/Management. SRA habitat can be restored along the Lower American River by constructing terraces along shorelines and planting terraces with appropriate herbaceous and woody vegetation. SRA habitat provides spawning and rearing areas for splittail. Development and implementation of a shaded riverine aquatic habitat protection/management program would facilitate increasing splittail spawning and rearing habitat availability within the Lower American River. Thus, protecting and restoring SRA habitat could improve splittail spawning and juvenile rearing success, thereby contributing to an overall increase in annual production of splittail. This action would off-set, in part, potential flow-related impacts to splittail. c) Flow Fluctuation Criteria. Develop and implement flow fluctuation (i.e., ramping) criteria for the operation of Folsom and Nimbus dams that would reduce the frequency with which rapid flow fluctuations occur in the river. Reducing the occurrence of large, rapid flow reductions would help to minimize losses of splittail due to fry and juvenile stranding during the February through May period. Flow fluctuation criteria would contribute to improving early life-stage rearing success, thereby contributing to an overall increase in annual production of splittail. This action would off-set, in part, potential flow-related impacts to splittail. Performance Criteria: a) Wetland/Slough Complex Restoration/Maintenance. Increase the amount of wetland/slough complex habitat in the Lower American River that is used by splittail for spawning and rearing.	

Table 2-2
SUMMARY OF PROJECT IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	b) Shaded Riverine Aquatic Habitat Protection/Management. Protect existing, and increase to the extent feasible, the amount of shaded riverine aquatic habitat within the Lower American River. c) Flow Fluctuation Criteria. Develop and implement flow fluctuation (i.e., ramping) criteria for the operation of Folsom and Nimbus dams that would reduce the frequency with which rapid flow fluctuations occur in the river. Reducing the occurrence of large, rapid flow reductions would help to minimize losses of splittail due to fry and juvenile stranding during the February through May period. Flow fluctuation criteria would contribute to improving early life-stage rearing success, thereby contributing to an overall increase in annual production of splittail. This action would off-set, in part, potential flow-related impacts to splittail.	
4.5-8: Flow- and Temperature-Related Impacts to American Shad (May and June). Operations of Folsom Dam and Reservoir under the WFP would increase the frequency with which mean monthly flows at the mouth would be below the target attraction flow of 3,000 cfs by 3% in May and 4% in June. Because American shad spawn opportunistically where suitable conditions are found, potentially attracting fewer adult spawners into the Lower American River in a few years would not be expected to adversely impact annual American shad production within the Sacramento River system. Flow reductions under the WFP in May and June could reduce the number of adult shad attracted into the river during some years. Because annual production of American shad within the Sacramento River system would not be affected, and because direct impacts to the Lower American River sport fishery would be less than substantial in most years, any flow-related impacts to American shad are considered to be less than significant. In addition, because the frequency with which suitable	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
temperatures for American shad spawning would not differ substantially between the WFP and the Base Condition, and because river temperatures under the WFP would nearly always remain suitable for American shad rearing, temperature-related impacts to American shad also are considered to be less than significant. Overall, this would be a less-than-significant impact.		
4.5-9: Flow- and Temperature-Related Impacts to the Striped Bass Sport Fishery (May and June). Operations of Folsom Dam and Reservoir under the WFP would increase the frequency with which mean monthly flows at the mouth would be below the target flow of 1,500 cfs by 1% in May and 10% in June. Because flows at the mouth that are believed to be sufficient to maintain the striped bass fishery would be met or exceeded in most years during both May and June, and because substantial changes in the strength of the striped bass fishery would not be expected to occur in all years when mean May and/or June flows fall below 1,500 cfs, flow-related impacts to the striped bass fishery that could potentially occur under the WFP are considered to be less than significant. In addition, because the frequency with which suitable temperatures for juvenile striped bass rearing in the Lower American River would differ little between the WFP and the Base Condition during May and June, temperature-related impacts to juvenile striped bass rearing are also considered to be less than significant.	No mitigation measures are required.	**less-than-significant**
4.5-10: Impacts to Shasta Reservoir's Coldwater Fisheries. Hydrologic conditions with the WFP would not result in substantial reductions in reservoir storage throughout the April through November period of the year. Because changes to Shasta Reservoir storage would not be substantial, because physical habitat availability is not believed to be among the primary factors limiting coldwater fish populations within the reservoir, and because anticipated changes in seasonal storage would not be expected to result in substantial adverse effects on the primary prey base utilized	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
by the reservoir's coldwater fish populations, seasonal reductions in storage expected to occur under WFP would have less-than-significant impacts to Shasta Reservoir's coldwater fisheries.		
4.5-11: Impacts to Trinity Reservoir's Coldwater Fisheries. Hydrologic conditions with the WFP would not result in substantial reductions in reservoir storage throughout the April through November period of the year. Because changes to Trinity Reservoir storage would not be substantial, because physical habitat availability is not believed to be among the primary factors limiting coldwater fish populations within the reservoir, and because anticipated changes in seasonal storage would not be expected to result in substantial adverse effects on the primary prey base utilized by the reservoir's coldwater fish populations, seasonal reductions in storage expected to occur under WFP would have less-than-significant impacts to Trinity Reservoir's coldwater fisheries.	No mitigation measures are required.	**less-than-significant**
4.5-12: Impacts to Shasta Reservoir's Warmwater Fisheries. Seasonal changes in reservoir surface elevation under the WFP could result in substantial reductions in reservoir littoral habitat availability in a few years during the period March through September. However, seasonal changes in reservoir surface elevation under the WFP would generally not result in substantial reductions in long-term average reservoir littoral habitat availability during the period March through September (which are the primary spawning and initial rearing months for the reservoir's warmwater fishes of management concern). Thus, these reductions would not be of sufficient magnitude to substantially reduce long-term, average initial year-class strength of the warmwater fish populations of management concern. Consequently, seasonal reductions in littoral habitat availability would constitute a less-than-significant impact to Shasta Reservoir's warmwater	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
Fisheries. Because the frequency with which potential nest dewatering events could occur in Shasta Reservoir under the WFP would not change during any month of the March through July warmwater fish spawning period, impacts to warmwater fish nesting success under the WFP are considered to be less than significant Overall, this would constitute a less-than-significant impact.		
4.5-13: Impacts to Trinity Reservoir's Warmwater Fisheries. Under the WFP, substantial reductions in littoral habitat availability would occur infrequently throughout the March through September period. Similarly, the potential for nest dewatering events to occur in Trinity Reservoir would not change under the WFP during the March through July spawning period. Thus, additional surface water diversions under the WFP would result in less-than-significant impacts to the spawning and initial rearing success of Trinity Reservoir's nest-building, warmwater fishes. Based on these findings, implementation of the WFP would result in less-than-significant impacts to Trinity Reservoir warmwater fisheries.	No mitigation measures are required.	**less-than-significant**
4.5-14: Impacts to Keswick Reservoir Fisheries. Hydrologic conditions with the WFP would have little, if any, effect on seasonal storage, elevation, and temperature of Keswick Reservoir. Any minor changes in storage, elevation, or temperature that could occur would constitute a less-than-significant impact to Keswick Reservoir fishery resources.	No mitigation measures are required.	**less-than-significant**
4.5-15: Flow-Related Impacts to Sacramento River Fisheries. Flow reductions of more than 20% would not occur during any month under the WFP, relative to the Base Condition. Measurable reductions in the 70-year average flows released from Keswick Dam would not occur during any month of the year. In addition, flows released from Keswick Dam would never be below the 3,250 cfs minimum stipulated in the NMFS Biological Opinion for	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
winter-run chinook salmon during the period October through March under the WFP. These findings indicate that flow changes below Keswick Dam that would occur under the WFP would result in less-than-significant impacts to upper Sacramento River fisheries resources. Under the WFP, substantial reductions in lower Sacramento River Flows at Freeport would occur infrequently during all months of the year. Consequently, any flow-related impacts to lower Sacramento River fisheries or migrating anadromous fishes that could occur under WFP are considered to be less than significant. Overall, this constitutes a less-than-significant impact.		
4.5-16: Temperature-Related Impacts to Sacramento River Fisheries Resources. Hydrologic conditions with the WFP would not result in substantial changes to the 69-year average temperature at Keswick Dam or Bend Bridge for any month of the year. Their would also be no change in the number of years exceeding 56EF at Keswick Dam under the WFP during the April through September period. Conversely, increases in water temperatures would result in temperatures at Bend Bridge to exceed 56EF in one additional year during September. However, there would be no change in winter-run chinook salmon early lifestage survival during this year. In addition, their would be no substantial decreases in annual early lifestage survival of fall-run, late fall-run, winter-run, or spring-run chinook salmon in any individual year under the WFP, relative to that under the Base Condition. Therefore, the temperature changes that would occur would not be expected to result in substantial adverse impacts to chinook salmon, or other fish species using the upper Sacramento River. Temperatures in the lower Sacramento River would not be expected to change substantially under the WFP. The number of years that mean monthly temperatures at this location would exceed 56EF, 60EF, and 70EF would be similar under the WFP and the Base Condition during the period March through November.	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
Thus, potential impacts to fish species within the lower Sacramento River would be considered less than significant. Overall, this would be considered a less-than-significant impact.		
4.5-17: Delta Fish Populations. Under the WFP, substantial reductions in Delta outflow would occur infrequently during the February through June period. Likewise, under the WFP, substantial upstream shifts in the mean monthly position of X2 also would occur infrequently during this period. Finally, Delta export to inflow ratios under the WFP would not exceed the maximum export limits for either the February through June (35% of Delta inflow) or the July through January periods (65% of Delta inflow). Overall this is considered to be a less-than-significant impact to Delta fish populations.	No mitigation measures are required.	**less-than-significant**
FLOOD CONTROL (Section 4.6)		
4.6-1: Ability to Meet Flood Control Diagrams of CVP/SWP Reservoirs. The USBR is obligated to meet the flood control diagram for Folsom and Shasta reservoirs and the Department of Water Resources (DWR) has the similar responsibility for Oroville Reservoir. Any reduction in the ability of either the USBR or DWR to meet their flood control obligations for these reservoirs would constitute a significant impact. Since implementation of the Water Forum Proposal would increase water diversions from Folsom Reservoir, thereby allowing Folsom Reservoir to start the flood control season with less water in storage than under existing conditions, and since the integrated nature of CVP/SWP operations would also result in lowered reservoir storage in Shasta and Oroville reservoirs, none of the flood control diagrams for these reservoirs would be compromised. This is considered to represent a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**

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SUMMARY OF PROJECT IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
4.6-2: Increased Stress on Lower American River Flood Control Structures. Increased releases from Nimbus Dam and hence, flows in the Lower American River, during the flood control season could affect the stability of flood control structures on the Lower American River. Higher flows could increase stress on levees and other flood control structures. However, under the Water Forum Proposal, 70-year average mean monthly flows would always be lower than the Base Condition. Therefore, downstream structures on the Lower American River would remain unaffected. This is a less than significant impact.	No mitigation measures are required.	**less-than-significant**
4.6-3: Increased Exposure to Flood Hazards. Implementation of the Water Forum Proposal would not compromise the flood protection provided by Folsom Dam or structures along the Lower American River. Future projects, undertaken by Water Forum stakeholders, and their associated construction activities, may, however, affect local flood control efforts and/or structures. New projects having the potential to affect flood control structures will have to conduct flood control analysis and comply with flood control regulations before approval. Since these future projects are not part of the Water Forum Proposal, specific project-level analysis for flood control protection would be undertaken prior to their approval, and the fact that the flood control protection provided by Folsom Dam would not be compromised, increased exposure to flood hazards is considered to be a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**
4.6-4: Substantial Change in Floodplain Characteristics. No specific construction activities are associated with the Water Forum Proposal, which would affect Sacramento or American River floodplain characteristics. Any new future projects requiring construction of facilities would be required to evaluate their specific and individual impacts on flood control in a project-level study. Since the Water Forum Proposal does not include implementation of specific projects, impacts to floodplain	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
characteristics as a result of the Water Forum Proposal are considered to be less than significant.		
4.6-5: Changes in River Channel Geometry or Gradients Leading to Changes in Bank Erosion, Aggradation, Segradation, or Meander Processes. While the Water Forum Proposal does not contain construction or improvement of instream structures, future projects might include such actions. These types of actions could ultimately affect the structural integrity of levees. Any such impacts would be addressed in future design plans and, therefore, are considered to represent a less-than-significant impact under the Water Forum Proposal.	No mitigation measures are required.	**less-than-significant**
POWER SUPPLY (Section 4.7)		
4.7-1: Reduced CVP Hydropower Capacity and Generation. Implementation of the WFP would not result in reduced capacity for use by WAPA's preference customers or reduce average annual surplus capacity available for WAPA's sale. Although under the WFP, WAPA's capacity peak maximum of 1,152 megawatts would not be met in 41 of the 828 months studied, the Base Condition would also fall short of the maximum in 42 of the 828 months. Implementation of the WFP would reduce average annual CVP energy production, however. With the WFP, an average annual reduction of 30 Gwh would occur, as compared to the Base Condition. This reduction when compared to the annual average CVP energy production of 3,650 Gwh is considered a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**
4.7-2: Increased Energy Requirements for Diverters Pumping From Folsom Reservoir. Implementation of the WFP would result in changes in pumping requirements for those who pump water from Folsom Reservoir. Under the WFP, it is anticipated that an increase in average annual pumping energy would be required.	No mitigation measures are required.	**less than significant (economically significant)**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
While this impact would be environmentally less than significant, it represents an economically significant impact.		
VEGETATION and WILDLIFE (Section 4.8)		
4.8-1: Lower American River Riparian Vegetation. Compared to existing conditions, the WFP would result in lower mean monthly flows below Nimbus Dam and at the H Street bridge during the critical growing season months of April through July; however, these flows would not be reduced with sufficient magnitude and frequency to significantly alter existing riparian vegetation dependent on flows in the Lower American River. Also, the higher flows needed for seed dispersal would occur with sufficient frequency to maintain the riparian forest community. For example, during a majority of the growing season months (April - July), flows would be above the minimum flow requirement of 1765 cfs between 61% and 83% of the time, depending on the month. Because WFP conditions would not result in the thinning of the riparian corridor, or the loss of valuable border zone vegetation and habitat, this impact would be considered less than significant.	No mitigation measures are required.	**less-than-significant**
4.8-2: Lower American River Backwater Ponds. Compared to existing conditions, the WFP would result in lower mean monthly flows below Nimbus Dam and the H Street bridge during the summer; however, these flows would not be reduced with sufficient magnitude and frequency to significantly alter existing backwater habitats dependent on the Lower American River flows. For example, the overall effects of the WFP would result in a greater number of years during the 70-year hydrologic record that flows are within the minimum/optimum range of 1,300 to 4,000 cfs (between 2 and 14 years, more often in the 70-year record between March and September, depending on the month). Because flows high enough to promote recharge of the ponds would continue during	No mitigation measures are required.	**less-than-significant**

Table 2-2
SUMMARY OF PROJECT IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
the winter and/or spring, this impact would be considered less than significant.		
4.8-3: Vegetation Associated with Reservoirs. Compared to existing conditions, the WFP would result in lower mean monthly flows and, in many years, lower surface water elevations of reservoirs; however, because the draw down zone is vegetated with non-native herbaceous plants and scattered willow shrubs that do not form a contiguous riparian community, are not considered of high wildlife value, and will likely reestablish as water levels fluctuate, important habitat values are not adversely affected. For these reasons, this impact would be considered less than significant.	No mitigation measures are required.	**less-than-significant**
4.8-4: Vegetation Associated with the Upper Sacramento River. Compared to existing conditions, the WFP would result in some years with higher and some years with lower mean monthly flows on the Upper Sacramento River during the spring and summer growing season for riparian vegetation; in years with lower flows, they would not be reduced by sufficient magnitude and frequency to significantly alter existing riparian vegetation dependent on the Upper Sacramento River flows. For example, spring and summer flows on the Upper Sacramento River, under WFP conditions, vary from base conditions by less than one percent. Consequently, this impact would be considered less than significant.	No mitigation measures are required.	**less-than-significant**
4.8-5: Vegetation Associated with the Lower Sacramento River and the Delta. Compared to existing conditions, Lower Sacramento River flows would be reduced during the growing season months of some years. However, in years with lower flows, they would not be reduced by sufficient magnitude and frequency to significantly alter existing riparian habitats dependent on the Lower Sacramento River flows and Delta inflows. For example, average decreases in mean monthly flows during the peak growing	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
season (March-July) between the base and WFP conditions range from 159.9 cfs to 492.0 cfs. As it relates to riparian vegetation effects, these reductions in flow are not considered substantial. This impact would less than significant.		
4.8-6: Special-Status Species of Riparian and Open Water Habitats. As discussed in Impacts 4.8-1 and 4.8-5, when compared to existing conditions, the WFP would result in reduced mean monthly flows during certain periods in the year. However, these flows would not be reduced by sufficient magnitude and frequency to significantly alter existing riparian vegetation dependent on the Lower American River. Because cottonwood forest vegetation would not be adversely affected and open water (river) habitat would be available, the special-status species dependent on riparian habitat would not be expected to be adversely affected; therefore, this impact would be considered less than significant.	No mitigation measures are required.	**less-than-significant**
4.8-7: Special-Status Species Dependent on Lower American River Backwater Pond/Marsh Habitats. As discussed in Impact 4.8-2, when compared to existing conditions the WFP would result in reduced mean monthly flows during certain times of the year. However, these flows would not be reduced by sufficient magnitude and frequency to significantly alter existing backwater habitats dependent on the Lower American River. Because backwater habitats would not be adversely affected, the special-status species dependent on these habitats would not be expected to be adversely affected; therefore, this impact would be considered less than significant.	No mitigation measures are required.	**less-than-significant**
4.8-8: Elderberry Shrubs and Valley Elderberry Longhorn Beetle. As discussed in Impact 4.8-2 (backwater recharge), when compared to existing conditions the WFP would result in reduced mean monthly flows during certain months of the growing season. However, these flows would not be reduced by sufficient magnitude	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
and frequency to significantly alter existing water fluctuations (pond levels) and vegetation dependent on these ponds. For these reasons, elderberries dependent on these habitats are not expected to be adversely affected. This impact would be considered less than significant.		
4.8-9: Sacramento-San Joaquin Delta Habitats of Special-Status Species (Non-Fish). As discussed in Impact 4.8-6, when compared to existing conditions the WFP would result in reduced mean monthly flows in the Sacramento River during certain times of the year. However, these flows would not be reduced by sufficient magnitude and frequency to significantly alter existing habitats dependent on the Delta. Because Delta habitats would not be adversely affected, the special-status species dependent on these habitats would not be expected to be adversely affected; therefore, this impact would be considered less than significant.	No mitigation measures are required.	**less-than-significant**
RECREATION (Section 4.9)		
4.9-1: Reduced Rafting and Boating Opportunities on the Lower American River. Compared to base conditions, additional diversions under the WFP would result in reduced summertime mean monthly flows below Nimbus Dam with a sufficient magnitude and frequency to diminish flows available for Lower American River rafting and boating during some high rafting and boating use months of the year (June, July, and September). For instance, in these months, flows would be within the minimum/maximum flow range for rafting and boating between 3 to 4 fewer years of the 70-year record. Reduced flows would result in a significant effect to rafting and boating opportunities on the Lower American River.	The WFP includes features intended to lessen potential environmental impacts to the American River, consistent with the coequal objective to protect its natural values. These mitigating features include water conservation, dry-year diversion restrictions, and conjunctive use of ground water and surface water. Adoption of the WFP with these features would reduce flow effects on Lower American River recreation opportunities. In addition, improvements to recreation facilities in the American River Parkway are identified to compensate for the reduction in quality of and opportunity for rafting/boating on the Lower American River. Actions would occur in cooperation with the Sacramento County Department of Parks and Recreation and could include one or both of the following: (A) contributing to the purchase and development of the Uruttia property to provide	**significant**

water-dependent recreation opportunities and (B) developing recreation facilities to improve water-dependent and water-enhanced recreation opportunities in the American River Parkway. The improvements would involve projects that are consistent with the American River Parkway Plan, or that would be implemented subject to an amendment to the parkway plan by Sacramento County.

The measures described below could be implemented in cooperation with the Sacramento County Department of Parks and Recreation, the agency responsible for implementing the American River Parkway Plan. The measures could be part of the Habitat Management Plan adopted by the Water Forum participants as an implementation tool for the Habitat Management Element of the Water Forum Proposal. Funding for the recreation measures may include money from within or outside the Water Forum Successor Effort. Because activities by a number of agencies are underway to restore and enhance the Lower American River, this recreation mitigation should be coordinated with the broader ecosystem partnership efforts. Other agencies involved in the Lower American River may participate in funding and/or implementation of recreation mitigation, as appropriate, to promote a well-coordinated program of restoration and enhancement of the river.

a) Uruttia Property. The Uruttia Property, located on the north side of the Lower American River near CalExpo, could be acquired and/or developed to provide public access, opportunities for water-dependent recreation activity related to the river (such as canoe and kayak use and instruction), and enhanced environmental values which can provide opportunities for water-enhanced recreation, such as sightseeing and nature study. The property and facilities would be incorporated into the

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation

American River Parkway and reflected by amendment in the American River Parkway Plan.

b) Recreation Facility Improvements to the American River Parkway. The American River Parkway Plan describes in several Area Plans the resources and facilities intended to provide for water-dependent and water-enhanced recreation, including river access, trails, parking, swimming areas, and other facilities. The facilities could include improvement of river access for rafting/boating in the less intensively used sections of the river, such as downstream of Goethe Park; trail improvements to increase the opportunity for water-enhanced recreation, such as a linkage between the Fairbairn plant and the Sutter's Landing Park site; or interpretive resources to improve water-enhanced nature study and appreciation of the Parkway.

c) Update of the American River Parkway Plan. The update could consider the flow regime resulting from the WFP and appropriate actions to take in the Parkway to support improvement of both recreation opportunities and riparian habitat.

d) Enhancement of the Condition and Quality of Existing Recreation Facilities. Past and current budget constraints have limited the County's ability to maintain some existing recreation facilities. Enhancement of the condition and quality of existing facilities could improve the attraction of the Parkway for both water-dependent and water-enhanced recreation activity.

The improvements to recreation facilities in the American River Parkway would accomplish the following criteria:

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	C Facilities would improve opportunities for water-dependent recreation, particularly rafting/boating, such that the river is made more accessible when flows are appropriate and/or the quality of rafting/boating is improved; or facilities would improve opportunities for water-enhanced recreation, such that the quality and visitation associated with recreation activity in the Parkway is increased. C Improvements would be consistent with the American River Parkway Plan. The final selection of facilities for improvement would occur during the 18-month preparation period of the Habitat Management Plan. Facilities would be developed as soon as feasible after completion of that plan, recognizing the need to assemble funding, secure facility approvals, and prepare designs.	
4.9-2: Lake Natoma Recreation Opportunities. Additional diversions under the WFP would not result in a different pattern of lake elevation fluctuations than under base conditions, because Lake Natoma would continue to serve as a regulating reservoir below Folsom Dam. Typically, lake elevation fluctuation stays within a range of 4 to 7 feet and does not substantially affect recreation. Therefore, effects on Lake Natoma recreation opportunities would be less than significant.	No mitigation measures are required.	**less-than-significant**
4.9-3: Reduced Folsom Reservoir Boating Opportunities. Compared to base conditions, additional diversions by purveyors taking water from Folsom Reservoir and downstream under the WFP conditions would result in lower elevations of Folsom Reservoir. The declines would occur in more years than under base conditions, reducing the availability of boat ramps and marina wet	The WFP includes features intended to lessen potential environmental impacts on the Lower American River, which would also serve to decrease environmental effects to other resources. These mitigating features include water conservation, dry-year diversion restrictions, and conjunctive use of ground water and surface water. Adoption of the WFP	**significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
slips more often during the primary boating season (March - September). For instance, lake levels would decline below the 412-foot elevation necessary for marina wet slips 4 to 6 more years of the 70-year record in the summer (June through September), depending on the month. More frequently reduced lake elevations would result in a significant effect to boating opportunities on Folsom Reservoir.	with these features would reduce water surface elevation effects on Folsom Reservoir recreation. In addition, boating facility improvements would enhance boating access during periods of higher water to compensate for reduced availability of boat ramp and marina facilities from Water Forum Proposal diversions. Actions would occur in cooperation with the California Department of Parks and Recreation (CDPR) and would be consistent with the General Plan for Folsom Lake State Recreation Area (CDPR, 1978). Mitigation should also be consistent with the objectives of CDPR proposals for measures to mitigate lower lake levels from flood storage reoperation (Kranz, 1997). The actions could be added into the recreation section of the Habitat Management Plan as a means to implement them. One or more of the following recreation measures described below could be implemented in cooperation with the CDPR. Funding for the recreation measures may include money from within or outside the Water Forum Successor Effort. A number of agencies are involved in water resources and recreation facility decisions affecting Folsom Reservoir, so this recreation mitigation should be coordinated with other actions, as appropriate. Consequently, other agencies involved in Folsom Reservoir may participate in funding and/or implementation of recreation mitigation. e) <u>Boating Facilities to Increase Access and Use During Higher Water Periods</u>. Construction of boating facilities, consistent with the General Plan for Folsom Lake State Recreation Area would increase boating access and use of the reservoir during higher water periods. To compensate for reduced availability of boating facilities during lower water periods, this measure would improve boating facilities for use when higher water conditions allow for	

high-quality water recreation and the greater reservoir surface area availability; at higher water levels, visitation can be increased when the larger reservoir surface area can support more intensive use. Examples of potential boating facility improvements suggested by CDPR staff include boat parking and shore facilities at Dyke 8 or a launch ramp and dock at New York Cove (on the east side of the reservoir, north of Brown's Ravine). The final selection of facilities would occur in cooperation between the Water Forum Successor Effort and the CDPR.

f) Improvement to the Marina Area. Construction of facility improvements in the Brown's Ravine area would enhance the operation of the marina. Improvements would be consistent with the Folsom Lake State Recreation Area General Plan. The intent of these improvements would be to help enhance marina operations during periods of sufficiently high water to offset the reduced availability of wet slips. The final selection of facilities would occur in cooperation between the Water Forum Successor Effort, the operator of the marina, and the CDPR.

The improvements to recreation facilities on Folsom Reservoir will accomplish the following criteria:

- Facilities serving higher water conditions will increase boating visitation to Folsom Reservoir when the surface area is large enough to support the increased use.
- Marina facility improvements will help enhance operation of the marina when water level is high enough to support the wet slips.
- Improvements are consistent with the General Plan for Folsom Lake State Recreation Area.

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	The final selection of facilities for improvement would occur during an period following adoption of the Water Forum Proposal. Facilities would be developed as soon as feasible after completion of that plan, recognizing the need to assemble funding, secure facility approvals, and prepare designs.	
4.9-4: Reduced Availability of Folsom Reservoir Swimming Beaches. Compared to the base conditions, additional diversions under the WFP would result in more frequent declines in lake elevation below useable swim beach levels during most of the primary swimming season (June, August, September). For example, in those months lake elevations remain within the 420 to 455-foot range where swim beaches are usable in 2 to 4 fewer years of the 70-year period with the WFP. Although the availability of beaches during the remaining months of the swim season (May and July) would not be affected, the overall effect of reduced lake elevations on the availability of Folsom Reservoir swim beaches would be significant.	The WFP includes features intended to lessen potential environmental impacts on the Lower American River, which would also serve to decrease environmental effects to other resources. These mitigating features include water conservation, dry-year diversion restrictions, and conjunctive use of ground water and surface water. Adoption of the WFP with these features would reduce lake level effects on shoreline recreation and swimming. In addition, improvements to swimming or other shore recreation facilities that attract increased visitation to landside recreation areas around the reservoir should be implemented. Actions would occur in cooperation with the CDPR and would be consistent with the General Plan for Folsom Lake State Recreation Area. Mitigation should also be consistent with the objectives of CDPR proposals for measures to mitigate lower lake levels for flood storage reoperation (Krantz, 1997). The actions could be added into the recreation section of the Habitat Management Plan as a means to implement them. One or more of the following landside recreation measures described below could be implemented in cooperation with the CDPR. Funding for the recreation measures may include money from within or outside the Water Forum Successor Effort. A number of agencies are involved in water resources and recreation facility decisions affecting Folsom Reservoir, so this recreation mitigation would be coordinated with other	**significant**

actions, as appropriate. Consequently, other agencies involved in Folsom Reservoir may participate in funding and/or implementation of recreation mitigation.

a) Impoundments for Swimming. Construction of earthen dams at approximately 450 feet elevation at Beal's Point, Dyke 8, and/or Granite Bay would impound water for swimming opportunities close to day-use parking and concessionaires regardless of reservoir elevation. The CDPR has considered this concept as a way to provide dependable swimming opportunities throughout the summer. Water would need to be drained and replenished by pumps weekly. Because this concept would involve considerable engineering and construction, it could cause environmental effects and would be subject its own environmental review. The impoundments would also have to comply with health regulations for water contact use. As such, it is not yet certain whether this concept could be feasibly implemented at Folsom Reservoir.

b) Landside Recreation Improvements. Construction of landside facilities supporting other recreation uses would help offset reduction in swimming opportunities. Facilities could include a bicycle trail connection included in the General Plan between Beal's Point and Granite Bay. Construction of this three-mile paved trail connection would substantially increase bicycle use, and therefore visitation, regardless of reservoir level, according to CDPR staff. The bicycle trail would improve access to shore facilities and remote beach areas. Also, the Water Forum Successor Effort could contribute to other shoreline recreation facility improvements, such as temporary parking, beach areas, or concession facilities

for low-water access or other facilities consistent with the General Plan.

c) Update of the Folsom Lake State Recreation Area General Plan. With changes in future reservoir levels, the General Plan could be updated to reflect the expected pattern of reservoir elevations. This could help update the recreation area's approach to attract and serve local and non-local recreation users. This effort would need to be led by CDPR with support of the Water Forum Successor participants.

The improvements to landside recreation facilities on Folsom Reservoir would accomplish the following criteria:

- Facilities could provide opportunities for swimming in low-water conditions below an elevation of 435 feet (approximate optimum swimming beach level); or facilities would increase landside recreation visitation to Folsom Reservoir with activities.
- Improvements would be consistent with the General Plan for Folsom Lake State Recreation Area.
- Recreation facility improvements would not conflict with habitat enhancement actions of the Habitat Management Plan.

The final selection of facilities for improvement would occur during a period following adoption of the Water Forum Proposal. Facilities would be developed as soon as feasible after completion of that plan, recognizing the need to assemble funding, secure facility approvals, and prepare designs.

Table 2-2
SUMMARY OF PROJECT IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
4.9-5: Shasta Lake Recreation Opportunities. Compared to the base conditions, additional diversions under the WFP would result in some more frequent declines in lake elevation during the summer recreation season (May - September) which would decrease shoreline recreation use more often in late summer (August and September); however, the declines would not substantially reduce boat ramp availability or hinder boat-in camping activities. For instance, the number of years when all boat ramps are available would not be changed in any of the summer recreation season months. Altogether, the effect of WFP conditions on recreation opportunities of Shasta Lake during the May - September season are less than significant, compared to base conditions.	No mitigation measures are required.	**less-than-significant**
4.9-6: Trinity Reservoir Recreation Opportunities. Compared to the base conditions, additional diversions under the WFP would result in minimal declines in lake elevations in Trinity Reservoir during the summer recreation season (May - September). For example, reductions in mean monthly lake elevations would be no greater than 0.1 to 0.2 feet, depending on the month, which would not affect the availability of boat ramps at the reservoir. Consequently, with the minimal changes in lake elevations resulting from WFP diversions, no significant effect on Trinity Reservoir's recreation opportunities would occur.	No mitigation measures are required.	**less-than-significant**
4.9-7: Recreation Opportunities on Whiskeytown and Keswick Reservoirs. Whiskeytown and Keswick Reservoirs serve as regulating reservoirs, so while releases under WFP conditions would differ from base conditions, these differences would not substantially alter the existing seasonal pattern of lake elevations. Therefore, no substantial changes in recreation opportunities on Whiskeytown and Keswick Reservoirs would occur, resulting in a less-than-significant effect.	No mitigation measures are required.	**less-than-significant**

Table 2-2
SUMMARY OF PROJECT IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
4.9-8: Recreation Impacts on the Upper Sacramento River. Compared to base conditions, in most years additional diversions under the WFP would not result in decreased flows in the upper Sacramento River during the summer recreation season (May through September). For example, during these months, flow downstream of Keswick Reservoir would be equal to or greater than the base condition in 59, 55, 41, 59, and 66 years of the 70-year record in May, June, July, August, and September, respectively. In years when flows are less than base conditions in these months, the difference would be insufficient to substantially reduce recreation opportunities. Therefore, changes in flow on the upper Sacramento River during summer recreation season would result in a less-than-significant effect on recreation opportunities.	No mitigation measures are required.	**less-than-significant**
4.9-9: Lower Sacramento River Recreation Opportunities. Compared to base conditions, in most years additional diversions under the WFP would not result in decreased flows in the lower Sacramento River during the summer recreation season (May through September). For example, during these months, flows at Freeport would be equal to or greater than the base condition in 40, 38, 43, 51, and 48 years of the 70-record in May, June, July, August, and September, respectively. In years when flows are less than base conditions in these months, the reduction in flow would seldom be more than 1.0 percent, which would be insufficient to substantially reduce recreation opportunities. Also, substantial flow would remain in the river and tidal action would diminish the influence of the reduced flows on boating, fishing, and other water-dependent recreation activities. Therefore, changes in flow on the lower Sacramento River during summer recreation season would result in a less-than-significant effect on recreation opportunities.	No mitigation measures are required.	**less-than-significant**
4.9-10: Delta Recreation Opportunities. Compared to base conditions, in most years additional diversions under the WFP	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
would not result in decreased inflows in the Delta during the summer recreation season (May through September). For example, during these months, flows at Freeport would be equal to or greater than the base condition in 40, 38, 43, 51, and 48 years of the 70-record in May, June, July, August, and September, respectively. In years when inflows are less than base conditions in these months, the reduction in flow would seldom be more than 1.0 percent, which would be insufficient to substantially reduce recreation opportunities. Also, substantial inflow to the Delta would remain and tidal action would diminish or overshadow the influence of the reduced flows on boating, fishing, and other water-dependent recreation activities. Therefore, changes in inflow to the Delta during summer recreation season would result in a less-than-significant effect on recreation opportunities.		
4.9-11: Consistency with the American River Parkway Plan. The WFP would be consistent with the American River Parkway Plan and no significant environmental impact related to conflict with plans and policies for the avoidance of environmental effects would occur. This would be a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**
4.9-12: Consistency with Lower American River's Recreational River Designations. While the WFP conditions would reduce flows available for recreation on the Lower American River during the summer months in a some additional years, adopting Mitigation Measure 4.9-1 would minimize the effect on recreation opportunities for rafting or boating during high recreation use periods. The Lower American River would retain substantial recreation value. The recreation values of the Lower American River would be protected to the maximum extent feasible and the WFP would be consistent with the State and Federal recreational river designations, resulting in a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**

Table 2-2
SUMMARY OF PROJECT IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
LAND USE and GROWTH-INDUCING IMPACTS (Section 4.10)		
4.10-1: Land Use Impacts on Direct and Indirect Effect Study Areas (i.e., in-stream and adjacent areas of Folsom Reservoir, Lake Natoma, the Lower American River, and water bodies on the CVP and SWP systems). The WFP does not define specific projects (e.g., diversion or conveyance structures, treatment facilities) that would affect land uses in the direct or indirect effect study areas. It does identify a list of projects (some of which are conceptual) required to implement the WFP, and these projects will be subject to independent project and environmental review. The WFP would not grant land use authority, nor does the Water Forum possess any power over land use decisions. Therefore, adoption of the WFP would result in less-than-significant land use impacts *within the direct and indirect effect study areas.*	No mitigation measures are required.	**less-than-significant**
4.10-2: Land Use and Growth-Inducing Impact in the Water Service Study Area. Implementation of the WFP would not directly alter land uses in the water service study area. The WFP is intended to provide a safe and reliable water supply for the region's economic health and planned development through the year 2030. Land use decisions would continue to be made by city and county government decision-makers with guidance provided by adopted General Plans. The WFP would accommodate substantial development, however, as it would remove water supplies as an obstacle to growth. Therefore, the WFP is considered to be growth-inducing, as defined by CEQA, and the resulting land use and growth impacts would be significant.	The water supply included in the WFP has been determined considering the planned growth for each jurisdiction within the water service study area; as such, the WFP is consistent with the growth parameters described each city and county General Plan. The General Plan of each jurisdiction includes policies and programs for the protection of the environment and, to the extent feasible, the avoidance or mitigation of significant effects on the environment from planned growth and development. During the normal course of each jurisdiction's implementation of its General Plan policies, feasible mitigation of significant impacts from planned growth and development would occur. Because mitigation of growth-related environmental impacts is in the purview of each city and county, through their existing land use authority, and because the Water Forum itself has no such authority, the WFP cannot feasibly provide for additional mitigation of	**significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	growth-related land use and development environmental impacts.	
4.10-3: Consistency with General Plan Agricultural Land Use Policies. The WFP would not result in the reduction or forfeiture of existing surface water entitlements, the reduction or diminution of any existing groundwater rights, nor would it provide water purveyors, the Water Forum, or the Water Forum Successor Effort with any land use authority. Water Forum Proposal would not alter (i.e., reduce) agricultural lands within the jurisdictions of the water service study area and, consequently, would result in a less-than-significant impact to agriculture.	No mitigation measures are required.	**less-than-significant**
4.10-4: Consistency with General Plan Water Supply and Conservation Policies. The Water Forum Proposal would not conflict with adopted environmental plans and goals of local jurisdictions, as stated in their general plans and community plans. Rather, the WFP implements many of the General Plan policies directed at the provision of water within the water service study area jurisdictions. Consequently, the WFP would result in less-than-significant impacts to adopted environmental plans and goals of local jurisdictions.	No mitigation measures are required.	**less-than-significant**
AESTHETICS (Section 4.11)		
4.11-1: Aesthetic Value of the Lower American River. Compared to existing conditions, diversions accommodated by the WFP would not result in substantially reduced flows such that adverse visual impacts would occur. Nor would flows be reduced below that necessary to support riparian vegetation and wildlife habitat within the Lower American River corridor. Because WFP conditions would not result in the thinning of the riparian corridor, or the loss of valuable border zone vegetation and habitat, the	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
aesthetic effects of WFP conditions on the Lower American River are considered less than significant.		
4.11-2: Aesthetic Value of the Upper Sacramento River, Lower Sacramento River, and Sacramento-San Joaquin Delta. Compared to existing conditions, additional diversions under the WFP would not result in a substantial reductions in water flows such that adverse visual impacts would occur. Nor would flows be reduced below that necessary to support riparian vegetation and wildlife habitat within the upper and lower Sacramento River and the Sacramento-San Joaquin River Delta. For example, reductions in Sacramento River flows, under WFP conditions, would vary from base conditions by approximately 3% or less during the growing season months (March - October). Consequently, this impact is considered less than significant.	No mitigation measures are required.	**less-than-significant**
4.11-3: Aesthetic Value of Lake Natoma, Whiskeytown, and Keswick Reservoirs. Compared to existing conditions, implementation of the WFP would not result in substantial changes in the frequency or magnitude of surface water elevation changes at these reservoirs. Consequently, the aesthetic quality of these reservoirs would not be expected to change substantially, relative to existing conditions. This impact is considered less than significant.	No mitigation measures are required.	**less-than-significant**
4.11-4: Aesthetic Value of Folsom Reservoir. Compared to existing conditions, implementation of the WFP would result in mean monthly surface water elevation decreases of greater than 10 feet at Folsom Reservoir. However, because the frequency of such reductions would be minimal (less than 3 percent during a seventy year hydrologic cycle),the aesthetic effect of the WFP's reduction in surface water elevations at Folsom Reservoir is considered less than significant.	No mitigation measures are required.	**less-than-significant**

Table 2-2
SUMMARY OF PROJECT IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
4.11-5: Aesthetic Value of Trinity and Shasta Reservoirs. Compared to existing conditions, implementation of the WFP would result in mean monthly surface water elevation decreases of less than 10 feet at Trinity and Shasta reservoirs. For example, during the 70-year hydrologic period of record, surface water elevation reductions would range from 3.3 to 4.8 feet at Trinity Reservoir and from 2.6 to 4.6 feet Shasta Reservoir. Because reduction in surface water elevations at Trinity and Shasta Reservoirs would be less than 10 feet, this impact is considered less than significant.	No mitigation measures are required.	**less-than-significant**
CULTURAL RESOURCES (Section 4.12)		
4.12-1: Effect of Varying Water Levels on Cultural Resources in Folsom Reservoir. Implementation of the WFP would result in some variation in Folsom Reservoir elevations as compared to the Base Condition. This variation would not result in increased reservoir levels of sufficient magnitude to cause either inundation of previously exposed areas, or exposure of previously inundated sites, beyond that which is occurring under the Base Condition. However, implementation of the WFP would result in significantly more cycles of inundation and drawdown in the area between 360 and 395 ft msl; this increase would constitute a significant impact to sites within that zone.	The WFP hydrologic modeling data indicates that the project would have a significant impact on cultural sites and features within the reservoir pool, especially those located between the 360 ft msl and 395 ft msl elevations. Significant impacts would include the potential exposure of previously submerged sites to increased vandalism, recreation use, wave action, and the effects of repeated inundation and drawdown. Many prehistoric and historic sites have been recorded within the reservoir basin, most of which remain unevaluated. Only about half of the reservoir has been surveyed, and many other sites undoubtedly exist in the unsurveyed areas. In 1994, Far Western and JRP Historical Consultants prepared a Research Design as part of SAFCA's Folsom Re-operation Study. That document included all of the reservoir basin between the 390-foot and the 466-foot contours. The Research Design provides, among other components, summaries of the known cultural resources within the study area; research issues applicable to those resources; and recommendations for evaluating the sites, protecting them from further damage, and mitigating unavoidable impacts.	**significant**

Table 2-2
SUMMARY OF PROJECT IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	Checklists are included for evaluation of various types of sites. All unevaluated sites within the reservoir that fall within the direct impact zone of the WFP could be given additional study, using this Research Design as a guideline. Also, unsurveyed portions of the direct impact zone could be surveyed for cultural resources, as water levels permit; any additional sites and features also may require evaluation and mitigation. The appropriate agencies (i.e., Bureau of Reclamation, US Army Corp of Engineers, and the State Office of Historic Preservation) could decide that evaluation and mitigation of a *representative sample* of the sites is sufficient, although this cannot be determined without comprehensive consultation with those agencies. Recent conversations with archaeologists at the Bureau of Reclamation's Sacramento office suggest that such sampling would be acceptable to that agency.	
4.12-2: Effect of Varying Flows/River Stage on Cultural Resources Along the Lower American River Bank Near Nimbus Dam. Implementation of the WFP would result in American River flows downstream of Nimbus Dam that differ somewhat from those under the Base Condition. For nearly all months of the year, mean monthly river flows under the WFP would be lower than under the Base Condition, meaning that no new areas of the riverbank would be inundated. Because no significant sites are expected to have survived within the riverbed itself, these lower flows would not expose previously submerged (and intact) cultural resources. Therefore, changes in river flows from the WFP would have a less-than-significant impact to cultural resources along the river near Nimbus Dam.	No mitigation measures are required.	**less-than-significant**
4.12-3: Effect of Varying Flows/River Stage on Cultural Resources Along the Lower American River Near the Mouth. Implementation of the WFP would result in American River flows	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
at the mouth that differ somewhat from those under the Base Condition. For nearly all months of the year, mean monthly river flows under the WFP would be the same as or lower than under the Base Condition, meaning that no new areas of the riverbank would be submerged. Because no significant sites are expected to have survived historically within the riverbed itself, these lower flows would not expose previously submerged (and intact) cultural resources. Therefore, changes in river flows from the WFP would have a less-than-significant impact to cultural resources along the river near the mouth.		
4.12-4: Effect of Varying Flows/River Stage on Cultural Resources Along the Lower Sacramento River Bank Near Freeport. Implementation of the WFP would result in Sacramento River flows at Freeport that differ slightly from those under the Base Condition. However, these variations are not of sufficient frequency or magnitude to cause either significant exposure or inundation of cultural resources and thus represent a less-than-significant impact to cultural resources.	No mitigation measures are required.	**less-than-significant**
SOILS and GEOLOGY (Section 4.13)		
4.13-1: Changes in Geologic Substructures. While the WFP itself would not require ground disturbing activities, implementation of the WFP over time, has the potential to substantially change geologic substructures through future construction activities associated with new water facilities (i.e., river intakes, water treatment plants, pump stations, well fields and conveyance pipelines). With the construction of these facilities, potential changes to subsurface geology could affect human safety. However, development and planning of future water facilities projects would consider geotechnical studies and implement design recommendations, as appropriate, in order to minimize any hazardous geologic changes to the underlying substrata. Therefore,	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
changes in geologic substructures are considered less than significant.		
4.13-2: Exposure to Major Geologic Hazards. While implementation of the WFP would not result in any undue exposure to major geologic hazards, construction of future projects associated with the implementation of the WFP , has the potential to expose people or property to major geologic hazards, including unstable slopes, ground failure, subsidence, liquefaction, and lateral spreading. Given the relative stability of the geologic subsurface environment in the greater Sacramento area, and the necessary geotechnical/soils studies and proper design practices that would be required in all future projects, exposure to geologic hazards is considered to be a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**
4.13-3: Increased Soil Erosion by Wind or Water. The WFP itself would not involve any construction activities that would disturb surface soils and thereby induce either wind or water erosion. However, construction activities related to future water projects associated with the implementation of the WFP could lead to short-term soil disturbing activities. With the availability of project-specific siting investigations, soils/geotechnical studies and the implementation of any necessary project-specific mitigation measures, and increased soil erosion is considered to represent a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**
4.13-4: Loss of Soil Cover. While the WFP itself would not include activities that would promote soil loss, future projects could result in land conversion and subsequent soil loss. Certain project facilities where situated in open terrain, may result in the permanent loss of some soil cover. However, future projects would have to evaluate potential soil loss impacts and mitigate for any identified significant effects. Soil loss associated with the WFP is considered to represent a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**

2.5 summary of CUMULATIVE impacts

An analysis of cumulative impacts considers the combined effects of the proposed project, other past and present projects, and "reasonably foreseeable probable future projects" (State CEQA Guidelines §15355). In the case of the Water Forum Proposal, this involves attempting to foresee related projects occurring over the long-term future. The Water Forum Proposal would be implemented over the next three decades. During this same time period, it is expected that many other actions will be implemented that will affect the environmental conditions of the project's direct and indirect study areas.

2.5.1 ANALYSIS OF ONE FUTURE SCENARIO FOR CUMULATIVE CONDITIONS

A large degree of speculation and uncertainty exists when attempting to characterize the study area 30 years into the future, particularly recognizing the dynamic nature of decisions about water supply and resource protection in the Sacramento and San Joaquin River system. Therefore, it is difficult to define any one scenario as the reasonably foreseeable probable future. Nonetheless, to fulfill the requirements of State CEQA Guidelines §15355 to address future cumulative conditions, the programmatic analysis of this WFP uses one scenario as a good faith effort to assess future cumulative potential effects. The scenario was developed after a year of extensive discussions between the Water Forum technical consultants and the USBR and USFWS. Given all of the competing demands for water and water resource limitations, one outcome that is not speculative is the occurrence of significant impacts of some type in the future.

The future scenario for this EIR consists of past, present, and possible future projects producing related or cumulative impacts. The cumulative condition, therefore, is defined for this EIR as the WFP and three other possible future actions or sets of actions that could be quantified, including:

> ***Increased Trinity River Flows.*** For modeling and analysis purposes, the Water Forum EIR assumes that Trinity River flows will be increased in accordance with the U.S. Bureau of Reclamation's (USBR) recent policy direction. Flows are proposed to be increased from existing levels to 390,000 acre-feet per year in drier years to 750,000 acre-feet per year in wetter years, thereby reducing exports to the Sacramento River.
>
> ***East Bay Municipal Utility District (EBMUD) Supplemental Water Supply Project.*** EBMUD's proposed project, for this analysis includes diversion of up to 112,000 acre-feet per year of American River water subject to deficiencies imposed by the Central Valley Project.
>
> ***Increased Water Demands.*** For modeling and analysis purposes, the Water Forum EIR assumes that increased water demands by State Water Project (SWP) contractors, Central Valley Project (CVP) contractors, and other Sacramento Valley water users will occur. Increased demand volumes are based on projections by USBR and the California Department of Water Resources (DWR).

The WFP EIR does not serve as the environmental document for the above actions. The impacts of each of these actions would be evaluated in project-specific environmental documentation and, where appropriate, alternatives and mitigation measures recommended to reduce significant effects.

2.5.2 UNQUANTIFIABLE ASPECTS OF FUTURE CONDITIONS

In addition to uncertainty surrounding the volume of diversions in the future (i.e., 2030), many efforts are currently underway to address unfavorable conditions in the Sacramento River and Bay-Delta that cannot currently be quantified. Populations of fish species such as Delta smelt, steelhead and winter-run chinook salmon have declined over the past decades to the point that they have been listed as threatened or endangered, and other species such as fall-run and spring-run chinook salmon have been proposed for listing. At the same time, variable water availabilities, and environmental requirements have resulted in water delivery deficiencies imposed on SWP and CVP on water contractors.

For these reasons the state and federal governments, in cooperation with local organizations, have begun implementing environmental restoration programs to reverse these biological declines. Since 1996, approximately $100 million has been expended on restoration projects, such as improving fish screens and restoring habitat. Over the next 30 years over $1.5 billion will be spent on additional improvements.

Programs underway or planned to improve Sacramento River system and Bay-Delta fisheries and habitats include the Central Valley Project Improvement Act (CVPIA) Anadromous Fish Restoration Program (AFRP), and Ecosystem Restoration Program Plan (ERPP) of the CALFED Bay-Delta Program.

The effectiveness of these programs to improve Sacramento River and Bay-Delta conditions, however, is not guaranteed. In addition, there could be future environmental stressors that cannot be predicted. For instance, introduction of non-native species into aquatic habitats could have additional adverse impacts. It is not possible to speculate in the analysis how any of these considerations could affect cumulative impacts.

Prospects for Additional or Reallocated Water Supply

Section 3406(b)(3) of the CVPIA directs the Department of the Interior to acquire additional water supplies. Specific options identified in that section include: improvements in or modifications to the operations of the project; water banking; conservation; transfers; conjunctive use; and temporary and permanent land fallowing, including purchase, lease, and option of water rights, and associated agricultural land. In addition, water bank operations can reallocate water in drier years to alleviate water delivery and environmental impacts. It is speculative at this time to predict the success of projects to acquire additional or reallocate existing water resources. It is also recognized that in the future USBR and other agencies outside the Water Forum will make numerous operational decisions based on conditions existing at the time. Therefore, the cumulative impacts analyses in this EIR are based on one set of assumptions

as to how USBR would operate CVP facilities if no additional water supply is developed, and no water is reallocated.

Insufficiency of Water Supply for Cumulative Future Needs

The cumulative impact analysis indicates that unless new water is developed or water is reallocated, there will be insufficient water for USBR to meet some of its contractual and environmental obligations in the future.

The decrease in Shasta Reservoir storage and reduction in flow below Keswick Dam is a surrogate for the volume of additional water that would have to be available in the future for environmental purposes to approximate Base Conditions. A decrease in Shasta Reservoir storage results in a reduced flow requirement below Keswick Dam, because flow requirements are based on Shasta Reservoir storage levels. Over the simulated 70-year hydrologic period Shasta Reservoir carryover storage was reduced by about 75,000 AF and flow below Keswick Dam was reduced by about 30,000 AF on an average annual basis. Combined, this represents an approximate average annual deficit of 105,000 AF, relative to the Base Condition. During the 1928 to 1934 critical period, Shasta Reservoir storage declined an average of 75,000 AF per year, resulting in a total critical period storage deficit of about one-half million AF. As a consequence of lower storage, the future cumulative simulation prescribes an average annual reduction in flow volume below Keswick Dam of about 15,000 AF, or about 100,000 AF over the critical period. Combined, the decrease in Shasta Reservoir storage and reduction in flow volume below Keswick Dam represent an annual average water deficit of about 90,000 AF and a total deficit approximating 600,000 AF for the future cumulative critical period relative to the Base Condition.

Due to the increased overall demands on the system, future cumulative condition hydrologic modeling indicates that lower deliveries to all categories of CVP contractors could occur in the future, and be most significant in the dry and driest years. Compared to the Base Condition, less water would be delivered to CVP contractors in about 30% of the years, and to SWP contractors in about 30% of the years.

CVP and SWP contract demands associated with future development will be higher than current demands. Even under the Base Condition full demands frequently are not met. One method to generally illustrate the water supply deficit to water contractors under the future cumulative condition is to estimate the amount of water associated with future delivery deficiencies if the same percentage of full demand was delivered in the future as was delivered under the Base Condition. This estimation indicates that over the 70-year hydrologic period simulated, combined CVP/SWP water delivery deficits could exceed 400,000 AF on an average annual basis. During the 1928 to 1934 critical period, combined CVP/SWP water delivery deficits approach an average of nearly 400,000 AF per year, representing a total critical period deficit of nearly 2½ million AF.

USBR remains committed to taking all necessary actions that will allow water delivery and environmental obligations to be met. The Water Forum does not recommend or advocate not meeting any environmental or water delivery obligations. Again, the analysis in this EIR is based

on a reasonable set of assumptions as to how the system would be operated if no additional water supply is developed or no water is reallocated. The EIR discusses potential cumulative effects, given the uncertainties recognized above.

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
GROUNDWATER (Section 6.2)		
6.2-1: Groundwater Quality. Because groundwater pumping within Sacramento County does not change between the two comparative future conditions, the impacts identified with the implementation of the WFP do not change from those described in Section 4.2. Under the future cumulative condition, deterioration of groundwater quality would represent a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**
6.2-2: Movement of Groundwater Contaminants. Under the future cumulative condition, movement of groundwater contaminants would not increase beyond that described for the WFP. This would be a less-than-significant cumulative effect.	No mitigation measures are required.	**less-than-significant**
6.2-3: Land Subsidence . Under the future cumulative condition, land subsidence would not occur beyond that described for the WFP. This would be a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**
6.2-4: Reduced Efficiency of Wells. Under the future cumulative condition, efficiency of wells would not change beyond that described for the WFP. This would be a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**
WATER SUPPLY (Section 6.3)		
6.3-1: Decrease in Deliveries to SWP Customers. Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that increased deliveries to SWP customers of between 20,000 and 1,240,000 acre-feet would occur in about 49 years; and, decreased water deliveries to SWP customers of between 110,000 and 1,210,000 acre-feet would occur in about 20 years of the 70-year record. Average annual SWP	Development of additional water supplies by the SWP could reduce impacts to SWP deliveries.	**significant**

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
deliveries would increase by about 350,000 acre-feet. The delivery reduction in 20 years would represent a significant cumulative impact.		
6.3-2: Decrease in Deliveries to CVP Customers. Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that increased deliveries to CVP contractors of up to 670,000 acre-feet would occur in about 49 years of the 70-year record; and, decreased water deliveries of between 10,000 and 520,000 acre-feet in about 20 years of the 70-year record. Average annual CVP deliveries would increase by about 110,000 acre-feet. The delivery reduction in 20 years would represent a **significant cumulative impact**.	Development of additional water supplies by the CVP could reduce impacts to CVP deliveries.	**significant**
WATER QUALITY (Section 6.4)		
6.4-1: Seasonal Changes to Water Quality in Folsom Reservoir, Lake Natoma, and the Lower American River. Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that Folsom Reservoir storage and Lower American River flows would be reduced more frequently and/or by greater magnitudes as compared to the WFP alone, while constituent loading to these waterbodies would be expected to increase somewhat. Project-level urban runoff and stormwater discharge mitigation measures pursuant to federal, state, and local regulations are expected to continue to be required for new growth to occur. With the exception of water temperature (see Section 6.5.3), program-level assessment indicated that any impacts to water quality from reduced dilution and increased constituent loading would be minor, and would not be expected to cause State or federal water quality standards, objectives or criteria to be more frequently exceeded, relative to existing conditions. This would be a **less-than-significant cumulative impact**.	No mitigation measures are required.	**less-than-significant**

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
6.4-2: Seasonal Changes to Sacramento River and Delta Water Quality. Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that Sacramento River flows would be reduced more frequently and/or by greater magnitudes compared to that which would occur due to the additional diversions under the WFP alone, and constituent loading to the Sacramento River also would be expected to increase. Project-level water quality mitigation and ongoing water quality management plans and programs are expected to continue to be required such that State and federal water quality standards, objectives and criteria would not be exceeded on a more frequent basis than under existing conditions. However, substantial uncertainty exists with regard to seasonal changes in Sacramento River flow, constituent loading, and the extent and effectiveness of project-level water quality mitigation and management measures in the future, all of which are beyond the Water Forum ' s control. Because the potential for degradation of water quality in the future depends on uncertain future policy decisions and actions, this would be a potentially significant cumulative impact.	Changes to Sacramento River and Delta water quality would be an indirect impact of increased urban development facilitated, in part, by the additional diversions of surface and groundwater defined in the WFP. Water quality mitigation measures will be developed for specific projects as they occur in the future. Responsibility for this mitigation lies with the land use planning authorities and individual project proponents, and is beyond the Water Forum ' s control. Water quality mitigation anticipated to occur with planned growth is addressed in the Sacramento County and other regional General Plans. In addition, the Sacramento County Regional Sanitation District, which operates the SRWTP, is currently updating its Sacramento Regional Wastewater Treatment Plan Master Plan, and plans to update this document every 5 years in the future.	**potentially significant**
FISHERIES RESOURCES AND AQUATIC HABITAT (Section 6.5)		
6.5-1: Impacts to Folsom Reservoir ' s Coldwater Fisheries The cumulative impacts analysis is based on a set of assumptions about future cumulative conditions and does not assume any development of additional Sacramento River water supplies. Under this set of assumptions, the analysis indicates that Folsom Reservoir storage would be reduced by 10% or more, relative to the Base Condition, occasionally during some months of the April through November period. However, anticipated reductions in reservoir storage would not be expected to adversely affect the reservoir ' s coldwater fisheries because: 1) coldwater habitat would remain	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
available within the reservoir during all months of all years; 2) physical habitat availability is not believed to be among the primary factors limiting coldwater fish populations; and 3) anticipated seasonal reductions in storage would not be expected to adversely affect the primary prey species utilized by coldwater fishes. This would be a less-than-significant future cumulative impact.		
6.5-2: Impacts to Folsom Reservoir ' s Warmwater Fisheries. Under the set of assumptions used for the cumulative impacts analysis, Folsom Reservoir storage (and thus water levels) could frequently be reduced during the critical warmwater fish spawning and rearing period (i.e., March through September), which could reduce the availability of littoral (nearshore) habitat containing vegetation. Modeling output indicates that long-term average reductions in littoral habitat availability of up to approximately 50% could occur in September. Reductions in littoral habitat availability of this magnitude could result in increased predation on young-of-the-year warmwater fishes, thereby reducing long-term initial year-class strength of warmwater fishes. Unless willows and other nearshore vegetation become established at lower reservoir elevations in the future in response to seasonal reductions in water levels, long-term year class production of warmwater fishes would be reduced. Reduced littoral habitat availability would be a potentially significant future cumulative impact to Folsom Reservoir warmwater fisheries.	Through plantings and related activities, encourage existing willow and other terrestrial vegetative communities to become established at lower reservoir elevations. Doing so would provide greater availability of physical structure for warmwater fish spawning and rearing in the future when spring reservoir elevations are lower than under current conditions. Artificial habitat structures (e.g., artificial synthetic structures, submerged brush and debris, fish cribs, etc.) would provide structure in littoral habitats used by warmwater fishes for spawning and early lifestage rearing. Because the majority of the reservoir ' s warmwater fishes spawn in shallow water habitats (i.e., generally less than 10 feet deep), artificial structures would be placed at reservoir elevations that would likely be used by these fishes for spawning and rearing. The location and number of artificial structures placed within the reservoir would increase in proportion to the loss of littoral habitat over time. Implementing habitat structures would help minimize the effects to Folsom Reservoir ' s warmwater fisheries that would be expected to result from increased diversions and resultant reduced water surface elevations in Folsom Reservoir. While acknowledging operational constraints due to flood control, power production and diversions, work cooperatively with USBR operators to minimize the frequency with which	**potentially significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	reservoir elevation changes potentially resulting in nest flooding/dewatering events would occur. Monthly/weekly rates of reservoir elevation change will be documented. This information will be compared to timing and average depth of spawning for key nest-building warmwater species in Folsom Reservoir to estimate probabilities of nest flooding/dewatering events. This measure will be implemented to the degree reasonable and feasible based on its integration into the Habitat Management Program. Place artificial structures in the reservoir to compensate for loss of littoral habitats containing natural structure (e.g., inundated willows). The abundance of representative warmwater species will be monitored periodically through creel surveys and/or through catch-per-unit effort (CPUE) rates for tournament anglers to determine the extent to which warmwater fish utilize the structures. The extent to which this mitigation is to be implemented will be based on the results of these surveys. Frequency and timing of potential nest flooding/dewatering events that facilitate meeting current and future warmwater fish management goals will be determined by CDFG reservoir biologists. More specific performance criteria will be developed in the Habitat Management Program Plan. All three activities described above would, to the degree reasonable and feasible, be implemented, monitored, and maintained throughout the effective period of the Water Forum Agreement	
6.5-3: Impacts to The Warmwater and Coldwater Fisheries of Lake Natoma. Under the specific set of cumulative assumptions, the analysis indicates that operations of Folsom Dam and Reservoir	No mitigation measures are required.	**less-than-significant**

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
would have minimal, if any, impact to Lake Natoma ' s seasonal storage, rates of elevation fluctuation, or temperature. Any changes to these lake parameters that could occur under the future cumulative condition would not adversely affect the lake ' s warmwater or coldwater fisheries. This would be a less-than-significant future cumulative impact.		
6.5-4: Temperature Impacts to Nimbus Fish Hatchery Operations and Fish Production. Under the specific set of cumulative assumptions, the analysis indicates that operations of Folsom Dam and Reservoir would generally have little effect on May temperatures below Nimbus Dam, but would typically result in equivalent or colder temperatures during the June through September period, relative to the Base Condition. On a long-term basis, the frequent and measurable temperature reductions that would occur during the June through September period (when hatchery temperatures reach seasonal highs annually) would more than offset the infrequent adverse impacts resulting from increased temperature. This would potentially benefit long-term hatchery operations and resultant fish production. Overall, this would be a less-than-significant future cumulative impact.	No mitigation measures are required.	**less-than-significant**
6.5-5: Fall-run Chinook Salmon. The cumulative impacts analysis is based on a set of assumptions about future cumulative conditions and does not assume any development of additional Sacramento River water supplies. Under this set of assumptions, operations of Folsom Dam and Reservoir would result in periods of reduced flows in the lower American River during the October through December spawning period, when flows under the Base Condition would be 2,500 cfs or less. Further flow reductions occurring at already low flow levels could result in increased redd superimposition and eventual lower year-class strength. Improved water temperatures (resulting from a Folsom Dam urban water intake structure and optimal coldwater pool management) and	The following actions would be implemented as part of the HME, which will be adopted as an integral component of the Water Forum Agreement. a) Dry Year Flow Augmentation. The Water Forum Successor Effort and the USBR would work together with Placer County Water Agency (PCWA) and the USFWS to augment Lower American River flows, particularly during the spawning period during years when impacts would occur. This measure would be implemented (within the constraints of water availability) during dry and critically dry years. The primary source of water for augmenting flows would be the	**potentially significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
improved early lifestage survival will benefit chinook salmon spawning success, as well as other lifestages. However, because of the broad, programmatic nature of the WFP, the extent to which these actions (combined with other future actions such as spawning gravel management, revised flow ramping rate criteria, etc.) will interact to counterbalance flow reductions is uncertain, as is the manner in which these actions will be implemented, managed and coordinated without a comprehensive Habitat Management Program Plan for the Lower American River. Consequently, the overall effect of 2030 w/ WFP on chinook salmon year-class strength also is uncertain and, therefore, is considered to represent a potentially significant impact.	purchase of American River water from upstream reservoirs operated by PCWA. b) Flow Fluctuation Criteria. Develop and implement flow fluctuation (i.e., ramping) criteria for the operation of Folsom and Nimbus dams that would reduce the frequency with which rapid flow fluctuations occur in the river. Reducing the occurrence of large, rapid flow reductions would help to minimize losses of chinook salmon due to redd dewatering (fall and winter) and fry and juvenile stranding (winter and spring), especially during periods of low flow. Flow fluctuation criteria would contribute to improving spawning and incubation success, which, in turn, would lead to an overall increase in annual production of chinook salmon. This action would off-set, in part, potential flow-related impacts to chinook salmon. c) Wetland/Slough Complex Restoration/Maintenance. Restore wetland/slough complexes occurring within habitat transitional zones between river channels, shoreline, and upland habitats. Restoration would involve grading areas for the appropriate elevations and hydrology, as well as planting appropriate vegetation, to achieve desired habitat characteristics. Because wetland/slough complexes are used by juvenile chinook salmon for rearing prior to emigration, restoration and maintenance of these complexes would increase the quantity, and possibly the quality, of rearing habitat available to juvenile chinook salmon. Thus, this action could improve juvenile rearing success prior to emigration, thereby contributing to an overall increase in annual production of chinook salmon. This action would off-set, in part, potential temperature-related impacts to juvenile steelhead.	

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	d) Instream Cover (woody debris). Most large woody debris has been, and continues to be, removed from the Lower American River by the U.S. Army Corps of Engineers to reduce potential hazards to recreationists. Discontinuation of this action in select reaches of the river would allow woody debris to accumulate. Instream woody cover is important for juvenile chinook salmon rearing as it provides structure that can be utilized to escape fish and avian predators. It also provides microhabitats with reduced current velocities where juvenile chinook salmon can feed more effectively. Increasing the amount of instream woody debris at specific sites could improve juvenile rearing success prior to emigration, thereby contributing to an overall increase in annual production. This action would off-set, in part, potential flow-related impacts to juvenile chinook salmon. e) Shaded Riverine Aquatic Habitat Protection/Management. SRA habitat can be restored along the Lower American River by constructing terraces along shorelines and planting terraces with appropriate herbaceous and woody vegetation. SRA habitat provides feeding and holding areas, escape cover, and local temperature refugia for juvenile chinook salmon. Development and implementation of a shaded riverine aquatic habitat protection/management program would facilitate improving rearing habitat. Thus, protecting and restoring SRA habitat could improve juvenile rearing success, thereby contributing to an overall increase in annual production. This action would off-set, in part, potential flow-related impacts to juvenile chinook salmon. f) Spawning Habitat Management/Maintenance. Improve spawning habitat in the Lower American River by breaking up and redistributing coarse subsurface deposits and reducing compaction and embeddedness which reduces gravel	

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	permeability. Development and implementation of a gravel management program for the Lower American River would facilitate improving spawning habitat for chinook salmon and reducing the deterioration of existing spawning gravel. This habitat improvement would be expected to increase the amount of available spawning habitat, thereby contributing to higher overall spawning and incubation success, and therefore chinook salmon production, annually. This action would off-set, in part, flow-related impacts to juvenile chinook salmon. Performance Criteria: a) Dry Year Flow Augmentation. Increase flows particularly during the period during dry and critically dry years to the maximum extent feasible, relative to non-augmented conditions. To assess whether flow augmentation is reducing flow-related impacts, flows would be monitored in the Lower American River. b) Flow Fluctuation Criteria. Reduce the frequency of large, rapid flow-reduction events throughout the year, particularly during the fall spawning and incubation period. c) Wetland/Slough Complex Restoration/Maintenance. Increase the amount of wetland/slough complex habitat in the Lower American River that is used by early life stages of chinook salmon for rearing prior to emigration. d) Instream Cover (woody debris). Increase the amount of woody debris within areas of the Lower American River channel that is used by early life stages of chinook salmon for rearing prior to emigration.	

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	e) Shaded Riverine Aquatic Habitat Protection/Management. Protect existing, and increase to the extent feasible, the amount of shaded riverine aquatic habitat within the Lower American River. f) Spawning Habitat Management. Restore armored gravels to conditions that will encourage chinook salmon to use restored areas for spawning. Timing: a) Dry Year Flow Augmentation. Flow augmentation would occur during the spawning period October through December, during dry and critically dry years. This measure would be implemented, as necessary, throughout the effective period of the Water Forum Agreement. b) Flow Fluctuation Criteria. Flow fluctuation criteria would be developed and implemented for the effective period of the Water Forum Agreement. c) Wetland/Slough Complex Restoration/Maintenance. Wetland/Slough complex restoration/management would be conducted throughout the effective period of the Water Forum Agreement, as warranted by the success of initial projects to be initiated during the first two years of the Agreement. d) Instream Cover (woody debris). Instream cover (woody debris) would be allowed to accumulate in the Lower American River throughout the effective period of the Water Forum Agreement. e) Shaded Riverine Aquatic Habitat Protection/Management. Shaded riverine aquatic habitat protection/management	

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	would be conducted throughout the effective period of the Water Forum Agreement, as warranted by the success of initial projects to be implemented within the first two years of the Agreement. f) Spawning Habitat Management. Spawning habitat management would be conducted throughout the effective period of the Water Forum Agreement.	
6.5-6: Lower American River Steelhead. Under the cumulative analysis set of assumptions, flow reductions anticipated to occur during the April through September period would reduce the amount of juvenile rearing habitat in most years. The analysis also indicates that the 69-year average temperature at Nimbus Dam and Watt Avenue for the May through September period would decrease up to about 1°F. Although measurable temperature increases could occur in up to 10% of the years during this period, measurable temperature decreases could occur from over 30% to 95% of the time during some months of this period. Because steelhead in the Lower American River are believed to be more limited by summer rearing temperatures than flows, the frequent and substantial temperature reductions would be expected to offset the flow reductions. Consequently, the combined temperature and flow changes under the 2030 w/ WFP would not be expected to adversely affect the long-term population trends of steelhead in the Lower American River. This would be a less-than-significant future cumulative impact.	No mitigation measures are required.	**less-than-significant**
6.5-7: Flow- and Temperature-Related Impacts to Splittail (February through May). Under the cumulative analysis assumptions, the 2030 w/ WFP would typically reduce, to some degree, the amount of riparian vegetation inundated between RM 8 and 9 (which serves as an index for the lower portion of the river) under the Base Condition. However, with few exceptions,	The following actions would be implemented as part of the HME, which will be adopted as an integral component of the Water Forum Agreement. a) Wetland/Slough Complex Restoration/Maintenance. Restore wetland/slough complexes occurring within habitat	**potentially significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
substantial amounts of inundated riparian vegetation would remain under the 2030 w/WFP in years when such habitat would occur under the Base Condition. In addition, flow changes under the 2030 w/WFP would have little effect on the availability of in-channel spawning habitat availability, or the amount of potential spawning habitat available from the mouth up to RM 5 – the reach of the river influenced by Sacramento River stage. The analysis also indicates that the frequency with which suitable temperatures for splittail spawning below Watt Avenue would not change substantially under the 2030 w/WFP, relative to the Base Condition. Given the uncertainty as to the magnitude and extent of splittail spawning in the Lower American River, and the actual amount of potential spawning habitat at specific flow rates throughout the river, the effects of flow reductions from the February through May period also are uncertain and, therefore, represent a potentially significant impact. This would be a potentially significant future cumulative impact.	transitional zones between river channels, shoreline, and upland habitats. Restoration would involve grading areas for the appropriate elevations and hydrology, as well as planting appropriate vegetation, to achieve desired habitat characteristics. Because wetland/slough complexes are used by splittail for spawning, restoration and maintenance of these complexes would increase the quantity, and possibly the quality, of spawning habitat available to splittail. Wetland/slough complex restoration/maintenance would reduce flow-related impacts to splittail spawning. b) Shaded Riverine Aquatic Habitat Protection/Management. SRA habitat can be restored along the Lower American River by constructing terraces along shorelines and planting terraces with appropriate herbaceous and woody vegetation. SRA habitat provides spawning and rearing areas for splittail. Development and implementation of a shaded riverine aquatic habitat protection/management program would facilitate increasing splittail spawning and rearing habitat availability within the Lower American River. Thus, protecting and restoring SRA habitat could improve splittail spawning and juvenile rearing success, thereby contributing to an overall increase in annual production of splittail. This action would off-set, in part, potential flow-related impacts to splittail. c) Flow Fluctuation Criteria. Develop and implement flow fluctuation (i.e., ramping) criteria for the operation of Folsom and Nimbus dams that would reduce the frequency with which rapid flow fluctuations occur in the river. Reducing the occurrence of large, rapid flow reductions would help to minimize losses of splittail due to fry and juvenile stranding during the February through May period. Flow fluctuation criteria would contribute to improving early life-stage rearing	

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	success, thereby contributing to an overall increase in annual production of splittail. This action would off-set, in part, potential flow-related impacts to splittail. Performance Criteria: a) Wetland/Slough Complex Restoration/Maintenance. Increase the amount of wetland/slough complex habitat in the Lower American River that is used by splittail for spawning and rearing. b) Shaded Riverine Aquatic Habitat Protection/Management. Protect existing, and increase to the extent feasible, the amount of shaded riverine aquatic habitat within the Lower American River. c) Flow Fluctuation Criteria. Develop and implement flow fluctuation (i.e., ramping) criteria for the operation of Folsom and Nimbus dams that would reduce the frequency with which rapid flow fluctuations occur in the river. Reducing the occurrence of large, rapid flow reductions would help to minimize losses of splittail due to fry and juvenile stranding during the February through May period. Flow fluctuation criteria would contribute to improving early life-stage rearing success, thereby contributing to an overall increase in annual production of splittail. This action would off-set, in part, potential flow-related impacts to splittail.	
6.5-8: Flow- and Temperature-Related Impacts to American Shad (May and June). Under the cumulative analysis assumptions, flow reductions anticipated to occur during the May through June period would increase the frequency with which mean monthly flows at the mouth would be below the target attraction flow of 3,000 cfs by about 3 to 4%. Flow reductions under the 2030 w/WFP in May and June could reduce the number of adult shad	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
attracted into the river during a few years. However, because American shad spawn opportunistically where suitable conditions are found, potentially attracting fewer adults spawners into the Lower American River in some years would not be expected to adversely impact annual American shad production within the Sacramento River system. Furthermore, direct impacts to the Lower American River sport fishery would be less than substantial in most years. In addition, the frequency with which suitable temperatures for American shad spawning would exist would not differ substantially between the 2030 w/WFP and the Base Condition. Consequently, the combined flow and temperature changes under 2030 w/WFP would not be expected to adversely affect the long-term population trends of American shad in the Lower American River. This would be a less-than-significant future cumulative impact.		
6.5-9: Flow- and Temperature-Related Impacts to the Striped Bass Sport Fishery (May and June). Under the cumulative analysis assumptions, flow reductions anticipated to occur during the May through June period would increase the frequency with which mean monthly flows at the mouth would be below the target attraction flow of 1,500 cfs by about 1 to 10%. However, flows at the mouth that are believed to be sufficient to maintain the striped bass fishery would be met or exceeded in most years during this period. The frequency with which suitable temperatures for juvenile striped bass rearing in the Lower American River would differ little between the 2030 w/ WFP and the Base Condition during May and June. Consequently, the combined temperature and flow changes under the 2030 w/ WFP would not be expected to adversely affect the long-term of the striped bass fishery in the lower American River. This would be a less-than-significant future cumulative impact.	No mitigation measures are required.	**less-than-significant**

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
6.5-10: Impacts to Shasta Reservoir ' s Coldwater Fisheries. Under the cumulative analysis assumptions, substantial reductions in reservoir storage would occur occasionally throughout the April through November period of the year. However, because physical habitat availability is not believed to be among the primary factors limiting coldwater fish populations within the reservoir, and because anticipated changes in seasonal storage would not be expected to result in substantial adverse effects on the primary prey base utilized by the reservoir's coldwater fish populations, seasonal reductions in storage expected to occur under 2030 w/ WFP would not significantly affect Shasta Reservoir's coldwater fisheries. This would represent a less-than-significant future cumulative impact.	No mitigation measures are required.	**less-than-significant**
6.5-11: Impacts to Trinity Reservoir ' s Coldwater Fisheries. Under the cumulative analysis assumptions, substantial reductions in reservoir storage would occur occasionally throughout the April through November period of the year. However, because physical habitat availability is not believed to be among the primary factors limiting coldwater fish populations within the reservoir, and because anticipated changes in seasonal storage would not be expected to result in substantial adverse effects on the primary prey base utilized by the reservoir's coldwater fish populations, seasonal reductions in storage expected to occur under 2030 w/ WFP would not substantially affect Trinity Reservoir's coldwater fisheries. This would represent a less-than-significant future cumulative impact.	No mitigation measures are required.	**less-than-significant**
6.5-12: Impacts to Shasta Reservoir ' s Warmwater Fisheries Under the cumulative analysis assumptions, the 70-year average amount of littoral habitat available to warmwater fishes would be reduced by about 11 to 36% during the July through September period (which are the initial rearing months for the reservoir's warmwater fishes of management concern), with even more substantial reductions in reservoir littoral habitat availability in some years during these months. Rates of elevation fluctuation	No feasible measures are available. It is beyond the purview of the Water Forum to independently mitigate this impact. The degree of impact will largely depend on future CVP operations. As such, the ability to mitigate lies with the USBR and will depend on those future operations.	**potentially significant**

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
would not change substantially under the 2030 w/ WFP, relative to the Base Condition. However, seasonal changes in 70-year average reservoir littoral habitat under the 2030 w/ WFP would be of sufficient magnitude to potentially affect long-term, average initial year-class strength of the warmwater fish populations of management concern. Reduced littoral habitat availability would be a potentially significant future cumulative impact to Shasta Reservoir warmwater fisheries.		
6.5-13: Impacts to Trinity Reservoir ' s Warmwater Fisheries Under the cumulative analysis assumptions, littoral habitat availability would be reduced by about 10 to about 20% during the March through September period, with substantial reductions in littoral habitat availability occurring frequently throughout period. On the average, the 70-year average littoral habitat would be reduced by nearly 20% from July through September. The potential for nest dewatering events to occur in Trinity Reservoir would not change substantially under the 2030 w/ WFP during the March through July spawning period. However, changes in the availability of littoral habitat under the 2030 w/ WFP would potentially result in adverse affects to the initial establishment of warmwater fish year-classes. Reduced littoral habitat availability would be a potentially significant future cumulative impact to Trinity Reservoir warmwater fisheries.	No feasible measures are available. It is beyond the purview of the Water Forum to independently mitigate this impact. The degree of impact will largely depend on future CVP operations. As such, the ability to mitigate lies with the USBR and will depend on those future operations.	**potentially significant**
6.5-14: Impacts to Keswick Reservoir Fisheries. Under the cumulative impact assumptions, hydrologic conditions with the 2030 w/ WFP would have little, if any, effect on seasonal storage, elevation, and temperature of Keswick Reservoir. Any minor changes in storage, elevation, or temperature that could occur would not substantially affect the reservoir's fishery resources. This would constitute a less-than-significant future cumulative impact.	No mitigation measures are required.	**less-than-significant**

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
6.5-15: Flow-Related Impacts to Sacramento River Fisheries. Under the cumulative analysis assumptions, the 70-year average flows released from Keswick Dam would not be substantially reduced during any month of the year. The analysis indicates that flow reductions of more than 10% would occur occasionally during some months and infrequently during others under 2030 w/ WFP, relative to the Base Condition. The analysis also indicates that the 3, 250 cfs minimum flow objective for Keswick Reservoir stipulated in the NMFS Biological Opinion for the protection of winter-run chinook salmon rearing and downstream passage between 1 October and 31 March would not be violated in any month of this period under either the 2030 w/ WFP or the Base Condition. Flow changes below Keswick Dam that would occur under the 2030 w/ WFP would result in less-than-significant impacts to upper Sacramento River fisheries resources. The analysis for the lower Sacramento River indicates that the 70-year average flows under 2030 w/ WFP would not be substantially reduced relative to the Base Condition. The analysis also indicates that flow reductions of more than 20% would occur occasionally during August and infrequently during all other months of the year. Consequently, any flow-related impacts to lower Sacramento River fisheries or migrating anadromous fishes that could occur under 2030 w/ WFP are considered to be less than significant. Overall, this constitutes a less-than-significant future cumulative impact.	No mitigation measures are required.	**less-than-significant**
6.5-16: Temperature-Related Impacts to Sacramento River Fisheries Resources. Under the cumulative analysis assumptions, the 69-year average temperature at Keswick Dam would increase up to approximately one-half °F during the period August through November. Mean monthly temperatures at Keswick Dam would exceed the 56°F threshold stipulated in the NMFS Biological Opinion for winter-run chinook salmon about 1% more often in September, and would exceed the 60°F threshold stipulated for October in the NMFS Biological Opinion for winter-run chinook	No feasible measures are available. It is beyond the purview of the Water Forum to independently mitigate this impact. The degree of impact will largely depend on future CVP operations. As such, the ability to mitigate lies with the USBR and will depend on those future operations.	**significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
salmon 1% more often under the 2030 w/ WFP, relative to the Base Condition. Mean monthly temperatures at Bend Bridge would exceed the 56ºF threshold stipulated in the NMFS Biological Opinion for winter-run chinook salmon approximately 1% more often in April, and approximately 3% more often in May, June, and August. Although there would be no substantial change in the 69-year average early lifestage salmon survival for fall-, late fall-, winter-, and spring- run chinook salmon, substantial reductions in annual early-lifestage survival could be expected to occur under the 2030 w/ WFP, relative to annual survival estimates under the Base Condition, approximately 6% more often for winter-run and approximately 1 to 3% more often for spring-run. Substantial changes in average lower Sacramento River temperatures would not be expected over the 69-year period simulated, although individual months could exhibit substantial temperature increases.. Overall changes in water temperatures represent a significant future cumulative impact.		
6.5-17: Delta Fish Populations. Under the cumulative analysis assumptions, reductions in Delta outflow of more than 10% would occur occasionally during some months of the February through June period considered important for Delta fisheries resources. The analysis also indicates that upstream shifts of the position of X2 of 1 km or more would also occur occasionally during some months. Finally, the analysis indicates that Delta export to inflow ratios under the 2030 w/ WFP would not exceed the maximum export limits for either the February through June (35% of Delta inflow) or the July through January periods (65% of Delta inflow). Although the project would not cause X2 or Delta outflow standards to be violated, the project could result in reductions in outflow and upstream shifts in the position of X2, which could be considered a potentially significant impact to Delta fisheries resources.	No feasible measures are available. It is beyond the purview of the Water Forum to independently mitigate this impact. The degree of impact will largely depend on future CVP operations. As such, the ability to mitigate lies with the USBR and will depend on those future operations.	**potentially significant**

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
FLOOD CONTROL (Section 6.6)		
6.6-1: Ability to Meet Flood Control Diagrams of CVP/SWP Reservoir. Increased diversions from CVP/SWP reservoirs under the future cumulative condition would result in reduced storage during the flood control season, increasing the ability to meet flood control needs. This would be a less-than-significant future cumulative impact.	No mitigation measures are required.	**less-than-significant**
POWER SUPPLY (Section 6.7)		
6.7-1: Reduced CVP Hydropower Capacity and Generation - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that no substantial reduction in average annual surplus capacity or capacity for use by WAPA ' s preference customers would occur. Under the future cumulative condition, WAPA ' s capacity peak maximum of 1,152 megawatts would not be met in about 47 of the 828 months studied, as compared to 42 months for the Base Condition. However, under the future cumulative condition average annual CVP energy production would be reduced. by about 225 Gwh compared to the Base Condition. This change in annual average CVP energy production which is roughly equivalent to a 5% percent reduction, is considered a significant cumulative impact.	No feasible mitigation measures are available.	**significant**
6.7-2: Changes in Pumping Requirements for Diverters at Folsom Reservoir - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that energy requirements for those who pump water from Folsom Reservoir would increase by about 140% over existing conditions. Although not a significant environmental effect, this represents a significant cumulative economic impact.	No mitigation measures are required.	**less-than-significant (economically significant)**

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
VEGETATION AND WILDLIFE (Section 6.8)		
6.8-1: Special Status Species, Riparian Vegetation, and Backwater Ponds Associated with the Lower American River - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that the range of flows within the minimum/optimal range of 1,300 to 4,000 cfs would vary by 3 or fewer years during the 70-year period of record, in comparison to base conditions. As a result, reduced flows under future cumulative conditions would not result in an adverse effect to the special-status species (including the Valley Elderberry Longhorn Beetle) that are dependent on riparian vegetation and backwater ponds associated with Lower American River. This would be a less-than-significant future cumulative impact.	No mitigation measures are required.	**less-than-significant**
6.8-2: Special Status Species and Riparian Vegetation Associated with the Sacramento River and Sacramento-San Joaquin Delta - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that flows in the lower American River would be further reduced. However, during the critical growing season months of April through July, the number of occurrences in which mean monthly flows of the lower American River would be within the minimum/optimal flow range of 1,300 to 4,000 cfs would vary by 3 or fewer years during the 70-year period of record, in comparison to base conditions. As a result, reduced flows under future cumulative conditions would not result in an adverse effect to the special-status species (including the Valley Elderberry Longhorn Beetle) that are dependent on riparian vegetation and backwater ponds associated with Lower American River. This would be a less-than-significant future cumulative impact.	No mitigation measures are required.	**less-than-significant**
6.8-3: Vegetation Associated with Reservoirs - Under the set of assumptions for future conditions used in the EIR, the cumulative	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
impact analysis indicates that, in comparison to base conditions, mean monthly surface water elevations at Folsom, Shasta, and Trinity reservoirs would be reduced by less than 1% during the months of the growing season (March-October). Because the draw down zones at these reservoirs are vegetated with non-native plants that do not form a contiguous riparian community, minor fluctuations in surface water elevations would not adversely affect important habitat values at these reservoirs. Consequently, this would be a less-than-significant cumulative impact.		
RECREATION (Section 6.9)		
6.9-1: Cumulative Impacts on the Lower American River Recreation Opportunities - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that flows in the lower American River would be even further reduced. For example, during the months of May through September, the number of occurrences in which mean monthly flows of the lower American River would be reduced below the minimum threshold of 1,750 cfs would increase by as much as 40%, in comparison to base conditions. The WFP would contribute to this cumulative impact. This would be a significant cumulative impact.	The WFP includes features intended to lessen potential environmental impacts to the American River, consistent with the coequal objective to protect its natural values. These mitigating features include water conservation, dry-year diversion restrictions, and conjunctive use of ground water and surface water. Adoption of the WFP with these features would reduce flow effects on Lower American River recreation opportunities. In addition, improvements to recreation facilities in the American River Parkway are identified to compensate for the reduction in quality of and opportunity for rafting/boating on the Lower American River. Actions would occur in cooperation with the Sacramento County Department of Parks and Recreation and could include one or both of the following: (A) contributing to the purchase and development of the Uruttia property to provide water-dependent recreation opportunities and (B) developing recreation facilities to improve water-dependent and water-enhanced recreation opportunities in the American River Parkway. The improvements would involve projects that are consistent with the American River Parkway Plan, or that would be implemented subject to an amendment to the parkway plan by Sacramento County.	**significant**

The measures described below could be implemented in cooperation with the Sacramento County Department of Parks and Recreation, the agency responsible for implementing the American River Parkway Plan. The measures could be part of the Habitat Management Plan adopted by the Water Forum participants as an implementation tool for the Habitat Management Element of the Water Forum Proposal. Funding for the recreation measures may include money from within or outside the Water Forum Successor Effort. Because activities by a number of agencies are underway to restore and enhance the Lower American River, this recreation mitigation should be coordinated with the broader ecosystem partnership efforts. Other agencies involved in the Lower American River may participate in funding and/or implementation of recreation mitigation, as appropriate, to promote a well-coordinated program of restoration and enhancement of the river.

a) Uruttia Property. The Uruttia Property, located on the north side of the Lower American River near CalExpo, could be acquired and/or developed to provide public access, opportunities for water-dependent recreation activity related to the river (such as canoe and kayak use and instruction), and enhanced environmental values which can provide opportunities for water-enhanced recreation, such as sightseeing and nature study. The property and facilities would be incorporated into the American River Parkway and reflected by amendment in the American River Parkway Plan.

b) Recreation Facility Improvements to the American River Parkway. The American River Parkway Plan describes in several Area Plans the resources and facilities intended to provide for water-dependent and water-enhanced

recreation, including river access, trails, parking, swimming areas, and other facilities. The facilities could include improvement of river access for rafting/boating in the less intensively used sections of the river, such as downstream of Goethe Park; trail improvements to increase the opportunity for water-enhanced recreation, such as a linkage between the Fairbairn plant and the Sutter ' s Landing Park site; or interpretive resources to improve water-enhanced nature study and appreciation of the Parkway.

c) Update of the American River Parkway Plan. The update could consider the flow regime resulting from the WFP and appropriate actions to take in the Parkway to support improvement of both recreation opportunities and riparian habitat.

d) Enhancement of the Condition and Quality of Existing Recreation Facilities. Past and current budget constraints have limited the County ' s ability to maintain some existing recreation facilities. Enhancement of the condition and quality of existing facilities could improve the attraction of the Parkway for both water-dependent and water-enhanced recreation activity.

The improvements to recreation facilities in the American River Parkway would accomplish the following criteria:

- Facilities would improve opportunities for water-dependent recreation, particularly rafting/boating, such that the river is made more accessible when flows are appropriate and/or the quality of rafting/boating is improved; or facilities would improve opportunities for water-enhanced recreation, such that the quality and

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	visitation associated with recreation activity in the Parkway is increased. • Improvements would be consistent with the American River Parkway Plan. The final selection of facilities for improvement would occur during the 18-month preparation period of the Habitat Management Plan. Facilities would be developed as soon as feasible after completion of that plan, recognizing the need to assemble funding, secure facility approvals, and prepare designs.	
6.9-2: Cumulative Impacts to Folsom Reservoir Recreation Opportunities - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that, in comparison to base conditions, surface water elevations at Folsom Reservoir would be further reduced. For example, during the recreational use period of the year (primarily May-September), the number of occurrences in which lake levels would decline below the minimum 412-foot elevation for use of marina wet slips would increase by more than 10%, in comparison to base conditions. Reduced lake levels under the cumulative condition would also adversely affect swimming beaches. The WFP would contribute to this cumulative condition and it would be a significant cumulative impact.	The WFP includes features intended to lessen potential environmental impacts on the Lower American River, which would also serve to decrease environmental effects to other resources. These mitigating features include water conservation, dry-year diversion restrictions, and conjunctive use of ground water and surface water. Adoption of the WFP with these features would reduce water surface elevation effects on Folsom Reservoir recreation. In addition, boating facility improvements would enhance boating access during periods of higher water to compensate for reduced availability of boat ramp and marina facilities from Water Forum Proposal diversions. Actions would occur in cooperation with the California Department of Parks and Recreation (CDPR) and would be consistent with the General Plan for Folsom Lake State Recreation Area (CDPR, 1978). Mitigation should also be consistent with the objectives of CDPR proposals for measures to mitigate lower lake levels from flood storage reoperation (Kranz, 1997). The actions could be added into the recreation section of the Habitat Management Plan as a means to implement them.	**significant**

One or more of the following recreation measures described below could be implemented in cooperation with the CDPR. Funding for the recreation measures may include money from within or outside the Water Forum Successor Effort. A number of agencies are involved in water resources and recreation facility decisions affecting Folsom Reservoir, so this recreation mitigation should be coordinated with other actions, as appropriate. Consequently, other agencies involved in Folsom Reservoir may participate in funding and/or implementation of recreation mitigation.

e) Boating Facilities to Increase Access and Use During Higher Water Periods. Construction of boating facilities, consistent with the General Plan for Folsom Lake State Recreation Area would increase boating access and use of the reservoir during higher water periods. To compensate for reduced availability of boating facilities during lower water periods, this measure would improve boating facilities for use when higher water conditions allow for high-quality water recreation and the greater reservoir surface area availability; at higher water levels, visitation can be increased when the larger reservoir surface area can support more intensive use. Examples of potential boating facility improvements suggested by CDPR staff include boat parking and shore facilities at Dyke 8 or a launch ramp and dock at New York Cove (on the east side of the reservoir, north of Brown ' s Ravine). The final selection of facilities would occur in cooperation between the Water Forum Successor Effort and the CDPR.

f) Improvement to the Marina Area. Construction of facility improvements in the Brown ' s Ravine area would enhance the operation of the marina. Improvements would be consistent with the Folsom Lake State

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	Recreation Area General Plan. The intent of these improvements would be to help enhance marina operations during periods of sufficiently high water to offset the reduced availability of wet slips. The final selection of facilities would occur in cooperation between the Water Forum Successor Effort, the operator of the marina, and the CDPR. The improvements to recreation facilities on Folsom Reservoir will accomplish the following criteria: • Facilities serving higher water conditions will increase boating visitation to Folsom Reservoir when the surface area is large enough to support the increased use. • Marina facility improvements will help enhance operation of the marina when water level is high enough to support the wet slips. • Improvements are consistent with the General Plan for Folsom Lake State Recreation Area. The final selection of facilities for improvement would occur during an period following adoption of the Water Forum Proposal. Facilities would be developed as soon as feasible after completion of that plan, recognizing the need to assemble funding, secure facility approvals, and prepare designs.	
6.9-3: Sacramento River and Sacramento-San Joaquin Delta Recreation Opportunities Under Future Cumulative Conditions - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that during the critical growing season months of April through July mean monthly flows in the Sacramento River would be reduced by approximately 3%, in comparison to base conditions. Flows would not be reduced with sufficient magnitude and frequency to adversely affect recreational opportunities associated with the Sacramento River	No mitigation measures are required.	**less-than-significant**

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
and Sacramento-San Joaquin Delta. This would be a less-than-significant cumulative impact.		
6.9-4: Lake Natoma, Whiskeytown, Keswick, Shasta, and Trinity Reservoirs Recreation Opportunities Under Future Cumulative Conditions - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that, in comparison to base conditions, mean monthly surface water elevations at Shasta and Trinity reservoirs would be reduced by less than 1% during the recreational use period of the year (primarily May-September), which would not substantially diminish recreation opportunities. Because Lake Natoma, Whiskeytown, and Keswick reservoirs serve as regulating reservoirs, the pattern of surface water elevations changes at these reservoirs is not expected to change substantially under cumulative conditions. This would be a less-than-significant cumulative impact.	No mitigation measures are required.	**less-than-significant**
LAND USE AND GROWTH-INDUCING (Section 6.10)		
Land use designations established in the most recent general plans for the jurisdictions in the water service study area represent the maximum long-term level of growth approved by city and county decision-makers. Because the WFP addresses the region ' s water demands through the year 2030, and the buildout years of the general plans are not able to be precisely predicted, the reliable water supply provided by the WFP to each purveyor may fall short of, just meet, or exceed water demand at buildout. The diversions provided for in the WFP are intended to accommodate each agency ' s projected surface water need in 2030 considering such factors as projected growth rate, water rights, conservation levels, availability of alternative water supplies, environmental considerations, and other factors. As such, that analysis is inherently cumulative.	The water supply included in the WFP has been determined considering the planned growth for each jurisdiction within the water service study area; as such, the WFP is consistent with the growth parameters described each city and county General Plan. The General Plan of each jurisdiction includes policies and programs for the protection of the environment and, to the extent feasible, the avoidance or mitigation of significant effects on the environment from planned growth and development. During the normal course of each jurisdiction ' s implementation of its General Plan policies, feasible mitigation of significant impacts from planned growth and development would occur. Because mitigation of growth-related environmental impacts is in the purview of each city and county, through their existing land use authority, and because the Water Forum itself has no such authority, the	**significant**

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	WFP cannot feasibly provide for additional mitigation of growth-related land use and development environmental impacts.	
AESTHETICS (Section 6.11)		
6.11-1: Aesthetic Value of the Lower American River - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that flows in the lower American River would be further reduced. However, during the critical growing season months of April through July, the number of occurrences in which mean monthly flows of the lower American River would be within the minimum/optimal flow range of 1,300 to 4,000 cfs would vary by 3 or fewer years during the 70-year period of record, in comparison to base conditions. As a result, reduced flows under future cumulative conditions would not result in an adverse effect to riparian vegetation and habitat and, as such, would not result in an adverse affect to the aesthetic quality of the lower American River. This would be a less-than-significant future cumulative impact.	No mitigation measures are required.	**less-than-significant**
6.11-2: Aesthetic Value of the Sacramento River and Sacramento-San Joaquin Delta - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that mean monthly flows in the Sacramento River would be reduced by approximately 3%, in comparison to base conditions, during the critical growing season months of April through July. Flows would not be reduced with sufficient magnitude and frequency to significantly alter existing riparian vegetation dependent on Sacramento River flows and Delta inflows. As a result, the aesthetic quality of the Sacramento River and Sacramento-San Joaquin Delta would not be adversely affected. This would be a less-than-significant future cumulative impact.	No mitigation measures are required.	**less-than-significant**

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
6.11-3: Aesthetic Value of Reservoirs - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that mean monthly surface water elevations at Folsom, Shasta, and Trinity reservoirs would be reduced by less than 5 feet, in comparison to base conditions. In addition, because Lake Natoma, Whiskeytown, and Keswick Reservoir serve as regulating reservoirs, future surface water elevations at these reservoirs are not expected to change substantially. Consequently, this would be a less-than-significant future cumulative impact.	No mitigation measures are required.	**less-than-significant**
CULTURAL RESOURCES (Section 6.12)		
6.12-1: Physical Deterioration of Cultural Resource Sites in Folsom Reservoir - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that Folsom Reservoir water surface elevations would be reduced more frequently and/or by greater magnitudes compared to that occurring solely as a result of the WFP. Future reductions in 70-year monthly average water surface elevation would approximate 2 to 4 ft, relative to existing elevations. Such reductions would result in a lowered zone where water-level fluctuations would be the most pronounced. The effect of this lowered fluctuation zone on cultural resources would be to expose sites that historically had experienced a higher degree of protection from erosion and other physical destructive forces. Under the future cumulative condition, this would be a significant cumulative impact.	The WFP hydrologic modeling data indicates that the project would have a significant impact on cultural sites and features within the reservoir pool, especially those located between the 360 ft msl and 395 ft msl elevations. Significant impacts would include the potential exposure of previously submerged sites to increased vandalism, recreation use, wave action, and the effects of repeated inundation and drawdown. Many prehistoric and historic sites have been recorded within the reservoir basin, most of which remain unevaluated. Only about half of the reservoir has been surveyed, and many other sites undoubtedly exist in the unsurveyed areas. In 1994, Far Western and JRP Historical Consultants prepared a Research Design as part of SAFCA ' s Folsom Re-operation Study. That document included all of the reservoir basin between the 390-foot and the 466-foot contours. The Research Design provides, among other components, summaries of the known cultural resources within the study area; research issues applicable to those resources; and recommendations for evaluating the sites, protecting them from further damage, and mitigating unavoidable impacts.	**potentially significant**

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
	Checklists are included for evaluation of various types of sites. All unevaluated sites within the reservoir that fall within the direct impact zone of the WFP could be given additional study, using this Research Design as a guideline. Also, unsurveyed portions of the direct impact zone could be surveyed for cultural resources, as water levels permit; any additional sites and features also may require evaluation and mitigation. The appropriate agencies (i.e., Bureau of Reclamation, US Army Corp of Engineers, and the State Office of Historic Preservation) could decide that evaluation and mitigation of a *representative sample* of the sites is sufficient, although this cannot be determined without comprehensive consultation with those agencies. Recent conversations with archaeologists at the Bureau of Reclamation's Sacramento office suggest that such sampling would be acceptable to that agency.	
6.12-2: Inundation or Exposure of Cultural Resource Sites in the Lower American River - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis indicates that river flows in the Lower American River would be reduced more frequently and/or by greater magnitudes compared to the WFP alone. With overall reductions in 70-year monthly average river flows (up to 11 percent, but generally about 5 percent), the potential for inundation of cultural resource sites along the Lower American River would be less than that existing today. Such reductions, however, would also not exceed those historically recorded, thereby avoiding further exposure of any cultural remains which are presently submerged. This would represent a less-than-significant cumulative impact.	No mitigation measures are required.	**less-than-significant**
6.12-3: Inundation or Exposure of Cultural Resource Sites in the Lower Sacramento River - Under the set of assumptions for future conditions used in the EIR, the cumulative impact analysis	No mitigation measures are required.	**less-than-significant**

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
indicates that flows in the Lower Sacramento River could be reduced more frequently and/or by greater magnitudes compared to that occurring solely as a result of the WFP. Such reductions on a 70-year monthly average, however, are anticipated to be generally less than 4 percent, relative to existing flow conditions. These reductions would be small enough that exposure of submerged cultural resources would be highly unlikely. Moreover, any cultural resources within the river banks and floodplain would not be affected since flows would, on average, be lower and it is assumed that the existing levee system would continue to provide channelized protection of the floodplain areas. This would be considered to represent a less-than-significant cumulative impact.		
SOILS AND GEOLOGY (Section 6.13)		
6.13-1: Changes in Geologic Substructures – In the future, it is anticipated that development will continue throughout the region. Associated with this anticipated development, ground disturbing activities of new construction efforts have potential to substantially change geologic substructures. With major construction projects, potential changes to subsurface geology could affect human safety. However, development and planning of future projects would consider geotechnical studies and implement design recommendations, as appropriate, in order to minimize any hazardous geologic changes to the underlying substrata. Therefore, cumulative changes in geologic substructures are considered less than significant cumulative impact.	No mitigation measures are required.	**less-than-significant**
6.13-2: Exposure to Major Geologic Hazards – In the future, it is recognized that major capital improvement and construction projects will occur with the potential to expose people or property to major geologic hazards. Given the relative stability of the geologic subsurface environment in the greater Sacramento area, exposure to geologic hazards is considered to be a less-than-significant impact.	No mitigation measures are required.	**less-than-significant**

Table 2-3
SUMMARY OF CUMULATIVE IMPACTS

Impact Before Mitigation	Potential Mitigation Measures	Significance After Mitigation
6.13-3: Increased Soil Erosion by Wind or Water – Future development activities could disturb surface soils and thereby induce either wind or water erosion. This, however, would be highly localized and temporary, potentially occurring only during construction periods. Future compliance and adherence to project-specific siting investigations, soils/geotechnical studies and the implementation of any necessary project-specific mitigation measures, would avoid long-term soil erosion. This is considered to represent a less-than-significant cumulative impact.	No mitigation measures are required.	**less-than-significant**
6.13-4: Loss of Soil Cover – In the future, increasing development across the region will undoubtedly result in a loss of soil cover. Certain projects, depending on their scale and location, may result in permanent loss of some soil cover. Protection against loss of valuable soils (for farmland purposes) is provided through the State mapping and identification system and avoided and/or mitigated through CEQA mitigation of project-specific actions. Future soil loss represents a less-than-significant cumulative impact.		**less-than-significant**

2.6 SUMMARY OF ALTERNATIVES TO THE WATER FORUM PROPOSAL

Pursuant to §15126(d) of the State CEQA Guidelines, the environmental impact report includes an analysis of a range of alternatives that could feasibly attain its basic objectives (i.e., the coequal objectives), plus three "no project" alternatives. Seven alternatives to the WFP are considered: 1) Increased Sacramento River Diversions; 2) Increased Groundwater Pumping; 3) Increased Water Reclamation; 4) More Frequent Reductions in Surface Water Diversions; 5) No Project Alternative—Independent Actions; 6) No Project Alternative—Constrained Surface Water and Groundwater; and 7) No Project Alternative—Constrained Surface Water, Unconstrained Groundwater.

2.6.1 Alternative 1 - Increased Sacramento River Diversions

Alternative 1, Increased Sacramento River Diversions, would involve transferring up to 78,000 AF of surface water diversions considered in the WFP from the Lower American River to the Sacramento River with the aim of reducing impacts on the American River. In order to reach end users, water diversion, pumping, treatment and transmission facilities would be required.

This alternative assumes water diversions from two locations on the Sacramento River: a new surface water diversion at Freeport, approximately 10 miles downstream of the confluence of the Sacramento and American rivers and a new diversion near Elkhorn, approximately 10 miles north of the confluence. New facilities would include but not be limited to water diversions and treatment plants at Freeport and Elkhorn, treated water pipelines to Folsom and Northridge Water District, a canal from Freeport to the South County area, and to the Folsom South Canal.

This alternative would result in reduced impacts on American River fisheries and recreation opportunities. Impacts related to power supply would be increased due to the cost of pumping water diverted from the Sacramento River to the service areas. Impacts of Alternative 1 on Sacramento River fisheries, water quality, flood control, vegetation and wildlife, aesthetics, cultural resources, and soils and geology would be the same, or not substantially different from impacts of the proposed WFP.

2.6.2 Alternative 2 - Increased Groundwater Pumping

Alternative 2 would involve meeting a larger portion of future demands through additional groundwater pumping. This alternative assumes that local groundwater from three subareas of the groundwater basin in the County would be extracted to meet projected growth in Sacramento County through the year 2030. An Integrated Groundwater - Surface Water Model (IGSM) was used to assess groundwater use in 2030 (assuming buildout of the County's Urban Policy Area) with the provision that a larger portion of water demand would be met from groundwater (Sacramento County Water Agency 1997).

Under this analysis, groundwater use is projected to increase from approximately 497,000 AF/Yr in the base condition, to approximately 612,000 AF/Yr in 2030. Most of the increase would occur in the South Sacramento area where substantial urban growth is planned. This alternative would reduce somewhat adverse impacts to fisheries, recreation, and other flow-related impacts

including water supply, power supply, vegetation and wildlife, and aesthetics. Groundwater, however, would be maintained at lower levels. This would increase the yield of the aquifer system, but could result in land subsidence, increased pumping costs, in-migration of poorer-quality water from the deep aquifer system or adjacent areas, decline in well productivity, and increased rate of movement of groundwater contamination.

2.6.3 Alternative 3 - Increased Water Reclamation

Alternative 3 would involve increased use of reclaimed water to offset new surface water diversions and groundwater pumping for non-potable consumptive uses such as irrigation, industrial use, and wetlands management. Specifically, reclamation studies for the County of Sacramento, the City of Roseville, and the El Dorado Irrigation District (EID), are considered in the definition of Alternative 3.

Results of the Sacramento County reclamation study concluded that the potential demand for agricultural use of reclaimed water could increase over time from approximately 150,000 AF in 1993 to approximately 263,000 AF in the year 2010, with out-of-county export of approximately 14,600 AF after 2005 due to insufficient in-County demand south of the American River (Sacramento County Regional Sanitation District 1994). Non-agricultural reclaimed water users in the County (primarily irrigators of parks, schools, roadway rights-of-way and medians, cemeteries, and golf courses) would generate a demand for 33,000 AF of reclaimed water per year, approximately 15,400 AF of which would be south of the American River. Under this alternative, reclaimed water use in Sacramento County would total approximately 263,000 AF. Conveyance, storage, and distribution facilities for reclaimed water would include pump stations, storage tanks, reservoirs, pipelines and canals. The Clay Station Reservoir site on Laguna Creek would need to be developed as the site for a 170,000 AF reclaimed water reservoir. This alternative also assumes increased reclamation in the City of Roseville and in the El Dorado Irrigation District (EID).

With these three sources of reclaimed water totaling approximately 300,000 AF/Yr by 2010, Alternative 3 considers substantially reduced groundwater pumping with some reductions in surface water diversions on the American and Sacramento rivers. Use of reclaimed water after 2010 would be expected to increase, but estimation of volume would be speculative.

Use of reclaimed water to meet some of Sacramento County's non-potable water demand would reduce groundwater pumping and some diversions from the Lower American and Sacramento River. Impacts to fisheries and recreation on the Lower American River would be somewhat reduced under Alternative 3. Impacts with regard to water quality and flood control would be the same or slightly reduced than under the WFP. Impacts with regard to water quality would be substantially reduced. This alternative would reduce return flows below the Sacramento River wastewater treatment plant. Treated effluent diverted for reclaimed water use (and thus not discharged to the Sacramento River) would decrease Delta outflows by a like amount. Therefore out-of-area water supply impacts could be substantially greater than those of the WFP.

Implementation of Alternative 3 would reduce demands on surface and groundwater resources in the project area. However, constraints to reclamation on the scale contemplated in Alternative 3 are many, and lend uncertainty to its ultimate implementation. Such constraints include regulatory permits and approvals, institutional agreements between producers of reclaimed water and other agencies; identification of markets for the resource; public health questions; and construction of treatment, storage, and conveyance facilities. Alternative 3 could not entirely substitute for any element of the WFP in any case, however, due to the limited uses of reclaimed water. Provision for additional surface water supplies to meet growing demands for potable water would still be required.

2.6.4 Alternative 4 - More Frequent Reductions in Surface Water Diversion

Under the WFP most purveyors that divert upstream of Nimbus Dam would limit their increased diversions or take other measures to reduce the impacts of diversions in about 18% of the years (i.e., years in which the projected March through November unimpaired inflow to Folsom Reservoir is less than 950,000 AF.)

Under Alternative 4, those purveyors would limit their increased diversions or take other measures to reduce the impacts of diversions in about 43% of the years (i.e., years in which March through November unimpaired inflow to Folsom Reservoir is below 1,600,000 AF). It would allow diversions similar to those described in the WFP in the remaining years.

Requiring drier year cutbacks in a greater percentage of years would result in reduced diversions from the Lower American River. Alternative 4 would result in somewhat reduced impacts to fisheries resources. Other flow-related impacts would be the same or slightly reduced, including recreation opportunities, vegetation and wildlife, water quality, power supply, visual resources, and flood control. Impacts on groundwater could be substantial as purveyors turn to groundwater in a greater number of years to make up for the shortfall in surface water supplies. This could result in impacts similar to those described under Alternative 2, Increased Groundwater Pumping, including land subsidence, increased pumping costs, in-migration of poor quality water, decline in well productivity, and increased rate of movement of groundwater contamination. Some purveyors without access to alternative sources would not have sufficient water supply to meet projected demand.

2.6.5 Alternative 5 - No Project Alternative—Independent Actions

Under Alternative 5, No Project Alternative—Independent Actions, it is assumed that purveyors would continue to pursue water supply projects. This alternative represents a condition that could occur in the year 2030 if the WFP is not implemented, and purveyors develop their own projects to meet their anticipated demands, without dry year delivery reductions, water conservation programs or Lower American River Habitat Management Element negotiated as part of the WFP. All other assumptions (e.g., 2030 out-of-basin CVP/SWP demands and increased Sacramento Valley demands, and increased Trinity River flows) will be used for comparative purposes for the Future Cumulative Condition simulation.

Implementation of Alternative 5 would result in more surface water diversions from the Lower American River, with no Water Forum-negotiated dry year restrictions, although there would be other external limitations on water availability (e.g., CVP-imposed deficiencies). On the Lower American River, impacts on fall-run chinook salmon and steelhead would be somewhat worse. Other flow related impacts would also be somewhat worse than under the WFP, including Lower American River and Folsom Reservoir recreation opportunities, water quality, flood control, CVP and SWP deliveries, visual resources, and Sacramento River fisheries.

2.6.6 Alternative 6 - No Project Alternative—Constrained Surface Water and Groundwater

Under Alternative 6, No Project Alternative—Constrained Surface Water and Groundwater, represents a condition at 2030 that could occur if diversions and groundwater pumping by Water Forum purveyors were constrained to the lesser of future demands, existing capacity, or existing water entitlements. All other assumptions (e.g., 2030 out-of-basin CVP/SWP demands and increased Sacramento Valley demands, and increased Trinity River flows) will be set at the same levels established for the Future Cumulative Condition simulation.

This alternative would not have sufficient water supply to provide for projected demand in the water service study area. Because a lower volume of water would be diverted from Folsom Reservoir, the Lower American River, and the Sacramento River as compared to the WFP, impacts on fisheries, recreation, vegetation and wildlife, CVP and SWP water deliveries, water quality, visual resources, and power supply would be reduced.

2.6.7 Alternative 7 - No Project Alternative—Constrained Surface Water, Unconstrained Groundwater

Under Alternative 7, No Project Alternative—Constrained Surface Water, Unconstrained Groundwater, represents a condition at 2030 that could occur if diversions by Water Forum purveyors were constrained to the lesser of future demands, existing capacity, or existing water entitlements. All other assumptions (e.g., 2030 out-of-basin CVP/SWP demands and increased Sacramento Valley demands, and increased Trinity River flows) will be used for comparative purposes for the Future Cumulative Condition simulation. This alternative assumes that future demands would be met through groundwater pumping where groundwater is available. As such, the impacts of this alternative are similar to Alternative 2, Increased Groundwater Pumping. The reader is referred to Section 2.6.2 for a summary of impacts of Alternative 2.

2.6.8 Alternatives Eliminated from Detailed Consideration

Several additional alternatives were considered during the planning process, but were eliminated from detailed consideration in the EIR, because they cannot feasibly attain the objectives of the proposed WFP for financial, legal, technological, and/or environmental reasons. These alternatives include Auburn Dam, Feather River diversions, and additional conservation beyond Best Management Practices.

Auburn Dam

Auburn Dam would require federal authorization and appropriation. As detailed in the American River Water Resources Investigation (ARWRI), USBR studied Auburn Dam as an alternative for meeting the region's water supply needs (SMWA/USBR, 1996; SMWA/USBR, 1997), and for regional flood control (USACE/DWR, 1991). In May 1998, USBR issued its Record of Decision regarding the proposed action for the ARWRI. The ARWRI is the subject of the Final Environmental Impact Statement (FEIS), ARWRI, California (FES 97-36, dated November 27, 1997), developed in compliance with the National Environmental Policy Act (NEPA). The adopted decision is as follows:

"Reclamation has not identified a Federal role for meeting the future water needs of the ARWRI study area; therefore, a Federal program is not being selected.

While no Federal action will be initiated to meet the water needs of the local area, USBR will, as appropriate, cooperate with local agencies as specific water management activities are proposed and implemented. USBR would exercise its statutory authorities, such as that afforded by the Central Valley Project Improvement Act, to provide assistance in implementation and cooperate in the process with local lead officials. Such cooperation may involve individual actions on the part of USBR that constitute "major Federal actions", and as such would require that USBR comply with the NEPA and other Federal statutes. Under those circumstances, USBR would prepare the required additional documentation."

Feather River Diversions

Diversions from the Feather River were considered for Placer County and parts of Sacramento County to reduce the need for American River diversions. A fatal flaw analysis was prepared to examine the feasibility of diverting water at a rate of 200 mgd (310 cfs) from the Feather River to help meet the 2030 demands of South Placer and north Sacramento counties. Based on this analysis, it was determined that several fish species would be exposed to the diversion at their most sensitive life stages (i.e., eggs, larvae, and juveniles) during downstream migration. Because this level of diversion from the Feather River would likely have significant impacts to fisheries, and a new diversion could involve a lengthy and uncertain permit process, this alternative was eliminated from detailed consideration in the EIR.

Additional Conservation Beyond Best Management Practices

The WFP includes a Water Conservation Element which sets forth the water purveyors' programs for implementing water conservation measures, or best management practices (BMPs), including residential water meter retrofit. The majority of these BMPs are similar to those identified in the Memorandum of Understanding Regarding Urban Water Conservation in California (Urban Water Conservation Council, 1994). It is assumed that by the year 2030 all water purveyors will have fully implemented all BMPs. The WFP Water Conservation Element is expected to achieve an overall conservation level of approximately 25%. Although additional conservation measures were considered, they would not be able to feasibly meet the WFP's

objectives by themselves at this time due to cost or health-related reasons. The WFP does not preclude the opportunity to implement other, more aggressive conservation approaches as they become feasible and available in the future. As a result, it is possible that enhanced conservation could occur. For instance, the California Urban Water Conservation Council continues to explore more BMPs. Although this was eliminated from detailed consideration in the EIR as an alternative to the WFP, the potential for enhanced conservation is understood by the Water Forum stakeholders.

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APPENDIX 3.5

Greenhouse Gas (GHG) Emissions and Climate Change Documentation

City of Roseville Greenhouse Gas Policies

- **Community Form Policy 5:** Promote land use patterns that result in the efficient use of urban lands and preservation of open space as specified in the Open Space and Conservation Element.
- **Community Form - Relationship to Transit, Pedestrian, and Air Quality - Policy 1:** Promote land use patterns that support a variety of transportation modes and accommodate pedestrian mobility.
- **Community Form - Relationship to Transit, Pedestrian, and Air Quality - Policy 2:** Allow for land use patterns and mixed use development that integrate residential and non-residential land uses, such that residents may easily walk or bike to shopping, services, employment, and leisure activities.
- **Community Form - Relationship to Transit, Pedestrian, and Air Quality - Policy 3:** Concentrate higher intensity uses and appropriate support uses within close proximity of transit and bikeway corridors as identified in the Bicycle Master Plan. In addition, some component of public use such as parks, plazas, public buildings, community centers and/or libraries should be located within the corridors.
- **Community Form - Relationship to Transit, Pedestrian, and Air Quality - Policy 4:** Promote and encourage the location of employee services such as childcare, restaurants, banking facilities, convenience markets, etc., within major employment centers for the purpose of reducing midday service-related vehicle trips.
- **Community Form - Relationship to Transit, Pedestrian, and Air Quality - Policy 5:** Where feasible, improve existing development areas to create better pedestrian and transit accessibility.
- **Community Form - Relationship to Transit, Pedestrian, and Air Quality - Policy 6:** Through City land use planning and development approvals, require that neighborhood serving uses (e.g., neighborhood commercial uses, day care, parks, schools, and other community facilities) be physically linked with adjacent residential neighborhoods.
- **Community Form - Relationship of New Development - Policy 1:** Require that new development areas and associated community-wide facilities (open space resources, parks, libraries, etc.) be linked and oriented to existing developed areas of the community through road networks, public transit systems, open space systems, bike way and pedestrian systems, and other physical connections.
- **Community Form – Jobs/Housing and Economic Development - Policy 1:** Strive for a land use mix and pattern of development that provides linkages between jobs and employment uses, will provide a reasonable jobs/housing balance, and will maintain the fiscal viability of the City.
- **Community Form – Community Design - Policy 2:** Continue to develop and apply design standards that result in efficient site and building designs, pedestrian friendly projects that stimulate the use of alternative modes of transportation, and the establishment of a functional relationship between adjacent developments.
- **Community Form – Community Design - Policy 3:** Encourage project designs that place a high priority and value on open space, and the preservation, enhancement and incorporation of natural resources and other features including consideration of topography, vegetation, wetlands, and water courses.
- **Community Form – Community Design - Policy 9:** The location and preservation of native oak trees and oak woodlands shall be a primary factor in determining site design, building location, grading,

construction and landscaping, and in establishing the character of projects through their use as a unifying element in both new an existing development.

- **Growth Management Policy 8:** Manage growth in such a way to ensure that significant open space areas will be preserved.
- **Circulation – Level of Service - Policy 2:** Strive to meet the level of service standards through a balanced transportation system that reduces the auto emissions that contribute to climate change by providing alternatives to the automobile and avoiding excessive vehicle congestion through roadway improvements, Intelligent Transportation Systems, and transit improvements.
- **Circulation – Level of Service – Policy 5:** Enable the City to designate a Pedestrian District over a geographic area for the purpose of implementing measures that promote pedestrian walkability and reduce total vehicle miles traveled and resultant air pollution emissions that contribute to climate change. In these districts, the City recognizes that pedestrian travel takes a higher priority than automobile travel, which could reduce the vehicular level of service.
- **Circulation – Transit - Policy 1:** Pursue and support transit services within the community and region and pursue land use, design and other mechanisms that promote the use of such services.
- **Circulation – Transportation System Management - Policy 1:** Continue to enforce the City's TSM ordinance and monitor its effectiveness.
- **Circulation – Transportation System Management – Policy 2:** Work with appropriate agencies to develop measures to reduce vehicular travel demand and total vehicle miles traveled and meet air quality goals.
- **Circulation – Bikeway/Trails – Policy 1:** Develop a comprehensive and safe system of recreational and commuter bicycle routes and trails that provides connections between the City's major employment and housing areas and between its existing and planned bikeways.
- **Circulation – Bikeway/Trails – Policy 2: C**oordinate Roseville's bikeway and trail system with those of neighboring jurisdictions to provide both local and regional connections.
- **Air Quality and Climate Change Policy 1:** Cooperate with other agencies to develop a consistent and effective approach to air pollution planning.
- **Air Quality and Climate Change Policy 4:** As part of the development review process, develop mitigation measures to minimize stationary and area source emissions.
- **Air Quality and Climate Change – Transportation and Circulation - Policy 5:** Develop transportation systems that minimize vehicle delay and air pollution.
- **Air Quality and Climate Change – Transportation and Circulation – Policy 6:** Develop consistent and accurate procedures for mitigating transportation emissions from new and existing projects.
- **Air Quality and Climate Change – Transportation and Circulation – Policy 7:** Encourage alternative modes of transportation including pedestrian, bicycle, and transit usage.
- **Air Quality and Climate Change – Land Use – Policy 9:** Encourage land use policies that maintain and improve air quality.
- **Air Quality and Climate Change – Energy Conservation – Policy 10:** Conserve energy and reduce air emissions by encouraging energy efficient building designs and transportation systems.

- **Open Space and Conservation – Open Space System – Policy 1:** Provide an interconnecting system of open space corridors that, where feasible, incorporate bikeways and pedestrian paths.
- **Open Space and Conservation – Open Space System – Policy 2:** Provide interconnected open space corridors between open space and habitat resources, recreation areas, schools, employment, commercial service and residential areas.
- **Open Space and Conservation – Open Space System – Policy 3:** Work with adjacent jurisdictions to connect the City with regional open space and trail systems, providing a network of open space and habitat resources, pathways and, where reasonable, equestrian trails through the City to link nearby communities
- **Open Space and Conservation – Open Space System – Policy 4:** Require all new development to provide linkages to existing and planned open space systems. Where such access cannot be provided through the creation of open space connections, identify alternative linkages.
- **Open Space and Conservation – Open Space System – Policy 6:** Take into account consideration of natural habitat areas in developing linkages and in preserving open space areas. Identify alternate sites for linkages where sensitive habitat areas have the potential to be adversely impacted.
- **Open Space and Conservation – Open Space System – Policy 7:** Maximize opportunities for preservation and maintenance of open space resources, including establishment of private open space areas. Consider coordination with non-profit organizations and investigate the potential for conservancy ownership and/or management of open space areas.
- **Open Space and Conservation – Vegetation and Wildlife – Policy 1:** Incorporate existing trees into development projects, and where preservation is not feasible, continue to require mitigation for the loss of removed trees. Particular emphasis shall be placed on avoiding the removal of groupings or groves of trees.
- **Open Space and Conservation – Vegetation and Wildlife – Policy 2:** Preserve and rehabilitate continuous riparian corridors and adjacent habitat along the City's creeks and waterways.
- **Open Space and Conservation – Vegetation and Wildlife – Policy 3:** Require dedication of the 100-year flood plain or comparable mechanism to protect habitat and wildlife values in perpetuity.
- **Open Space and Conservation – Vegetation and Wildlife – Policy 4:** Require preservation of contiguous areas in excess of the 100-year flood plain as merited by special resources or circumstances. Special circumstances may include, but are not limited to, sensitive wildlife or vegetation, wetland habitat, oak woodland areas, grassland connections in association with other habitat areas, slope or topographical considerations, recreation opportunities, and maintenance access requirements.
- **Open Space and Conservation – Groundwater Recharge and Water Quality – Policy 3:** Ensure a buffer area between waterways and urban development to protect water quality and riparian areas.
- **Open Space and Conservation – Groundwater Recharge and Water Quality – Policy 4:** Consider the use of City property for habitat preservation and mitigation requirements resulting from development proposals when such efforts do not conflict with existing resources, recreational opportunities, or other City goals, policies, or programs.
- **Open Space and Conservation – Groundwater Recharge and Water Quality – Policy 5:** Continue to monitor groundwater resources and investigate strategies for enhanced sustainable use. Areas where recharge potential is determined to be high shall be considered for designation as open space.

- **Open Space and Conservation – Groundwater Recharge and Water Quality – Policy 6:** Where feasible, locate storm water retention ponds in areas where subsoil is suitable for groundwater recharge.
- **Parks and Recreation Policy 1:** The City shall ensure the provision of 9 acres of park land per 1,000 residents
- **Parks and Recreation Policy 6:** Take into consideration energy efficiency and water conservation, including the use of treated wastewater, in park development, and design
- **Public Facilities – Electric Utilities – Policy 5:** Explore the feasibility of the development of and participation in renewable energy resources.
- **Public Facilities – Electric Utilities – Policy 6:** Adopt a load/resource management plan, incorporating energy efficiency, conservation, load management, and reliability strategies, identifying program objectives and implementation and monitoring mechanisms.
- **Public Facilities – Electric Utilities – Policy 8:** Pursue reasonable and cost-effective energy efficiency, conservation, and load management programs pertinent to the electric utility system.
- **Public Facilities – Electric Utilities – Policy 10:** Require new development to pay a fair share of the cost of new sub-transmission and distribution needed to serve the development and to dedicate sites and easements needed for substations, transmission, sub-transmission, and distribution.
- **Public Facilities – Water System – Policy 10:** Develop and implement water conservation standards and measures as necessary elements of the water system.
- **Public Facilities – Water System – Policy 11:** Develop and implement an aquifer storage and recovery program.
- **Public Facilities – Wastewater and Recycled Water System – Policy 5:** Explore potential alternatives to treatment and discharge.
- **Public Facilities – Wastewater and Recycled Water System – Policy 6:** Develop, plan, and provide incentives for use of recycled water by the public and private sectors.
- **Public Facilities – Solid Waste, Source Reduction and Recycling – Policy 1:** Ensure existing and future recycling sites and operations remain viable through application of land use compatibility standards.
- **Public Facilities – Solid Waste, Source Reduction and Recycling – Policy 2:** Comply with the source reduction and recycling standards mandated by the State by reducing the projected quantity of solid waste disposed at the regional landfill by 50%, as well as any mandated future reductions.
- **Public Facilities – Solid Waste, Source Reduction and Recycling – Policy 5:** Develop public education and recycling programs
- **Public Facilities – Water and Energy Conservation – Policy 1:** Develop and implement water conservation standards.
- **Public Facilities – Water and Energy Conservation – Policy 2:** Implement various water conservation plans developed by the Environmental Utilities Department.
- **Public Facilities – Water and Energy Conservation – Policy 3:** Explore potential uses of treated wastewater.

- **Public Facilities – Water and Energy Conservation – Policy 4:** Protect the quality and quantity of the City's groundwater and consider designating areas as open space where recharge potential is high.
- **Public Facilities – Water and Energy Conservation – Policy 5:** Develop and adopt a landscape ordinance that provides standards for the use of drought tolerant, xeriscape, and water-conserving landscape practices for both public and private projects.
- **Public Facilities – Water and Energy Conservation – Policy 6:** Develop and implement public education programs designed to increase public participation in energy, water conservation and recycled water use.
- **Public Facilities – Water and Energy Conservation – Policy 7:** Require large electricity users to submit a use and conservation plan concurrent with development review specifying measures to be taken to minimize demand.
- **Public Facilities – Water and Energy Conservation – Policy 8:** Enforce energy requirements and encourage development and construction standards that promote energy efficiency and conservation.
- **Public Facilities – Water and Energy Conservation – Policy 9:** Preserve scarce resources by undertaking major projects in energy conservation and load management, including increasing efficiency in the City's electrical system.
- **Public Facilities – Water and Energy Conservation – Policy 10:** Continue and expand energy efficiency and conservation programs to serve all utility users.
- **Safety – Flood Protection – Policy 1:** Continue to regulate, through land use, zoning, and other restrictions, all uses and development in areas subject to potential flooding.
- **Safety – Flood Protection – Policy 2:** Monitor and regularly update City flood studies, modeling and associated land use, zoning, and other development regulations.
- **Safety – Flood Protection – Policy 3:** Continue to pursue a regional approach to flood issues.
- **Safety – Flood Protection – Policy 4:** Provide flood warning and forecasting information to community residents to reduce impacts to personal property.
- **Safety – Flood Protection – Policy 5:** Minimize the potential for flood damage to public and emergency facilities, utilities, roadways, and other infrastructure.
- **Safety – Flood Protection – Policy 6:** Require new developments to provide mitigation to insure that the cumulative rate of peak run-off is maintained at pre-development levels.
- **Safety – Flood Protection – Policy 8:** Establish flood control assessment districts or consider other funding mechanisms to mitigate flooding impacts.
- **Safety – Flood Protection – Policy 9:** Where feasible, maintain natural stream courses and adjacent habitat and combine flood control, recreation, water quality, and open space functions.

Emissions Calculations

Sierra Vista Development - Comparison of Alternatives, Operational GHG Emissions

Alternative	Res Acreage	% of proposed	Res Units	% of propose	NonRes Acreage	% of proposed
Proposed	820	100.0%	6650	100.0%	277	100.0%
Alt 1	593	72.3%	6655	100.1%	219	79.1%
Alt 2	593	72.3%	4931	74.2%	329	118.8%
Alt 3	692	84.4%	5346	80.4%	277	100.0%
Alt 4			5595	84.1%	213	76.9%
Alt 5 - No Fed	489	59.6%	3729	56.1%	205	74.0%

Operational Emissions Calculated by Proportion of Proposed Res Units

Alternative	Source	Mobile Sources	Area Sources	Electricity	Solid Waste	Water	Wwater	**Total**
Proposed	Area	320,061	45,516	65,965	2,873	1,751	696	436,862
Alt 1	Area	320,302	45,550	66,015	2,875	1,752	697	437,190
Alt 2	Area	237,326	33,750	48,913	2,130	1,298	516	323,935
Alt 3	Area	257,300	36,591	53,030	2,310	1,408	560	351,198
Alt 4	Area	269,284	38,295	55,500	2,417	1,473	586	367,555
Alt 5 - No Fed	Area	179,475	25,523	36,990	1,611	982	390	244,971

Operational Emissions Calculated by Proportion of Proposed Comm Acreage

Alternative	Source	Mobile Sources	Area Sources	Electricity	Solid Waste	Water	Wwater	**Total**
Proposed	Area	320,061	45,516	65,965	2,873	1,751	696	436,862
Alt 1	Area	253,045	35,986	52,153	2,271	1,384	550	345,389
Alt 2	Area	380,145	54,061	78,348	3,412	2,080	827	518,872
Alt 3	Area	320,061	45,516	65,965	2,873	1,751	696	436,862
Alt 4	Area	246,112	35,000	50,724	2,209	1,346	535	335,926
Alt 5 - No Fed	Area	236,868	33,685	48,819	2,126	1,296	515	323,309

Average of Values Above

Alternative	Source	Mobile Sources	Area Sources	Electricity	Solid Waste	Water	Wwater	**Total**	Service Persons	Per SP
Proposed	Area	320,061	45,516	65,965	2,873	1,751	696	436,862	21,891	20.0
Alt 1	Area	286,673	40,768	59,084	2,573	1,568	623	391,290	21,904	17.9
Alt 2	Area	308,736	43,905	63,631	2,771	1,689	671	421,404	17,525	24.0
Alt 3	Area	288,681	41,053	59,497	2,591	1,579	628	394,030	18,579	21.2
Alt 4	Area	257,698	36,647	53,112	2,313	1,410	560	351,741	19,211	18.3
Alt 5 - No Fed	Area	208,172	29,604	42,904	1,869	1,139	453	284,140	14,472	19.6

APPENDIX 3.9

Letter from Pacific Gas & Electric

Pacific Gas and Electric Company

2730 Gateway Oaks Drive, Suite 220
Sacramento, CA 95833

June 11, 2009

Mr. Mark Morse
Environmental Coordinator
Community Development Department
City of Roseville
311 Vernon Street
Roseville, CA 95678

Dear Mr. Morse:

Thank you for meeting with us last week to discuss PG&E's Line 406/407 Natural Gas Pipeline Project. As we discussed, Pacific Gas and Electric Company (PG&E) designs, builds, and operates natural gas transmission pipelines to meet both federal and state regulations. The California Public Utilities Commission's General Order 112E adopted, by reference, the federal Department of Transportation (DOT) regulations (49 CFR, Part 192). These regulations specify the required engineering design, construction, operation, and maintenance of the pipelines.

Line 406/407 is designed to meet Class 3 requirements and will be located in an easement with appropriate restrictions. The planned land uses shown in the Sierra Vista development maps in the vicinity of PG&E's pipeline project fall into Class 3 as defined in section 192.5(3) which states:

> "A Class 3 location is: (i) Any class location unit that has 46 or more buildings intended for human occupancy; or (ii) An area where the pipeline lies within 100 yards of either a building or small, well defined outside area (such as a playground, recreational area, outdoor theater or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12 month period. . . . "

Based on this, it is PG&E's opinion that the planned land uses nearby and the pipeline itself are compatible.

On a related matter, our research shows that the proposed location for Line 406/407 is in excess of 1500 feet from proposed school sites in the Sierra Vista development. We suggest that you confirm this as it may affect funding eligibility for future schools.

We appreciate your cooperation working with us on siting our proposed pipeline and appurtenances in the Sierra Vista development. If you have any questions or would like to discuss further, please call me at (916) 923-7030.

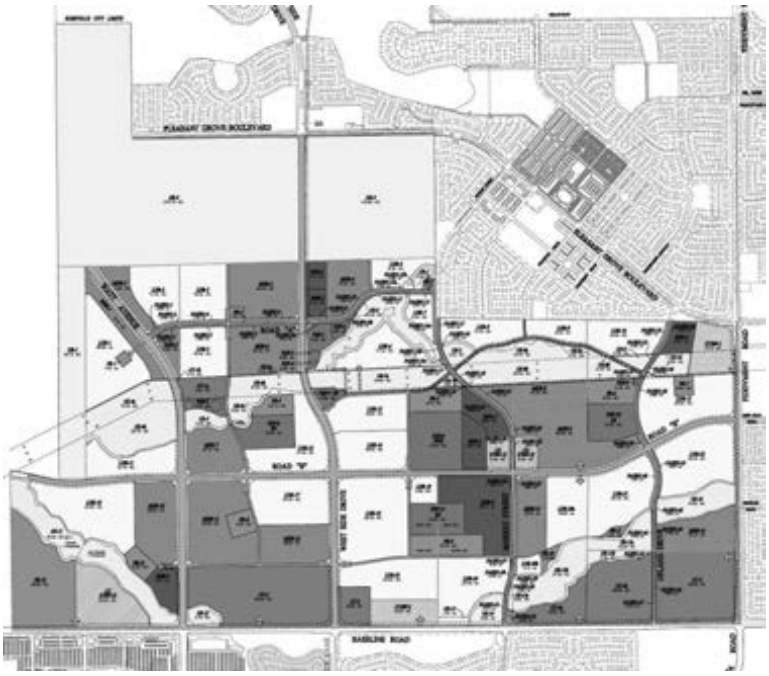
Sincerely,

Chris Ellis, AICP
Principal Planner

APPENDIX 3.14

Sierra Vista Specific Plan EIS Transportation Analysis

Sierra Vista Specific Plan EIS
Transportation Analysis



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1. INTRODUCTION

This report evaluates the effects of the Sierra Vista Specific Plan (SVSP) and several alternatives under existing conditions as well as "2025 CIP/build-out" conditions. This EIS analysis is based on the Sierra Vista EIS, which was approved and adopted by the City of Roseville in 2010.

An initial review of the project determined that implementation of the project would not affect air traffic patterns or result in inadequate parking capacity. Therefore, these issues are not addressed in this EIS.
The traffic impacts of the Sierra Vista Specific Plan have been evaluated under a number of different scenarios of existing and future traffic conditions. **Figure 1** shows the location of the Proposed Project and alternatives in relation to the City of Roseville and other jurisdictions.

The following conditions and scenarios have been defined and evaluated in detail:

- **Existing Conditions**
  - No Project (reflects existing traffic counts conducted in late 2007/ early 2008)
- **2025 CIP Conditions**
  - 2025 CIP No Project
  - 2025 CIP plus Proposed Action ("The Project")
  - 2025 CIP plus Alternative #1 (Reduced Footprint, Increased Density)
  - 2025 CIP plus Alternative #2 (Reduced Footprint, Same Density)
  - 2025 CIP plus Alternative #3 (Focused Avoidance Alternative)
  - 2025 CIP plus Alternative #4 (Off-Site Alternative)
  - 2025 CIP plus Alternative #5 (No Federal Action – No Corp of Engineers Permit)

2. ENVIRONMENTAL SETTING

The evaluation of the operating characteristics of the existing circulation system in the City of Roseville is the initial task in defining impacts of the Sierra Vista Specific Plan on the circulation system. In order to understand existing travel patterns and conditions, major aspects of transportation in Roseville were inventoried and analyzed.

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FIGURE 1
Locations of Proposed Project and Alternatives

The following sections briefly discuss roadway functions, traffic volumes, and traffic levels of service, as well as transit, truck and rail services, and bicycle routes.

Study Area Roadways and Intersections

The existing street network in the City of Roseville is a product both of roadways that have provided access to the older portions of the City for decades and of roadways that were designed to serve newer specific plan areas. In each of the City's specific plan areas and the North Industrial Plan Area, arterial and collector roadway classifications have been defined and most of these roadways have been constructed. In the older portions of the City, roadways were classified as arterial or collector roadways in the 1992 General Plan Update.

The primary function of arterial roadways is to move large volumes of traffic through the City to other sections and beyond. In the specific plan areas, the right-of-way for arterials varies from 76 feet to 100 feet and generally incorporates four to six travel lanes, bicycle lanes, and a landscaped median. On-street parking on existing arterials in the specific plan areas is prohibited, and access is limited to minimize cross traffic turning movements in order to improve traffic safety and allow more efficient traffic flow. Outside the specific plan areas, some roadways function as arterials due to the current high traffic volumes and their key linkages between one section of the City and another. For these roadways, current right-of-way widths vary, but most contain more than two traffic lanes.

Collector streets generally link local residential streets and the commercial and office parking areas to the arterials. In the specific plan areas, the right-of-way for these streets varies from 54 feet to 60 feet and contains two traffic lanes and bicycle lanes. Outside the specific plan areas, a number of roadways function as collector roadways due to moderate traffic volumes and their linkage to the arterial roadway system. The right-of-way widths for these roadways vary, but most contain two traffic lanes.

The existing state highway and arterial systems within the City of Roseville are described below.

State Highway System

Roseville is served by an interstate highway (I-80) and a state highway, State Route 65 (SR 65). I-80 is a transcontinental highway that links Roseville not only to Sacramento and the Bay Area, but to the rest of the United States via its crossing of the Sierra Nevada. It carries commute traffic between Placer and

Sacramento counties, as well as interregional and interstate business, freight, tourist, and recreational travel. Roseville is connected to I-80 by five interchanges: Riverside Avenue, Douglas Boulevard, Eureka Road/Atlantic Street, Taylor Road, and SR 65. This freeway has eight lanes west of Riverside Avenue and six lanes through the remainder of Roseville. High Occupancy Vehicle (HOV) lanes currently exist on I-80 in Sacramento County but terminate at the Placer County line.

SR 65 is generally a north–south trending State Route that connects Roseville with the cities of Lincoln and Marysville (via Highway 70). In Roseville, this highway is a four-lane freeway with access provided by four interchanges: I-80, Galleria Boulevard/Stanford Ranch Road, Pleasant Grove Boulevard and Blue Oaks Boulevard.

Arterial Street System

The arterial network may be the most important system of roads within the overall street system. It links residential areas to both commercial and employment centers and links all of these uses to the regional freeway system. The existing arterial network in the western portion of the City of Roseville is described below.

Baseline Road is an east–west arterial that links Roseville with the Dry Creek Area and SR-70/99. From the city limits east, Baseline Road provides two westbound lanes and one eastbound lane until it becomes Main Street at Foothills Boulevard.

Blue Oaks Boulevard is an east–west arterial that links the cities of Roseville and Rocklin to each other and to SR 65. Between SR 65 and Crocker Ranch Road it has four lanes. From Crocker Ranch Road to west of Fiddyment Road it has six lanes. Blue Oaks Boulevard has recently been extended west of Fiddyment Road as part of the WRSP/ Fiddyment Ranch development.

Fiddyment Road is a north/ south arterial connecting western Roseville with Placer County and the City of Lincoln. Fiddyment Road has recently been widened and realigned as part of the West Roseville Specific Plan. It is currently 4 lanes between Pleasant Grove Boulevard and the north Roseville city limit.

Foothills Boulevard is the major north–south arterial in Roseville west of I-80. It extends as far south as Cirby Way, where it becomes Roseville Road and continues south into Sacramento. North of Cirby Way it traverses portions of the City's Infill Area, Northwest Specific Plan and North Industrial Plan Area and

currently ends at Duluth Avenue at the northern city limits. This roadway (along with Washington Boulevard, Harding Boulevard and SR 65) provides one of only four grade-separated crossings of the Union Pacific railroad mainline.

Junction Boulevard is an east–west arterial in west Roseville that has four lanes from Washington Boulevard to Baseline Road.

Pleasant Grove Boulevard is an east/west arterial that extends from the West Roseville Specific Plan area to the City of Rocklin where it becomes Park Drive and connects the WRSP, the Del Webb Specific Plan, the Northwest Roseville Specific Plan, the North Central Roseville Specific Plan and the Highland Reserve Specific Plan to each other and to SR-65. It has four lanes from its current western terminus at Market Drive to west of Foothills Boulevard. It has six lanes from west of Foothills Boulevard to SR-65.

Riego Road is an east/west arterial roadway that extends from west of State Route 70/99 to the Sutter County/ Placer County line, where it becomes Baseline Road. Riego Road is a two-lane roadway and has an at-grade signalized intersection where it meets State Route 70/99.

Walerga Road is a north-south arterial that extends from Sacramento County to Baseline Road in Placer County. Walerga Road is currently a two-lane roadway from the county line to just south of Baseline Road, where it widens to four lanes. Walerga Road becomes Fiddyment Road north of Baseline Road.

Washington Boulevard is a major north–south arterial. It connects SR 65 and Blue Oaks Boulevard on the north to Oak Street in downtown Roseville. Most of Washington Boulevard has four lanes, except a two-lane segment north and south of where it crosses under the Union Pacific railroad north-south tracks.

Watt Avenue is a major north-south arterial that extends from Elk Grove in Sacramento County to its current terminus at Baseline Road in Placer County. In the vicinity of the proposed project, Watt Avenue is currently a two-lane roadway from the Sacramento County/ Placer County line to Baseline Road. Watt Avenue is proposed to be extended north as Santucci Boulevard as part of the SVSP.

Woodcreek Oaks Boulevard is a north–south arterial that extends from Baseline Road to Blue Oaks Boulevard. This arterial has four lanes from Baseline Road to north of Pleasant Grove Boulevard and two lanes north to Blue Oaks Boulevard.

Existing Traffic Levels of Service

The evaluation of traffic volumes on the roadway network provides an understanding of the general nature of travel conditions in the City of Roseville. However, traffic volumes do not indicate the quality of service provided by the street facilities or the ability of the street network to carry additional traffic. To accomplish this, the concept of "level of service" has been developed.

"Levels of service" describe roadway-operating conditions. Level of service is a qualitative measure of the effect of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs. Levels of service are designated "A" through "F" from best to worst, which cover the entire range of traffic operations that might occur. Level of service (LOS) A through E generally represent traffic volumes at less than roadway capacity, while LOS F represents over capacity and/or forced conditions.

The City revised its level of service policy with the update of the Capital Improvement Program (CIP), which was adopted in September 2002 and updated in 2006. The current level of service policy calls for the City to maintain a LOS C standard at a minimum of 70 percent of all signalized intersections in the City during the p.m. peak hour. The evaluation of this policy is based on buildout of currently entitled land within the City and 2020 market rate development outside of the City.

The traffic flow and capacity of Roseville's arterial/collector system is principally controlled by the capacity of its signalized intersections. Intersection operations were evaluated using a modified version of the Transportation Research Board Circular 212 (critical movement) method that was adopted for Roseville's CIP. **Table 1** presents the level of service categories for signalized intersections considered in this analysis and provides a definition of each category with the corresponding volume-to-capacity ratios. While the p.m. peak hour has typically been used in the operational analysis of the City's roadway system since it generally represents the highest hour for overall traffic volumes during the day, the City has decided that a.m. peak hour analysis should now be conducted as well. **Table 2** shows the intersection critical volume capacities used for the different jurisdictions in this analysis. While Placer County uses the published capacities, the City of Roseville uses capacities that are approximately 5% higher than the published capacities and Sacramento County uses capacities that are approximately 10% higher than the published capacities.

Table 1
Level of Service Definitions at Signalized Intersections

Level of Service (LOS)	*Volume to Capacity Ratio* [1]	*Description*
A	0.00-0.60	Free Flow/Insignificant Delays: No approach phase is fully utilized by traffic and no vehicle waits longer than one red signal indication.
B	0.61-0.70	Stable Operation/Minimal Delays: An occasional approach phase is fully utilized. Many drivers begin to feel somewhat restricted within platoons of vehicles.
C[2]	0.71-0.81	Stable Operation/Acceptable Delays: Major approach phases fully utilized. Most drivers feel somewhat restricted.
D	0.82-0.90	Approaching Unstable/Tolerable Delays: Drivers may have to wait through more than one red signal indication. Queues may develop but dissipate rapidly, without excessive delays.
E	0.91-1.00	Unstable Operation/Significant Delays: Volumes at or near capacity. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
F	Greater than 1.00	Forced Flow/Excessive Delays: Represents jammed conditions. Intersection operates below capacity with low volumes. Queues may block upstream intersections.

Notes:

The ratio of the traffic volume demand at an intersection to the capacity of the intersection.

The City of Roseville has established a volume-to-capacity ratio of 0.81 as the LOS C threshold.

SOURCE: Transportation Research Board, 1985

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Table 2
Circular 212 Critical Volume Capacities

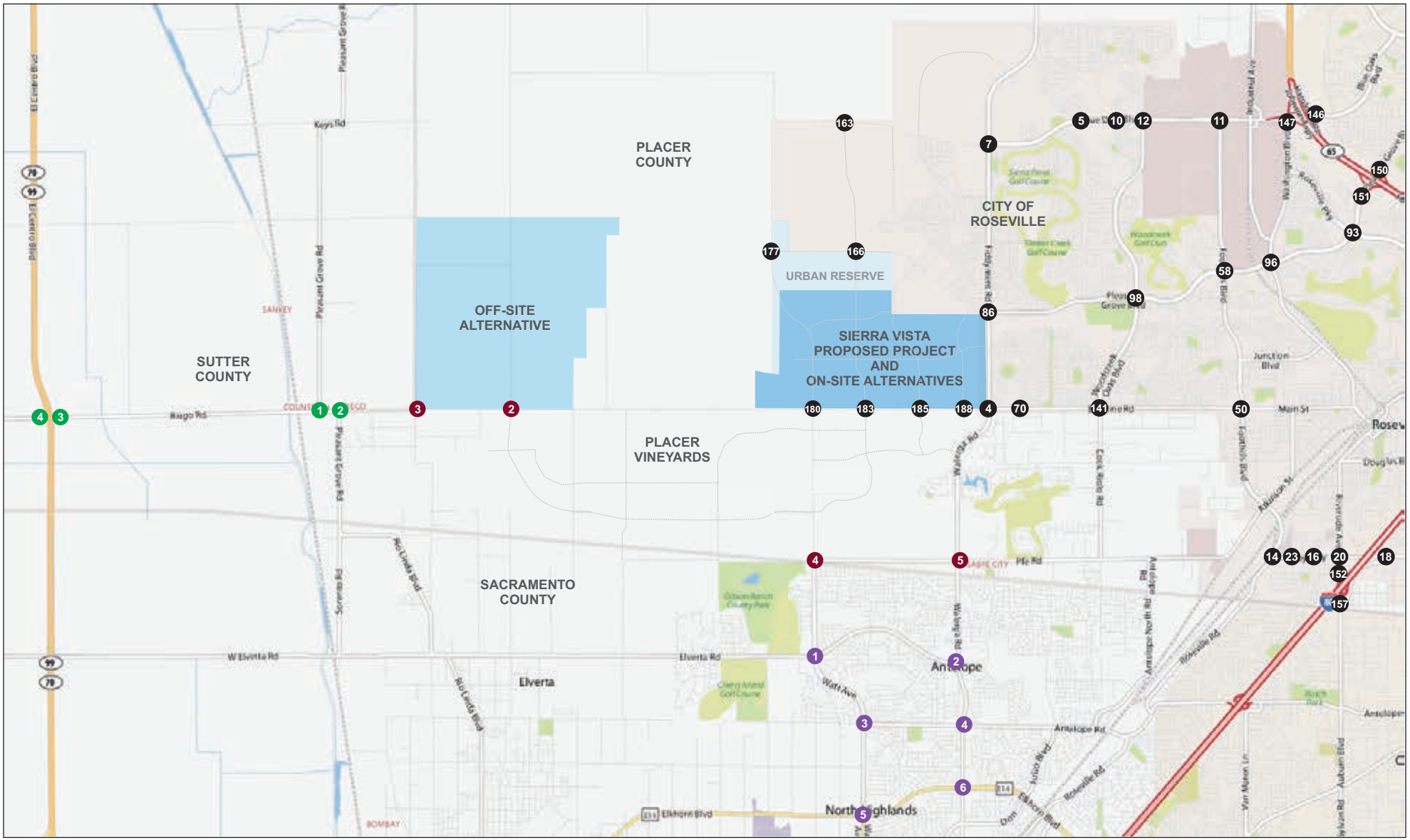
Jurisdiction	*Maximum Sum of Critical Volumes (vehicles per hour) by Number of Critical Phases*		
	Two Phases	*Three Phases*	*Four or More Phases*
Placer County (Published Circular 212)	1,500	1,425	1,375
City of Roseville	1,600	1,500	1,450
Sacramento County	1,650	1,550	1,500

Source: Transportation Research Board, 1985, DKS Associates, 2010

Table 3
Level of Service Definitions on Roadway Segments

Facility Type	*Average Daily Traffic Volume Threshold*				
	LOS A	*LOS B*	*LOS C*	*LOS D*	*LOS E*
Two-Lane Collector	9,000	10,700	12,000	13,500	15,000
Two-Lane Arterial	10,800	12,600	14,400	16,200	18,000
Four-Lane Arterial	21,600	25,200	28,800	32,400	36,000
Six-Lane Arterial	32,400	37,800	43,200	48,600	54,000
Four-Lane Freeway	37,600	52,800	68,000	76,000	80,000
Six-Lane Freeway	56,400	79,200	102,000	114,000	120,000
Eight-Lane Freeway	75,200	105,600	136,000	152,000	160,000

Source: DKS Associates, 2010



- 1 ROSEVILLE INTERSECTIONS
- 1 PLACER COUNTY INTERSECTIONS
- 1 SACRAMENTO COUNTY INTERSECTIONS
- 1 SUTTER COUNTY INTERSECTIONS

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FIGURE 2
Locations of Study Intersections

Table 3 shows the volume thresholds used to determine segment-based level of service on roadways in other jurisdictions. These thresholds are based on the Placer County General Plan.

Figure 2 shows the intersections analyzed for existing and future conditions within the study area. The figure shows study intersections in the City of Roseville, Placer County, Sacramento County, and Sutter County. One intersection (Baseline Road & Watt Avenue) is currently within Placer County, but would be annexed to the City of Roseville with the development of the Sierra Vista Specific Plan. Therefore it is shown as both in the figure and shows up in both sets of LOS tables.

Table 4 shows the level of service at currently signalized intersections located in the western portion of the City of Roseville. These LOS calculations are based on turning movement counts conducted in late 2007 and early 2008. The table shows that all study intersections in the City of Roseville currently operate at LOS C or better during the a.m. peak hour and all but two intersections currently operate at LOS C or better during the p.m. peak hour.

Figure 3 shows existing daily two-way traffic volumes on major roadways throughout the City of Roseville.

Table 5 shows existing a.m. and p.m. peak hour levels of service at Placer County intersections. The table shows that one intersection (Locust and Baseline) operates unacceptably during the p.m. peak hour only. **Table 6** shows existing daily volumes and level of service at Placer County roadway segments. The table shows that one segment (Walerga Road south of Baseline Road) currently operates at LOS D, which now considered acceptable based on updated County standards.

Table 7 shows existing a.m. and p.m. peak hour levels of service at Sacramento County intersections. The table shows that all six Sacramento County intersections currently operate acceptably during the a.m. and p.m. peak hours. **Table 8** shows existing daily volumes and level of service at Sacramento County roadway segments. The table shows that all eight Sacramento County segments currently operate acceptably based on County standards.

Table 4
Level of Service at Roseville Signalized Intersections
Existing Conditions

Intersection		*Existing Conditions*			
		AM Peak Hour		*PM Peak Hour*	
ID	*Intersection Name*	*LOS*	*V/C*	*LOS*	*V/C*
Existing Signalized Intersections					
4	Baseline Rd & Fiddyment Rd	B	0.67	C	0.80
5	Blue Oaks & Crocker Ranch	A	0.22	A	0.23
7	Blue Oaks & Fiddyment	A	0.20	A	0.18
10	Blue Oaks Bl & Diamond Creek Bl	A	0.36	A	0.30
11	Blue Oaks Bl & Foothills Bl	B	0.64	A	0.58
12	Blue Oaks Bl & Woodcreek Oaks Bl	A	0.55	A	0.41
14	Cirby Wy & Foothills Bl	B	0.67	B	0.68
16	Cirby Wy & Northridge Dr	A	0.58	B	0.65
18	Cirby Wy & Orlando Av	A	0.56	C	0.74
20	Cirby Wy & Riverside Av	C	0.78	C	0.78
23	Cirby Wy & Vernon St	C	0.71	**D**	**0.85**
50	Foothills & Baseline/Main	B	0.61	C	0.70
58	Foothills Bl & Pleasant Grove Bl	A	0.50	B	0.67
70	Junction Bl & Baseline Rd	A	0.31	A	0.46
86	Pleasant Grove & Fiddyment	A	0.34	A	0.27
93	Pleasant Grove & Roseville Pkwy	A	0.43	C	0.72
96	Pleasant Grove & Washington	A	0.56	B	0.69
98	Pleasant Grove Bl & Woodcreek Oaks Bl	A	0.45	A	0.54
141	Woodcreek Oaks & Baseline	B	0.60	B	0.65
146	SR 65 N/B Off & Blue Oaks Blvd	A	0.38	A	0.39
147	Washington Blvd & Blue Oaks Blvd	A	0.34	A	0.42
150	SR 65 N/B Off & Pleasant Grove Blvd	A	0.56	**D**	**0.85**
151	SR 65 S/B Off & Pleasant Grove Blvd	B	0.62	C	0.78
152	I-80 WB Off & Riverside Ave	A	0.55	B	0.69
157	I-80 EB Off/Orlando & Riverside Ave	A	0.54	B	0.69
180*	Watt Ave & Baseline Rd	A	0.51	**D**	**0.86**

Note: **BOLD** Locations do not meet LOS Policy

Source: DKS Associates 2010

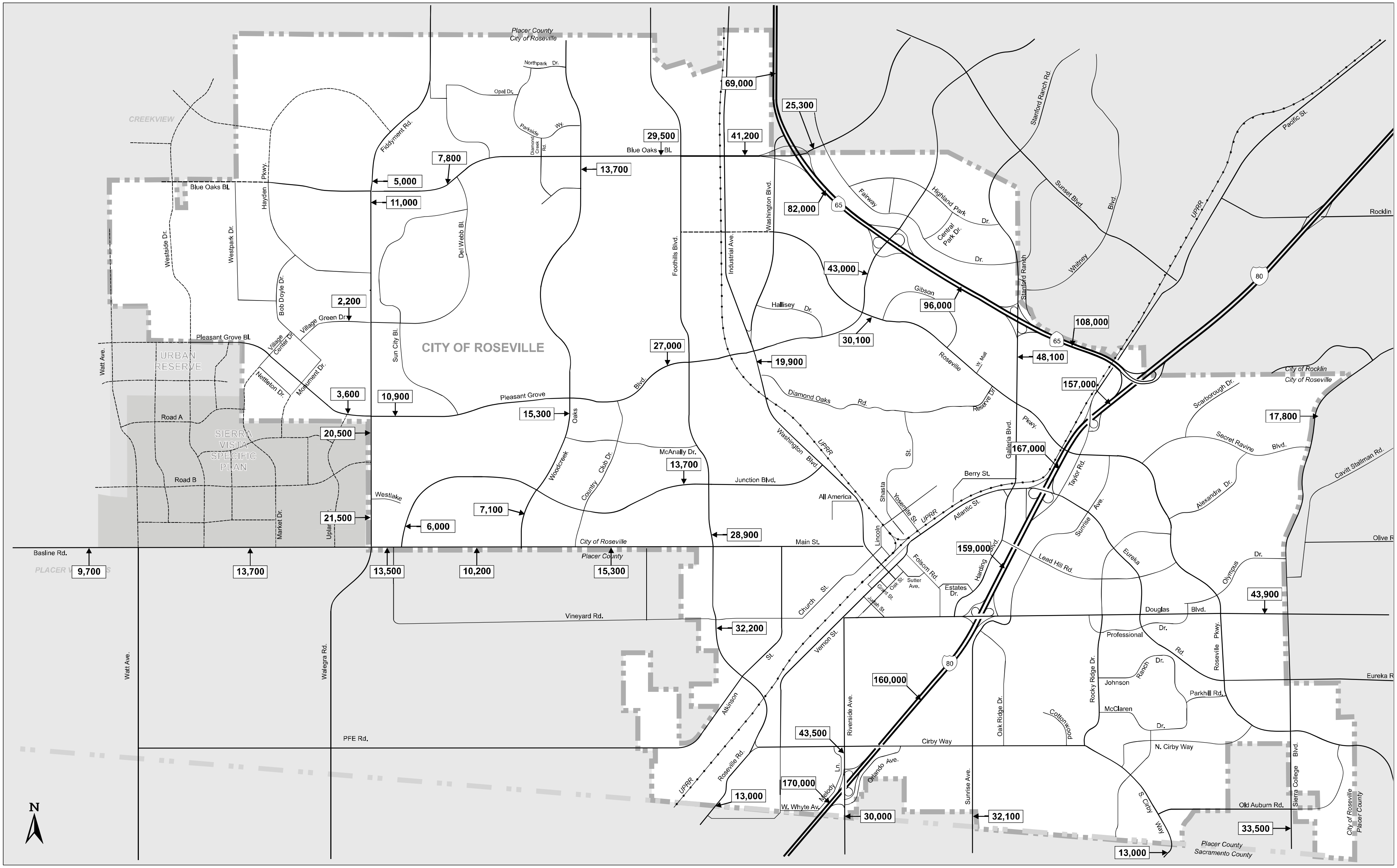

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FIGURE 3
Existing Daily Traffic Volumes

Table 5
Level of Service at Placer County Intersections
Existing Conditions

Intersection	*LOS Standard*	*Existing Conditions*			
		AM Peak Hour		*PM Peak Hour*	
		LOS	*V/C or Delay*	*LOS*	*V/C or Delay*
2. Baseline & Brewer	D	A	0.5 sec	A	0.6 sec
3. Locust & Baseline	D	C	24.6 sec	**E**	47.2 sec
4. Watt Ave & PFE Rd	D	C	20.8 sec	C	16.5 sec
5. Walerga Rd & PFE Rd	F	E	0.98	D	0.84

Note: **BOLD** Locations do not meet LOS Policy
Source: DKS Associates 2010

Table 6
Level of Service at Placer County Roadway Segments
Existing Conditions

Roadway Segment	*LOS Standard*	*Lanes*	*Existing Conditions*	
			ADT	*LOS*
Baseline Rd W/O Sierra Vista SP	D	2	9,700	A
Watt Ave S/O Baseline	F	2	5,700	A
Walerga Rd S/O Baseline	D	2	16,100	D
PFE Rd E/O Watt Ave	D	2	3,900	A
Fiddyment Rd S/O Athens	C	2	6,100	A

Note: **BOLD** Locations do not meet LOS Policy
Source: DKS Associates 2010

Table 7
Level of Service at Sacramento County Intersections
Existing Conditions

Intersection	*LOS Standard*	*Existing Conditions*			
		AM Peak Hour		*PM Peak Hour*	
		LOS	*V/C*	*LOS*	*V/C*
1. Watt Ave & Elverta Rd	E	A	0.47	B	0.62
2. Walerga Rd & Elverta Rd	E	C	0.76	C	0.70
3. Watt Ave & Antelope Rd	E	C	0.76	C	0.79
4. Walerga Rd & Antelope Rd	E	B	0.63	D	0.87
5. Watt Ave & Elkhorn	E	B	0.69	B	0.69
6. Walerga Rd & Elkhorn	E	B	0.62	C	0.80

Note: **BOLD** Locations do not meet LOS Policy

Source: DKS Associates 2010

Table 8
Level of Service at Sacramento County Roadway Segments
Existing Conditions

Roadway Segment	*LOS Standard*	*Lanes*	*Existing Conditions*	
			ADT	*LOS*
Watt Ave S/O PFE	E	2	16,300	E
Watt Ave S/O Elverta	E	4	25,700	C
Watt Ave S/O Antelope	E	4	28,400	C
Watt Ave S/O Elkhorn	E	4	32,600	E
Walerga Rd S/O PFE	E	4	23,300	B
Walerga Rd S/O Elverta	E	4	35,800	E
Walerga Rd S/O Antelope	E	4	31,800	D
Walerga Rd S/O Elkhorn	E	4	29,300	D

Note: **BOLD** Locations do not meet LOS Policy

Source: DKS Associates 2010

Table 9
Level of Service at Sutter County Intersections
Existing Conditions

Intersection	*LOS Standard*	*Existing Conditions*			
		AM Peak Hour		*PM Peak Hour*	
		LOS	*V/C*	*LOS*	*V/C*
1. Pleasent Grove N & Riego	D	C	21.4 sec	D	27.7 sec
2. Pleasent Grove S & Riego	D	C	21.2 sec	**E**	**35.0 sec**
3. SR 70/99 & Riego Rd	D	**E**	**0.94**	D	0.85

Table 10
Level of Service at Sutter County Roadway Segments
Existing Conditions

Roadway Segment	*LOS Standard*	*Lanes*	*Existing Conditions*	
			ADT	*LOS*
Riego Rd E/O SR 70-99	D	2	8,100	C

Note: **BOLD** Locations do not meet LOS Policy

Source: DKS Associates 2010

Table 11
Average Daily Traffic Volumes and LOS on State Highways
Existing Conditions

Facility	*Segment*	*Lanes*	*Existing Conditions*	
			ADT	*LOS*
I-80	Sacramento County line to Riverside Ave	8	**170,000**	**F**
	Riverside Avenue to Douglas Blvd	6	**160,000**	**F**
	Douglas Blvd to Eureka Rd	6	**159,000**	**F**
	Eureka Rd to Taylor Rd	8	**167,000**	**F**
	Taylor Rd to SR 65	8	157,000	E
SR 65	I-80 to Galleria Blvd	4	**108,000**	**F**
	Galleria Blvd to Pleasant Grove Blvd	4	**96,000**	**F**
	Pleasant Grove Blvd to Blue Oaks Blvd	4	**82,000**	**F**
	Blue Oaks Blvd to Sunset Blvd	4	69,000	D
SR 70/99	Sankey Rd to Riego Rd	4	34,000	A
	Riego Rd to Elverta Rd	4	39,500	B
	Elverta Rd to Elkhorn Blvd	4	44,000	B

Notes:

Roadway segment levels of service (LOS) are based on roadway capacities and LOS criteria in Table 2

Highway segments operating at LOS F are **BOLD**.

Impacts are **Shaded**

Volumes Exclude Carpool Lanes

Table 12
Level of Service at Rocklin Roadway Segments
Existing Conditions

Roadway Sergment	*LOS Standard*	*Lanes*	*Existing Conditions*	
			ADT	*LOS*
Lonetree Blvd north of Blue Oaks Blvd	D*	4	21,700	B
Blue Oaks Blvd at Roseville City Limit	D*	4	10,800	A
Pleasant Grove Blvd at Roseville City Limit	C	4	20,600	A
Stanford Ranch Rd at Roseville City Limit	C	4	23,600	B

Notes:* Within ½ Mile of Freeway Ramp
BOLD Locations Do Not Meet LOS Policy
Shaded Locations Indicate Significant LOS Impact

Table 9 shows existing a.m. and p.m. peak hour levels of service at Sutter County intersections. The table shows that one intersection (SR 70/99 and Riego) operates unacceptably during the a.m. peak hour only and one intersection (Pleasant Grove South and Riego) operates unacceptably during the p.m. peak hour only. **Table 10** shows that Riego Road in Sutter County currently operates acceptably based on daily traffic volume.

Table 11 shows existing daily levels of service on area freeway mainlines. The table shows that the majority of segments on I-80 and SR 65 currently operate at LOS F, based on daily volumes. These segments do not meet Caltrans' level of service policies.

Table 12 shows existing daily levels of service on Rocklin roadways directly adjacent to the City of Roseville. The table shows that all four roadway segments currently operate acceptably.

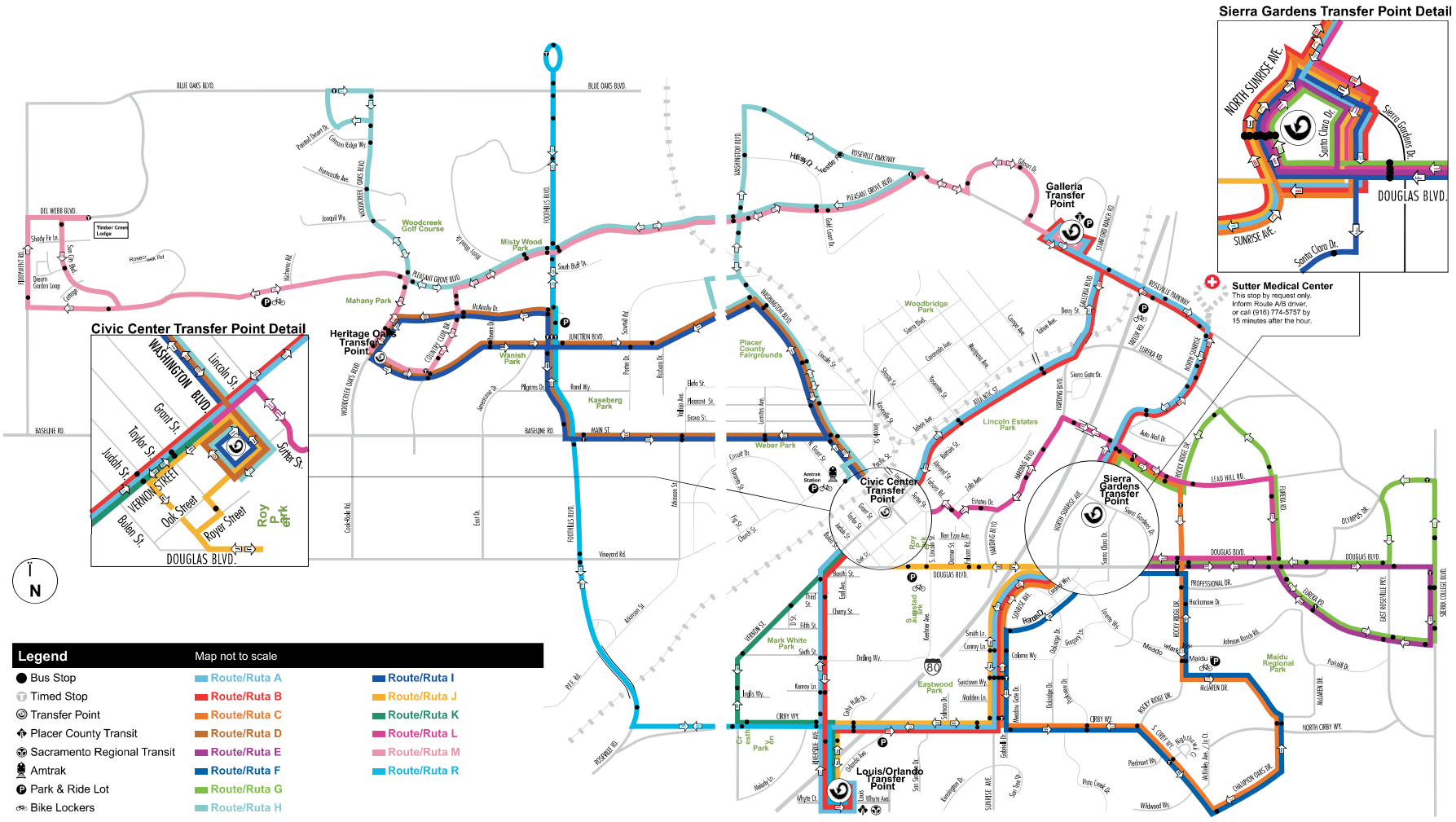
Existing Transit Service

Transit service is currently provided to the residents of the City of Roseville by two transit providers: Roseville Transit Services, and Placer County Transit. Their current transit routes in the vicinity of the Proposed Project are shown on **Figure 4**. Other transit systems in Roseville include taxicab services, Greyhound Bus Lines, and Amtrak. These existing transit services are described below.

City of Roseville Transit Services

Roseville Commuter Service is a fixed-route scheduled transit system operated by the City of Roseville. It provides weekday commute period service between Roseville and downtown Sacramento.

Roseville Transit is a fixed-route scheduled transit system operated by the City of Roseville within the city limits. There are currently nine scheduled routes. There are five "transfer points": Sierra Gardens, Galleria Mall, City Hall, Auburn/Whyte, and Woodcreek Oaks/Junction. Many of the Roseville Transit riders are elderly and disabled. The Roseville Transit system connects to both Placer County Transit (at Galleria Mall and Auburn/Whyte) and Sacramento Regional Transit (at Auburn/Whyte).



P10040-000 Fiddyment Ranch Ph2 & Ph3 Amendment SIER

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FIGURE 4
Existing Transit Facilities
City of Roseville

There are currently no Roseville Transit routes directly serving the project site. The closest route is Route M. Route M currently travels close to the project site, with its closest access being at the intersection of Fiddyment Road and Pleasant Grove Boulevard. Route H currently travels within about two miles of the project site, with its closest access being at the intersection of Pleasant Grove Boulevard and Woodcreek Oaks Boulevard.

RADAR is a curb-to-curb system operated by the City of Roseville within its city limits, seven days a week. As a "dial-a-ride" service, it does not operate on fixed-route schedules; most of its ridership is elderly and disabled.

Placer County Transit Services

Placer County Transit is a fixed-route scheduled transit system operated by Placer County that principally serves the I-80, Highway 49 and SR 65 corridors. Some of the routes are "deviated." A "deviated route" means that the buses generally travel on a main route (i.e., I-80) but can deviate from that route up to a certain distance (three-quarter mile in the case of Placer County Transit) to serve the specific needs of transit patrons. Placer County Transit has an Auburn to Light Rail express route that stops at the Auburn/Whyte transfer point and connects to Sacramento Regional Transit there before proceeding to the Watt/I-80 light rail station. Placer County Transit also has a Lincoln to Galleria to Sierra College route.

Other Transit Services

Greyhound Bus Lines has a station at the intermodal facility (the Amtrak station) in Roseville. This station is a stop on the Sacramento to Auburn route and offers six to seven trips to Sacramento per day. From Sacramento, passengers can continue to destinations in any direction.

Amtrak provides intercity rail service to Placer County via stations in Roseville and Colfax. The "California Zephyr" provides east–west service between Chicago and Oakland with one Roseville stop in each direction daily. Placer County residents can also access the California Zephyr at Truckee in Nevada County. Other Amtrak trains can be accessed at Sacramento, or by using the Amtrak Thruway Bus Connections to Roseville.

Capital Corridor Intercity Rail links the Bay Area with the Sacramento area and Placer County. At present, one round trip train accesses Roseville daily. However, feeder bus service is provided to additional trains in Sacramento.

Taxi service is provided by several private companies.

Existing Pedestrian Facilities

The City of Roseville has an extensive network of pedestrian facilities. Most residential streets contain improved sidewalk facilities and crosswalks at intersections. Arterial roadways adjacent to existing residential development have wide sidewalks, often flanked by landscaping corridors. Adjacent to the project site, there are currently sidewalk facilities along portions of Fiddyment Road.

Existing Bicycle Facilities

Bikeways are defined as specific routes and classes that meet minimum design standards. Roseville generally follows Caltrans' design standards for the following classes of bikeways:

- Class I bikeways, which provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with cross flows by motorists minimized. Class I bikeways are a minimum of 10 feet wide. A 2-foot graded area should parallel the bikeway on both sides, and the bikeway should be a minimum of 5 feet from an adjacent roadway.
- Class II bikeways are frequently referred to as on-street bike lanes. They provide a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with cross-flows by pedestrians and motorists permitted. Class II bikeways range from 4 – 6 feet wide in Roseville and separated from vehicle traffic by a solid white stripe.
- Class III bikeways, which provide a right-of-way designated by signs or permanent markings, are shared with motorists.

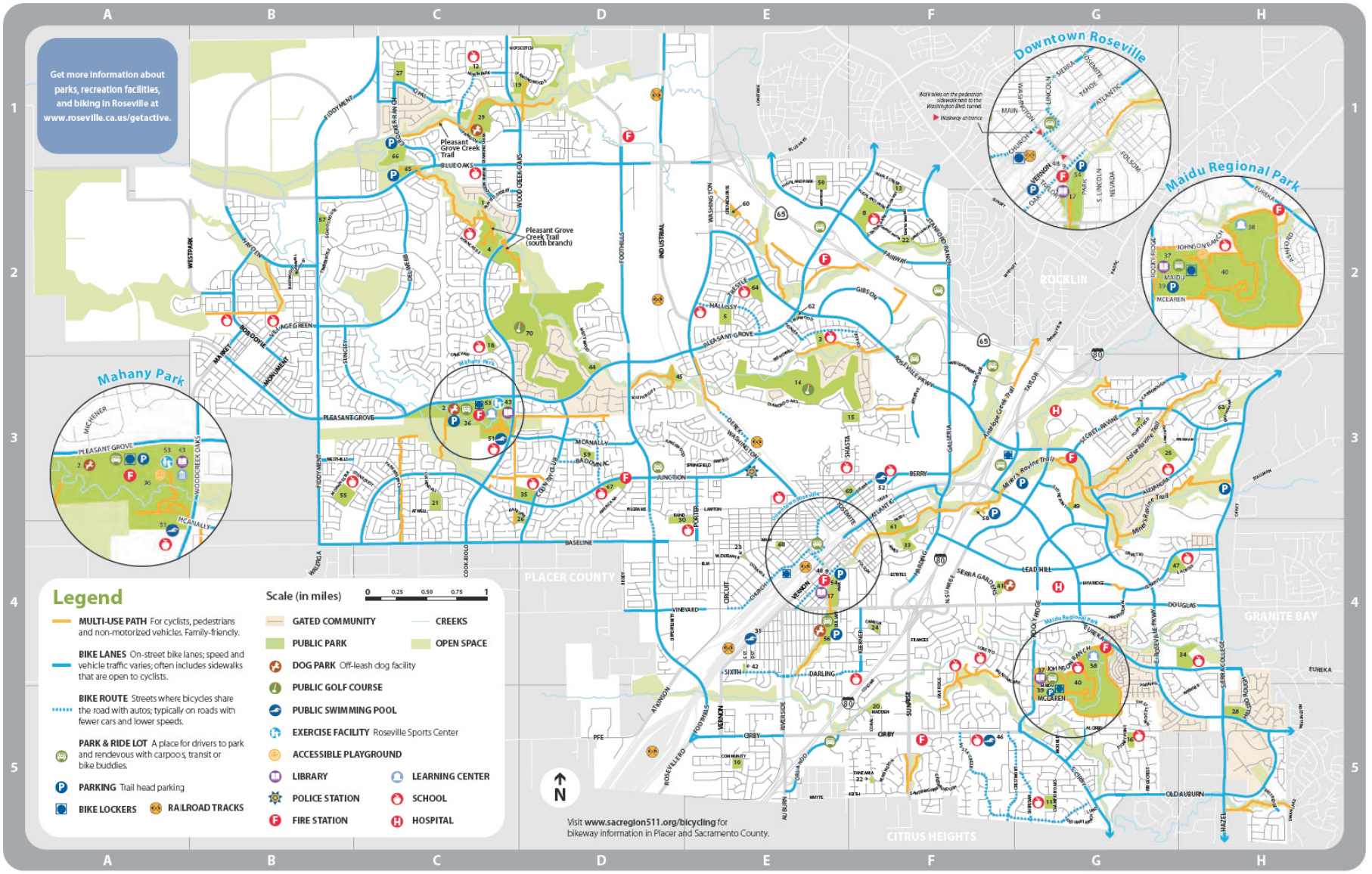
In addition, Roseville has an additional classification for bikeways.

- Class IA facilities are shared pedestrian and bikeway paths within landscaped corridors along arterial and collector roadways and are separated from the roadway. Class IA bikeways are a minimum of 8 feet wide. Caltrans does not consider sidewalk facilities to be Class I facilities, and does not recommend that they be signed as bicycle routes. However, Class IA facilities are still desirable for bicyclists of lower skill levels, such as children, as well as others who are hesitant to utilize on-street routes.

The City of Roseville has an adopted Bikeway Master Plan, which provides guidelines for the development of a city-wide network of Class I, II, and III bicycle facilities and design standards (based on Caltrans standards) for new bicycle facilities within Roseville.

Figure 5 shows the existing bikeways within Roseville city limits in the vicinity of the Proposed Project. Each of the specific plan areas contains significant bikeway elements within the plan areas.

Class II bike lanes currently exist adjacent to the Proposed Project on Fiddyment Road and Pleasant Grove Boulevard. The City's recommended bicycle network includes future Class II bike lanes on all arterial and collector roadways.



P10040-000 Fiddyment Ranch Ph2 & Ph3 Amendment SIER

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FIGURE 5
City of Roseville Existing Bicycle Facilities

3. REGULATORY SETTING

Local Regulations

City of Roseville General Plan Level of Service (LOS) Policy

The City of Roseville level of service policy calls for maintenance of a level of service (LOS) C standard at a minimum of 70 percent of all signalized intersections in the City during the p.m. peak hour. The determination of project consistency with this policy is based on build out of currently entitled land within the City and 2020 market rate development outside of the City. The City does not currently have a level of service policy for the a.m. peak hour.

City of Roseville Improvement Standards

Roadway improvements within the City of Roseville must conform to a set of standard plans that detail City standards for pavement width, lighting, drainage, sewer, and other roadside facilities. Roadway facilities associated with the Proposed Project must meet or exceed these standards.

Capital Improvement Program (CIP)

The CIP defines phasing of roadway improvements that are needed to meet the City's level of service standard. The existing CIP that was adopted in September 2002 is based on build out of currently entitled City land plus some potential redevelopment of properties within the City's Downtown area and 2020 market rate development outside of the City. The General Plan calls for the CIP to be updated a minimum of every 5 years or with the approval of a significant development. The CIP has been amended several times over the last 10 years as specific plans have been approved.

Long Range Transit Master Plan

The City has developed a plan to guide development of both inter- and intra-city transit services through year 2010.

Short Range Transit Plan

The SRTP is a state and federally mandated planning document that describes the plans, programs and goals of the transit operator. It has a 5-year planning horizon and is updated biennially. It focuses on the characteristics and capital needs of the existing system, and on committed (funded) expansion plans.

Bikeway Master Plan

The General Plan calls for the development of a comprehensive bikeway system that would provide connections between the City's major employment and housing areas and between existing and planned bikeways. The Bikeway Master Plan was updated in 2002. It provides guidelines for the development of a city-wide network of bicycle facilities and design standards for new bicycle facilities in Roseville.

Federal and State Regulations

There are no known federal or State standards that would directly affect the transportation and circulation aspects of the Proposed Project.

4. IMPACT ANALYSIS

Significance Criteria

For the purposes of this EIS, a significant impact would occur if development of the Proposed Project would:

City of Roseville

- Cause a signalized intersection previously identified in the CIP as functioning at LOS C or better to function at LOS D or worse during the p.m. peak hour;
- Cause a signalized intersection previously identified in the CIP as functioning at LOS D or E to degrade by one or more LOS category (i.e. from LOS D to LOS E) during the p.m. peak hour;
- Not meet the policies and guidelines of Roseville's Bikeway Master Plan;
- Have a negative impact on transit operations, travel times, and/or circulation;

Placer County

- Cause a signalized intersection previously identified as functioning at LOS C or better (D or better within or adjacent to the Dry Creek/ West Placer Community Plan) to function at LOS D or worse (E or worse within or adjacent to the Placer Vineyards Specific Plan);
- Cause an intersection of segment already functioning at LOS D or worse (E or worse within or adjacent to the Dry Creek/ West Placer Community Plan) to experience a V/C increase of 0.05 or more;

Sacramento County

- Cause an intersection or roadway segment previously identified as functioning at LOS E or better to function at LOS F;
- Cause an intersection or roadway segment already functioning at LOS F to experience a V/C increase of 0.05 or more;

Sutter County

- Cause an intersection or roadway segment previously identified as functioning at LOS D or better to function at LOS E or worse;

City of Rocklin

- Cause in intersection or roadway segment previously identified as functioning at LOS C or better (D or better within ½ mile of a freeway ramp) to function at LOS D or worse (E or worse within ½ mile of a freeway ramp);
- Cause an intersection or roadway segment already functioning at LOS D or worse (LOS E or worse within ½ mile of a freeway ramp) to experience a V/C increase of 0.05 or more;

State Highway Facilities

- Increase congestion to the extent that operations on a state highway would deteriorate to levels below those identified in Caltrans' Transportation Concept Report (TCR). The TCRs for State Route 65, State Route 70/99 and I-80 indicate that these state highways have a LOS "E" standard;
- Cause a segment of Interstate 80 or State Route 65 to degrade to LOS F, based on daily volumes;
- Increase traffic on a segment of Interstate 80 or State Route 65 that already would operate at LOS F without the Project.

Methodology

The development of transportation system needs and impacts is based on the travel demand model which was originally developed by DKS Associates in 1992 for the City of Roseville and Placer County, and has since been updated and recalibrated multiple times, most recently in 2008. The model translates land uses into roadway volume projections. Its inputs are estimates of development (i.e., the number of single-family and multi-family dwelling units, and the amount of square footage of various categories of non-residential uses) and descriptions of the roadway and transit systems. The model covers not only the City of Roseville, but also the entire Sacramento region (including the portions of Placer County west of Colfax). The model maintains a general consistency with the trip distribution and mode choice estimates from the regional model used by the Sacramento Area Council of Governments (SACOG).

The travel demand model was used to estimate future traffic volumes with and without the Proposed Project under various conditions. The outputs of the travel demand model include average daily, a.m., and p.m. peak hour traffic volume forecasts on roadway segments as well as for turning movements at intersections. The level of service of Roseville's arterial and collector roadway system is primarily

dictated by the capacity and operations of its signalized intersections. For this Traffic Impact Analysis, levels of service were evaluated at existing and planned signalized intersections throughout the City of Roseville, as well as a number of intersections and roadway segments in other jurisdictions.

The City of Roseville's level of service policy is based solely on intersection operations during the p.m. peak hour, which is generally considered the busiest part of the day on local roadways. For the Sierra Vista EIR, the DEIR considered both the a.m. peak hour and p.m. peak hour volumes in evaluating traffic impacts within the plan area even though the City of Roseville level of service policy is based on the p.m. peak hour only

Analysis Scenarios

The traffic associated with development of the Proposed Project has been evaluated under existing and future conditions. The following conditions and scenarios have been defined and evaluated in detail:

- **Existing Conditions**
  - No Project (reflects existing traffic counts conducted in late 2007/ early 2008)
- **2025 CIP Conditions**
  - 2025 CIP No Project
  - 2025 CIP plus Proposed Action ("The Project")
  - 2025 CIP plus Alternative #1 (Reduced Footprint, Increased Density)
  - 2025 CIP plus Alternative #2 (Reduced Footprint, Same Density)
  - 2025 CIP plus Alternative #3 (Focused Avoidance Alternative)
  - 2025 CIP plus Alternative #4 (Off-Site Alternative)
  - 2025 CIP plus Alternative #5 (No Federal Action – No Corp of Engineers Permit)

Development Assumptions for 2025 CIP Conditions

The City's adopted CIP Update and level of service standard considers traffic levels expected to occur under 2025 development levels, which was defined as build out of currently entitled City land plus some potential redevelopment of properties within the City's Downtown area and 2025 market rate

development outside of the City. The build out development forecasts within Roseville are based on the forecasts developed for the City's adopted CIP update.

Development assumptions outside the City of Roseville, particularly in adjacent communities, also have an important impact on the forecasts of travel patterns within the City. The current CIP was based on 2025 development forecasts for each jurisdiction in Placer County. This forecast included build out of "Phase 1" of the proposed Placer Vineyards project in west Placer County. A portion of the City of Lincoln's recently approved sphere of influence (SOI) expansion was included as well. Outside of Placer County, the current CIP assumed 2025 land use and trip generation estimates prepared by the Sacramento Area Council of Governments (SACOG) for the most recent Metropolitan Transportation Plan (MTP), except in South Sutter County where build out of Phase 1 of the Sutter Pointe Specific Plan was assumed.

For the previously completed EIR, the City determined that 2025 be the forecast timeframe for the City's CIP analysis. The following land use assumptions are included in the 2025 CIP scenarios:

- Buildout of the City of Roseville (existing City)
- Buildout of Signature rezone (Fiddyment Ranch)
- Buildout of West Park rezone
- Buildout of Regional University (Placer County)
- Placer Vineyards Phase 1 (Placer County)
- City of Lincoln at 2025 market absorption
- Buildout of City of Rocklin residential and 2025 absorption of non-residential
- Forecast SACOG 2025 development outside of Placer County

The City also requested that a number of roadway improvements are included for the 2025 CIP scenarios, including:

- All roadway and intersection improvements included in Roseville's Capital Improvement Program (CIP)
- I-80 improvements, including HOV lanes and auxiliary lanes in Placer County
- SR 65 improvements, including widening to six lanes between I-80 and Blue Oaks Boulevard

Other regional roadway improvements have been assumed for the 2025 CIP scenarios, including:

- Widening of Baseline Road to six lanes from Fiddyment Road to the Sutter County line (consistent with the Placer Vineyards Specific Plan and current City or Roseville and Placer County Fee programs for Baseline Road)
- Widening of Baseline Road to six lanes from Sutter County Line SR 70/99 (consistent with MTP and South Sutter Specific Plan)
- Widening of Watt Avenue to six lanes between Baseline Road and the Sacramento County line (consistent with the Placer Vineyards Specific Plan)
- Widening of Walerga Road to four lanes between Baseline Road and the Sacramento County line (consistent with Placer County CIP)
- Construction of an interchange at SR 70/99 and Riego Road
- Construction of Watt Avenue from Baseline Road to south of Blue Oaks Boulevard (consistent with Regional University Specific Plan)

Trip Generation of Proposed Project and Alternatives

Table 13 and **Table 14** provide a summary of the proposed land use and trip generation and summarize the additional trip ends associated with the Proposed Project under each of the alternatives. The table shows that the Proposed Project would increase trip generation by approximately 130,000 daily trip ends. Daily trip ends include both trips originating in and terminating in the Proposed Project. The table also shows the estimated trip ends associated with each of the project alternatives. The trip generation of the project alternatives range from 71% to 84% of the Proposed Project.

It should be noted that since the Proposed Project and all project alternatives contain both residential and non-residential uses, some internalization of trips can be expected. For example, some residents living within the Proposed Project could do their shopping or work within the project site, and thus their shopping or work trips might remain within the project site. A "select zone" assignment was performed with the travel demand model to estimate the internalization of trips. The model predicted that approximately 25% of the daily trips generated by the proposed project would remain on roadways within

the Proposed Project and approximately 75% of the daily trips would exit the project area and use other local and regional roadways.

Trip Distribution of Proposed Project

The travel demand model was used to isolate vehicular trips beginning and/ or ending within the Proposed Project. This data was used in turn to estimate the distribution of project-related vehicle trips. As stated in the Trip Generation discussion, approximately 75% of the daily trips would exit the project area and use other local and regional roadways. **Figure 6** shows the trip distribution estimated using the travel demand model. The figure shows that a high percentage of project-related non internal trips use roadways in western Roseville. Approximately 16% of the vehicles use Watt Avenue and Walerga Road south of the Proposed Project. Approximately 3% of the vehicles are estimated to travel west on Riego Road into Sutter County. Approximately 1% travel north toward Lincoln. As is expected, a very small number of vehicles travel on I-80 through Roseville, as this is not a convenient way to access the project site.

The travel demand model was also used to estimate average trip duration and trip distance for project-related vehicle trips. The average trip duration (determined using the Placer County Travel Demand Model) for Sierra Vista trips was 11.9 minutes, as compared to 12.2 minutes for trips region wide. These numbers are similar to numbers derived using the SACMET model (11.97 minutes and 12.37 minutes, respectively). The average trip distance (determined using the Placer County Travel Demand Model) for Sierra Vista trips was 6.3 miles, as compared to 8.0 miles for trips region wide. These numbers are similar to numbers derived using the SACMET model (6.45 miles and 7.18 miles, respectively).

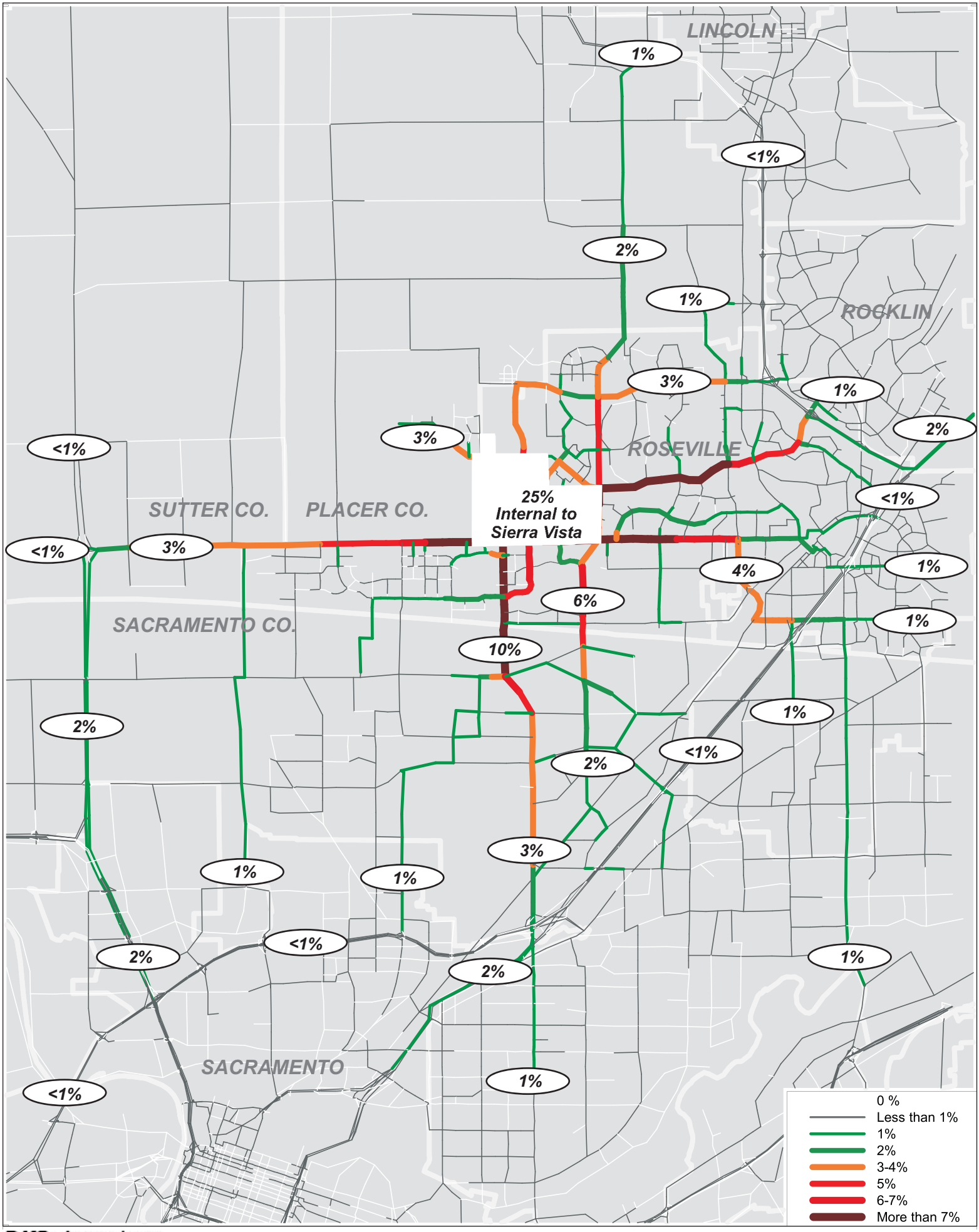
It should be noted that the above process of isolating project trips was only performed on the proposed project and not the project alternatives. It is reasonable to assume that the trip distribution and trip length data for the alternatives would be similar to the proposed project, with the exception of the off-site alternative.

Table 13
Project Alternatives Land Use

Land Use	Units	Land Use Assumptions					
			Alternatives				
		Proposed Action "The Project"	Alt #1 Reduced Footprint Increased Density	Alt #2 Reduced Footprint Same Density	Alt #3 Focused Avoidance	Alt #4 Off-Site Alternative	Alt #5 No Federal Action
Single Family	DU's	4,767	4,082	3,534	3,903	4,845	3,835
Multi-Family		1,888	2,581	1,395	1,443	750	1,205
Total Residential		**6,655**	**6,663**	**4,929**	**5,346**	**5,595**	**5,040**
Commercial	KSF	1718.0	1187.6	1206.0	1210.2	1,143.7	1196.9
Office		517.3	461.0	614.8	449.6	572.7	212.8
Church		45.7	51.2	51.2	72.0	0	55.4
School	Students	3,600	3,600	3,000	3,000	3,600	3,000
Park	Acres	89.9	54.2	40.9	80.9	90.0	76.9

Table 14
Project Alternatives Trip Generation

Land Use	Daily Trip Ends Per Unit	Daily Trip Ends					
			Alternatives				
		Proposed Action "The Project"	Alt #1 Reduced Footprint Increased Density	Alt #2 Reduced Footprint Same Density	Alt #3 Focused Avoidance	Alt #4 Off-Site Alternative	Alt #5 No Federal Action
Single Family (DU's)	9.0	42,903	36,738	31,806	35,127	43,605	34,515
Multi-Family (DU's)	6.5	12,272	16,777	9,068	9,380	4,875	7,833
Commercial (KSF)	35.0	60,130	41,566	42,210	42,357	40,030	41,892
Office (KSF)	17.7	9,156	8,160	10,882	7,958	10,137	3,767
Church (KSF)	9.3	425	476	476	669	0	515
School (Students)	1.0	3,600	3,600	3,000	3,000	3,600	3,000
Park (Acres)	2.2	198	119	90	178	198	169
Total Trip Ends		**128,684**	**107,436**	**97,532**	**98,669**	**102,445**	**91,690**
as Percentage of Proposed Project			83%	76%	84%	80%	71%



DKS Associates
TRANSPORTATION SOLUTIONS

Figure 6
Project Trip Distribution

PROJECT IMPACTS

2025 CIP Plus Project Conditions – Roseville

This section discusses traffic-related impacts on the City's roadway system under the 2025 CIP Plus Proposed Project scenario and each of the identified alternatives. The City's travel demand model has been used to estimate the change in daily, a.m. and p.m. peak hour traffic volumes on City of Roseville roadways due to development of the Proposed Project and each alternative under 2025 CIP conditions.

Traffic volume forecasts are not based on a simple layering/ adding of assumed project-generated traffic volumes onto the No Project traffic volumes. Rather, the City's travel demand model is used to predict how travel patterns would change if the Proposed Project is added to buildout land uses within the City. The travel model redistributes trips and can cause traffic on some roadways to increase or decrease and cause changes in "critical" traffic movements at intersections. Due to this re-distribution process, changes in level of service at intersections some distance from the Proposed Project can take place.

Roseville: AM Peak Hour Impacts

Table 15 identifies the a.m. peak hour levels of service at current and future signalized intersections under 2025 CIP conditions without and with buildout of the Sierra Vista Specific Plan and each project alternative. The table shows that two signalized Roseville intersections would be impacted during the a.m. peak hour with the addition of the proposed project or project alternatives.

Table 16 identifies those intersections that would be significantly impacted during the a.m. peak hour. Those intersections are:

- Blue Oaks Boulevard and Crocker Ranch Road – (LOS C to LOS D)
    - 2025 CIP plus Proposed Action ("The Project")
    - 2025 CIP plus Alternative #1 (Reduced Footprint, Increased Density)
    - 2025 CIP plus Alternative #2 (Reduced Footprint, Same Density)
    - 2025 CIP plus Alternative #3 (Focused Avoidance Alternative)
    - 2025 CIP plus Alternative #5 (No Federal Action – No Corp of Engineers Permit)

Table 15
Level of Service at Roseville Signalized Intersections
2025 CIP Plus Project Alternative Conditions – AM Peak Hour

		Scenario													
				2025 CIP Plus Project											
	Intersection	No Project		Proposed Action "The Project"		Alternative #1 Reduced Footprint Increased Density		Alternative #2 Reduced Footprint Same Density		Alternative #3 Focused Avoidance		Alternative #4 Off-Site Alternative		Alternative #5 No Federal Action	
ID	Intersection Name	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
Existing Signalized Intersections															
4	Baseline Rd & Fiddyment Rd	**F**	**1.01**	**D**	**0.83**	**D**	**0.83**	**D**	**0.82**	**D**	**0.84**	**F**	**1.03**	**D**	**0.85**
5	Blue Oaks & Crocker Ranch	C	0.77	**D**	**0.82**	**D**	**0.82**	**D**	**0.82**	**D**	**0.82**	C	0.78	**D**	**0.83**
7	Blue Oaks & Fiddyment	C	0.74	C	0.75	C	0.75	C	0.75	C	0.75	C	0.73	C	0.75
10	Blue Oaks Bl & Diamond Creek Bl	C	0.75	C	0.77	C	0.77	C	0.77	C	0.77	C	0.75	C	0.77
11	Blue Oaks Bl & Foothills Bl	**F**	**1.02**	**E**	**0.96**	**E**	**0.96**	**E**	**0.97**	**E**	**0.97**	**F**	**1.02**	**E**	**0.97**
12	Blue Oaks Bl & Woodcreek Oaks Bl	**E**	**0.95**	**E**	**0.92**	**E**	**0.92**	**E**	**0.92**	**E**	**0.92**	**E**	**0.96**	**E**	**0.92**
14	Cirby Wy & Foothills Bl	**E**	**0.95**	**E**	**0.98**	**E**	**0.99**	**E**	**0.98**	**E**	**0.98**	**E**	**0.96**	**E**	**0.98**
16	Cirby Wy & Northridge Dr	C	0.77	C	0.77	C	0.76	C	0.77	C	0.77	C	0.77	C	0.77
18	Cirby Wy & Orlando Av	**E**	**0.94**	**E**	**0.93**	**E**	**0.92**	**E**	**0.93**	**E**	**0.93**	**E**	**0.93**	**E**	**0.93**
20	Cirby Wy & Riverside Av	**F**	**1.03**	**F**	**1.03**	**F**	**1.03**	**F**	**1.03**	**F**	**1.03**	**F**	**1.04**	**F**	**1.03**
23	Cirby Wy & Vernon St	**E**	**0.99**	**E**	**0.98**	**E**	**0.98**	**E**	**0.98**	**E**	**0.98**	**E**	**0.99**	**E**	**0.98**
50	Foothills & Baseline/Main	**D**	**0.90**	**E**	**0.96**	**E**	**0.97**	**E**	**0.95**	**E**	**0.96**	**E**	**0.92**	**E**	**0.96**
58	Foothills Bl & Pleasant Grove Bl	**D**	**0.85**	**D**	**0.86**	**D**	**0.87**	**D**	**0.86**	**D**	**0.86**	**D**	**0.86**	**D**	**0.86**
70	Junction Bl & Baseline Rd	B	0.61	B	0.69	B	0.66	B	0.65	B	0.66	B	0.67	B	0.66
86	Pleasant Grove & Fiddyment	C	0.73	C	0.77	C	0.76	C	0.75	C	0.76	C	0.74	C	0.76
93	Pleasant Grove & Roseville Pkwy	**F**	**1.02**	**F**	**1.03**	**F**	**1.02**	**F**	**1.02**	**F**	**1.02**	**F**	**1.03**	**F**	**1.02**
96	Pleasant Grove & Washington	**D**	**0.82**	**D**	**0.85**	**D**	**0.85**	**D**	**0.85**	**D**	**0.85**	**D**	**0.83**	**D**	**0.85**
98	Pleasant Grove Bl & Woodcreek Oaks Bl	B	0.64	B	0.63	B	0.64	B	0.63	B	0.64	B	0.65	B	0.62
141	Woodcreek Oaks & Baseline	**E**	**0.92**	**D**	**0.89**	**D**	**0.88**	**D**	**0.87**	**D**	**0.87**	**E**	**0.93**	**D**	**0.87**
146	SR 65 N/B Off & Blue Oaks Blvd	A	0.57	A	0.57	A	0.57	A	0.57	A	0.57	A	0.57	A	0.57
147	Washington Blvd & Blue Oaks Blvd	A	0.49	A	0.48	A	0.48	A	0.48	A	0.48	A	0.49	A	0.48
150	SR 65 N/B Off & Pleasant Grove Blvd	A	0.54	A	0.54	A	0.54	A	0.54	A	0.54	A	0.54	A	0.54
151	SR 65 S/B Off & Pleasant Grove Blvd	A	0.44	A	0.43	A	0.43	A	0.44	A	0.44	A	0.44	A	0.44
152	I-80 WB Off & Riverside Ave	C	0.73	C	0.72	C	0.72	C	0.72	C	0.72	C	0.73	C	0.73
180*	Watt Ave & Baseline Rd	C	0.80	B	0.64	A	0.59	A	0.58	A	0.57	C	0.77	A	0.55
Future Signals in CIP															
163	Blue Oaks Blvd & West Side Dr	A	0.12	A	0.17	A	0.17	A	0.17	A	0.17	A	0.12	A	0.17
166	Pleasant Grove Blvd & West Side Dr	A	0.27	A	0.35	A	0.47	A	0.44	A	0.45	A	0.27	A	0.46
Signalized Intersections Added with Sierra Vista															
177	Watt Ave & Pleasant Grove Blvd	n/a		A	0.24	A	0.23	A	0.23	A	0.23	n/a		A	0.23
183	West Side Dr & Baseline Rd	n/a		C	0.75	C	0.75	C	0.77	C	0.76	n/a		C	0.77
185	Market St & Baseline Rd	n/a		B	0.63	B	0.61	B	0.60	A	0.59	n/a		B	0.66
188	Upland Dr & Baseline Rd	n/a		A	0.52	A	0.53	A	0.51	A	0.51	n/a		A	0.52

Note: **BOLD** Locations do not meet LOS Policy, **Shaded** Locations indicate LOS Impacts

Source: DKS Associates 2010

Table 16
Impacts at City of Roseville Intersections
2025 CIP Plus Project Alternative Conditions – AM Peak Hour

		Scenario													
				2025 CIP Plus Project											
	Intersection	No Project		Proposed Action "The Project"		Alternative #1 Reduced Footprint Increased Density		Alternative #2 Reduced Footprint Same Density		Alternative #3 Focused Avoidance		Alternative #4 Off-Site Alternative		Alternative #5 No Federal Action	
ID	Intersection Name	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
Existing Signalized Intersections															
5	Blue Oaks & Crocker Ranch	C	0.77	**D**	**0.82**	**D**	**0.82**	**D**	**0.82**	**D**	**0.82**	C	0.78	**D**	**0.83**
50	Foothills & Baseline/Main	**D**	**0.90**	**E**	**0.96**	**E**	**0.97**	**E**	**0.95**	**E**	**0.96**	**E**	**0.92**	**E**	**0.96**

Note: **BOLD** Locations do not meet LOS Policy, **Shaded** Locations indicate LOS Impacts
Source: DKS Associates 2010

- Foothills Boulevard and Baseline/Main – (LOS D to LOS E)
    - 2025 CIP plus Proposed Action ("The Project")
    - 2025 CIP plus Alternative #1 (Reduced Footprint, Increased Density)
    - 2025 CIP plus Alternative #2 (Reduced Footprint, Same Density)
    - 2025 CIP plus Alternative #3 (Focused Avoidance Alternative)
    - 2025 CIP plus Alternative #4 (Off-Site Alternative)
    - 2025 CIP plus Alternative #5 (No Federal Action – No Corp of Engineers Permit)

Blue Oaks Boulevard and Crocker Ranch Road – Under the 2025 CIP plus project scenario and all four on-site alternatives, this intersection would degrade from LOS C to LOS D. The intersection could be re-striped to include two south bound to east bound left turn lanes and a separate right turn lane which would improve the operation of the intersection under the 2025 CIP plus project scenario to LOS B (V/C 0.67). Similar improvements would be expected with this mitigation under each of the five on-site alternatives. As stated in the SVSP EIR, this improvement will be added to the City of Roseville's Capital Improvement program. Development within the Sierra Vista Specific Plan Area will be required to pay fair share costs for this improvement. As such, this impact would be reduced to **less than significant**..

Foothills Boulevard and Baseline Road – Under the 2025 CIP plus project scenario and all five alternatives, this intersection would degrade from LOS D to LOS E. The level of service at this intersection could be improved to LOS D (V/C 0.89) with the construction of a 4th northbound through lane. However, this widening would exceed the maximum feasible improvements deemed appropriate by the City's General Plan and would place undue burden on the adjacent businesses and residents. As such, this impact is deemed **significant and unavoidable**.

Roseville: PM Peak Hour Impacts

Table 17 identifies the p.m. peak hour levels of service at current and future signalized intersections under 2025 CIP conditions without and with buildout of the Sierra Vista Specific Plan and each project alternative. The table shows that six signalized Roseville intersections would be impacted during the p.m.

peak hour with the addition of the proposed project or project alternatives. **Table 18** identifies those intersections that would be significantly impacted during the p.m. peak hour. Those intersections are:

- Cirby Way and Northridge Drive – (LOS D to LOS E)
    - 2025 CIP plus Proposed Action ("The Project")
    - 2025 CIP plus Alternative #1 (Reduced Footprint, Increased Density)
    - 2025 CIP plus Alternative #2 (Reduced Footprint, Same Density)
    - 2025 CIP plus Alternative #3 (Focused Avoidance Alternative)
    - 2025 CIP plus Alternative #5 (No Federal Action – No Corp of Engineers Permit)
- Junction Boulevard and Baseline Road – (LOS C to LOS D)
    - 2025 CIP plus Proposed Action ("The Project")
- Pleasant Grove Boulevard and Washington Boulevard – (LOS D to LOS E)
    - 2025 CIP plus Alternative #1 (Reduced Footprint, Increased Density)
- Pleasant Grove Boulevard and Woodcreek Oaks Boulevard – (LOS D to LOS E)
    - 2025 CIP plus Alternative #4 (Off-Site Alternative)
- Woodcreek Oaks Boulevard and Baseline Road – (LOS D to LOS E)
    - 2025 CIP plus Alternative #4 (Off-Site Alternative)

Cirby Way and Northridge Drive – Under the 2025 CIP plus project scenario and all four on-site alternatives, this intersection would degrade from LOS D to LOS E. The City has recently completed improvements along the Cirby Way corridor and has stated that additional right-of-way at the intersection is not available, although perceived level of service improvements may be possible along the Cirby Way corridor due to the recently implemented interconnection between signalized intersections. This intersection could be mitigated by adding a 3rd westbound through lane. This would improve the intersection operation from LOS E with a V/C of 0.92 to LOS C. However, due to concerns expressed by area residents, the close proximity of homes in the area and the associated right-of-way that would be required, this mitigation is not feasible. As such, this impact would be deemed **significant and unavoidable**.

Table 17
Level of Service at Roseville Signalized Intersections
2025 CIP Plus Project Alternative Conditions – PM Peak Hour

Intersection		Scenario													
				2025 CIP Plus Project											
		No Project		Proposed Action "The Project"		Alternative #1 Reduced Footprint Increased Density		Alternative #2 Reduced Footprint Same Density		Alternative #3 Focused Avoidance		Alternative #4 Off-Site Alternative		Alternative #5 No Federal Action	
ID	Intersection Name	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
Existing Signalized Intersections															
4	Baseline Rd & Fiddyment Rd	**F**	**1.10**	**E**	**1.00**	**E**	**0.99**	**E**	**0.98**	**E**	**1.00**	**F**	**1.13**	**E**	**1.00**
5	Blue Oaks & Crocker Ranch	B	0.68	C	0.72	C	0.72	C	0.72	C	0.72	B	0.69	C	0.72
7	Blue Oaks & Fiddyment	**D**	**0.82**	C	0.77	C	0.77	C	0.76	C	0.77	C	0.81	C	0.76
10	Blue Oaks Bl & Diamond Creek Bl	**E**	**0.92**	**E**	**0.99**	**E**	**1.00**	**E**	**0.98**	**E**	**0.99**	**E**	**0.92**	**E**	**0.99**
11	Blue Oaks Bl & Foothills Bl	**F**	**1.25**	**F**	**1.32**	**F**	**1.33**	**F**	**1.31**	**F**	**1.32**	**F**	**1.25**	**F**	**1.32**
12	Blue Oaks Bl & Woodcreek Oaks Bl	C	0.74	B	0.66	B	0.67	B	0.66	B	0.66	C	0.73	B	0.66
14	Cirby Wy & Foothills Bl	**F**	**1.12**	**F**	**1.11**	**F**	**1.11**	**F**	**1.11**	**F**	**1.11**	**F**	**1.13**	**F**	**1.11**
16	Cirby Wy & Northridge Dr	**D**	**0.88**	**E**	**0.92**	**E**	**0.92**	**E**	**0.91**	**E**	**0.91**	**D**	**0.89**	**E**	**0.91**
18	Cirby Wy & Orlando Av	**D**	**0.89**	**D**	**0.89**	**D**	**0.89**	**D**	**0.89**	**D**	**0.89**	**D**	**0.89**	**D**	**0.89**
20	Cirby Wy & Riverside Av	**F**	**1.11**	**F**	**1.14**	**F**	**1.14**	**F**	**1.13**	**F**	**1.13**	**F**	**1.12**	**F**	**1.13**
23	Cirby Wy & Vernon St	**F**	**1.24**	**F**	**1.27**	**F**	**1.28**	**F**	**1.26**	**F**	**1.27**	**F**	**1.26**	**F**	**1.27**
50	Foothills & Baseline/Main	**D**	**0.82**	**D**	**0.86**	**D**	**0.86**	**D**	**0.85**	**D**	**0.85**	**D**	**0.82**	**D**	**0.85**
58	Foothills Bl & Pleasant Grove Bl	**E**	**0.95**	**E**	**0.99**	**E**	**0.99**	**E**	**0.98**	**E**	**0.99**	**E**	**0.97**	**E**	**0.99**
70	Junction Bl & Baseline Rd	C	0.81	**D**	**0.82**	C	0.81	C	0.81	C	0.81	C	0.81	C	0.81
86	Pleasant Grove & Fiddyment	**D**	**0.86**	**D**	**0.90**	**D**	**0.90**	**D**	**0.88**	**E**	**0.91**	**D**	**0.87**	**D**	**0.89**
93	Pleasant Grove & Roseville Pkwy	**F**	**1.21**	**F**	**1.20**	**F**	**1.20**	**F**	**1.19**	**F**	**1.20**	**F**	**1.21**	**F**	**1.20**
96	Pleasant Grove & Washington	**D**	**0.88**	**D**	**0.90**	**E**	**0.91**	**D**	**0.89**	**D**	**0.90**	**D**	**0.89**	**D**	**0.90**
98	Pleasant Grove Bl & Woodcreek Oaks Bl	**D**	**0.90**	**D**	**0.85**	**D**	**0.85**	**D**	**0.86**	**D**	**0.85**	**E**	**0.91**	**D**	**0.85**
141	Woodcreek Oaks & Baseline	**D**	**0.83**	**D**	**0.90**	**D**	**0.86**	**D**	**0.86**	**D**	**0.88**	**E**	**0.92**	**D**	**0.86**
146	SR 65 N/B Off & Blue Oaks Blvd	B	0.64	B	0.66	B	0.66	B	0.65	B	0.66	B	0.64	B	0.66
147	Washington Blvd & Blue Oaks Blvd	B	0.63	B	0.65	B	0.65	B	0.65	B	0.65	B	0.63	B	0.65
150	SR 65 N/B Off & Pleasant Grove Blvd	C	0.74	C	0.74	C	0.74	C	0.74	C	0.74	C	0.74	C	0.74
151	SR 65 S/B Off & Pleasant Grove Blvd	C	0.72	C	0.72	C	0.72	C	0.72	C	0.72	C	0.72	C	0.72
152	I-80 WB Off & Riverside Ave	B	0.63	B	0.63	B	0.63	B	0.63	B	0.63	B	0.63	B	0.63
180	Watt Ave & Baseline Rd	**D**	**0.87**	C	0.74	C	0.73	C	0.70	C	0.71	C	0.78	C	0.72
Future Signals in CIP															
163	Blue Oaks Blvd & West Side Dr	A	0.19	A	0.44	A	0.45	A	0.43	A	0.43	A	0.19	A	0.45
166	Pleasant Grove Blvd & West Side Dr	A	0.31	A	0.40	A	0.40	A	0.39	A	0.41	A	0.31	A	0.42
Signalized Intersections Added with Sierra Vista															
177	Watt Ave & Pleasant Grove Blvd	n/a		A	0.49	A	0.49	A	0.49	A	0.49	n/a		A	0.49
183	West Side Dr & Baseline Rd	n/a		C	0.81	C	0.80	**D**	**0.85**	**D**	**0.89**	n/a		E	0.94
185	Market St & Baseline Rd	n/a		B	0.64	B	0.60	A	0.59	B	0.60	n/a		B	0.63
188	Upland Dr & Baseline Rd	n/a		A	0.58	A	0.57	A	0.55	A	0.56	n/a		A	0.56

Note: **BOLD** Locations do not meet LOS Policy, **Shaded** Locations indicate LOS Impacts

Source: DKS Associates 2010

Table 18
Impacts at City of Roseville Intersections
2025 CIP Plus Project Alternative Conditions – PM Peak Hour

Intersection		Scenario													
				2025 CIP Plus Project											
		No Project		Proposed Action "The Project"		Alternative #1 Reduced Footprint Increased Density		Alternative #2 Reduced Footprint Same Density		Alternative #3 Focused Avoidance		Alternative #4 Off-Site Alternative		Alternative #5 No Federal Action	
ID	Intersection Name	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
Existing Signalized Intersections															
16	Cirby Wy & Northridge Dr	**D**	**0.88**	**E**	**0.92**	**E**	**0.92**	**E**	**0.91**	**E**	**0.91**	**D**	**0.89**	**E**	**0.91**
70	Junction Bl & Baseline Rd	C	0.81	**D**	**0.82**	C	0.81	C	0.81	C	0.81	C	0.81	C	0.81
96	Pleasant Grove & Washington	D	0.88	**D**	**0.90**	**E**	**0.91**	**D**	**0.89**	**D**	**0.90**	**D**	**0.89**	**D**	**0.90**
98	Pleasant Grove Bl & Woodcreek Oaks Bl	**D**	**0.90**	**D**	**0.85**	**D**	**0.85**	**D**	**0.86**	**D**	**0.85**	**E**	**0.91**	**D**	**0.85**
141	Woodcreek Oaks & Baseline	**D**	**0.83**	**D**	**0.90**	**D**	**0.86**	**D**	**0.86**	**D**	**0.88**	**E**	**0.92**	**D**	**0.86**
Signalized Intersections Added with Sierra Vista															
183	West Side Dr & Baseline Rd	n/a		C	0.81	C	0.80	**D**	**0.85**	**D**	**0.89**	n/a		E	0.94

Note: **BOLD** Locations do not meet LOS Policy, **Shaded** Locations indicate LOS Impacts

Source: DKS Associates 2010

Junction Boulevard and Baseline Road – Under the 2025 CIP plus project scenario, this intersection would degrade from LOS C to LOS D. This level of service change is based on a change in volume of approximately 4%. This intersection could be mitigated by adding a 3rd W/B through lane. This would improve the intersection operation from LOS D with a V/C of 0.82 to LOS B with a V/C of 0.67. However, due to the close proximity of homes in the area and the associated right-of-way that would be required, this mitigation is not feasible. As such, this impact would be deemed **significant and unavoidable**.

Pleasant Grove Boulevard and Washington Boulevard – Under the 2025 CIP plus Alternative #1 (Reduced Footprint, Increased Density) this intersection would degrade from LOS D to LOS E. This degradation is based on modest increases in left turning vehicles. This intersection is currently built out and no feasible mitigation measures have been identified. As such, this impact would be deemed **significant and unavoidable** under one of the alternatives.

Pleasant Grove Boulevard and Woodcreek Oaks Boulevard – Under the 2025 CIP plus Alternative #4 (Off-Site Alternative) this intersection would degrade from LOS D to LOS E. The main reason this intersection is only impacted under the off-site alternative is that the proposed project provides a new north-south roadway which is parallel to Woodcreek Oaks, which would not exist with the off-site alternative. This intersection is currently built out and no feasible mitigation measures have been identified. As such, this impact would be deemed **significant and unavoidable** under the off-site alternative.

Woodcreek Oaks Boulevard and Baseline Rd – Under the 2025 CIP plus Alternative #4 (Off-Site Alternative) this intersection would degrade from LOS D to LOS E. The main reason this intersection is only impacted under the off-site alternative is that the proposed project provides a new north-south roadway which is parallel to Woodcreek Oaks, which would not exist with the off-site alternative. No feasible mitigation measures have been identified. As such, this impact would be deemed **significant and unavoidable** under the off-site alternative.

2025 CIP Plus Project Conditions – Placer County

The Proposed Project would result in traffic volume increases on a number of roadways in Placer County under 2025 CIP conditions.

Placer County: AM Peak Hour Impacts

Table 19 identifies the a.m. peak hour levels of service at current and future signalized intersections under 2025 CIP conditions without and with buildout of the Sierra Vista Specific Plan and each project alternative. The table identifies two Placer County intersections that would be impacted:

- Baseline Rd and Brewer Rd – (LOS A to LOS F)
    - 2025 CIP plus Alternative #4 (Off-Site Alternative)
- Walerga Road and PFE Road – (LOS E to LOS F with 0.05 or greater increase in V/C)
    - 2025 CIP plus Alternative #3 (Focused Avoidance Alternative)
    - 2025 CIP plus Alternative #4 (Off-Site Alternative)

Baseline Road and Brewer Road – This intersection is projected to operate at LOS A without the project, as well as with the proposed project and all on-site alternatives. The off-site alternative would result in this intersection degrading to LOS F. This is due to the fact that this intersection is directly adjacent to the off-site location. A potential mitigation for this impact is to provide two northbound and southbound through lanes, as well as two southbound and eastbound left turn lanes to accommodate the additional traffic accessing the site. These improvements would improve the intersection to LOS D and thus mitigate the impact. However, since the City of Roseville does not have control over improvements on Placer County roadways, this impact is considered **significant and unavoidable** under the off-site alternative, but not the proposed project itself.

Walerga Road and PFE Road – This intersection would operate at LOS E without the project, with the proposed project, and with three of the on-site alternatives. Placer County has recently adopted their updated Dry Creek/ West Placer County Community plan which identifies LOS F as the policy for this intersection. With the Off-Site alternative, as well as with the Focused Avoidance alternative, this intersection would degrade to LOS F with a V/C increase of 0.05 or greater. The widening of Walerga Road to 6 lanes would improve the operation of this intersection to better than "no project" conditions.

Because this improvement is located within Placer County, the County may determine the improvement to be infeasible. Should Placer County determine that the widening of Walerga to six lanes along this segment is feasible, the City of Roseville shall negotiate in good faith to enter into fair and reasonable arrangements with the intention of achieving within a reasonable time period after approval of the Sierra Vista Specific Plan commitment for the provision of adequate fair share mitigation from the Specific Plan for impacts on Walerga Road. However, since the City of Roseville does not have control over improvements on Placer County roadways, this impact is considered **significant and unavoidable** under each of the project alternatives, but not the proposed project itself.

Placer County: PM Peak Hour Impacts

Table 19 identifies the p.m. peak hour levels of service at current and future signalized intersections under 2025 CIP conditions without and with buildout of the Sierra Vista Specific Plan and each project alternative. The table identifies one Placer County intersection that would be impacted:

- Baseline Rd and Brewer Rd – (LOS A to LOS F)
    - 2025 CIP plus Alternative #4 (Off-Site Alternative)

Baseline Road and Brewer Road – This intersection is projected to operate at LOS A without the project and at LOS B with the proposed project and all on-site alternatives. The off-site alternative would result in this intersection degrading to LOS F. This is due to the fact that this intersection is directly adjacent to the off-site location. A potential mitigation for this impact is to provide two northbound and southbound through lanes, as well as two southbound and eastbound left turn lanes to accommodate the additional traffic accessing the site. These improvements would improve the intersection to LOS D and thus mitigate the impact. However, since the City of Roseville does not have control over improvements on Placer County roadways, this impact is considered **significant and unavoidable** under the off-site alternative, but not the proposed project itself.

The intersection of Walerga Road and PFE Road would operate at LOS D without the project, with the proposed project, and with two of the on-site alternatives. With the Focused Avoidance, Off-Site, and No Federal Action alternatives, this intersection would degrade to LOS E. Placer County has recently adopted their updated Dry Creek/ West Placer County Community plan which identifies LOS F as the

policy for this intersection. Therefore, even though this intersection degrades from LOS D to LOS E under two of the alternatives, it does not represent an impact.

Placer County: Daily Impacts

Table 20 shows the changes in daily traffic volume on Placer County roadways under 2025 CIP and 2025 CIP plus project conditions. The table shows that there would be large volume increases on portions of Baseline Road, Watt Avenue, and Walerga Road. It should be noted that the County has approved a LOS D policy for roadways within and adjacent to Placer Vineyards. The table shows that under 2025 CIP conditions one roadway segment would be significantly impacted under the 2025 CIP plus project scenario. That roadway segment is:

- Walerga Road south of Baseline Road (LOS E to LOS F)
    - 2025 CIP plus Proposed Action ("The Project")
    - 2025 CIP plus Alternative #1 (Reduced Footprint, Increased Density)
    - 2025 CIP plus Alternative #2 (Reduced Footprint, Same Density)
    - 2025 CIP plus Alternative #3 (Focused Avoidance Alternative)
    - 2025 CIP plus Alternative #5 (No Federal Action – No Corp of Engineers Permit)

Under the no project scenario, Walerga Road south of Baseline Road is forecast to carry 34,700 vehicles per day and operates at LOS E. Under the Plus Project scenario, traffic volumes would increase along this segment to 37,700 vehicles per day and operate at LOS F. Four of the five alternatives would also result in volumes of 37,000 or more and LOS F on this roadway segment. The widening of Walerga Road to 6 lanes would improve the operation of this roadway segment to LOS B and would also improve the operation of the intersection of Walerga Road and PFE Road to better than "no project" conditions. Because this improvement is located within Placer County, the County may determine the improvement to be infeasible. Should Placer County determine that the widening of Walerga to six lanes along this segment is feasible, the City of Roseville shall negotiate in good faith to enter into fair and reasonable arrangements with the intention of achieving within a reasonable time period after approval of the Sierra Vista Specific Plan commitment for the provision of adequate fair share mitigation from the Specific Plan for impacts on Walerga Road. However, since the City of Roseville does not have control over improvements on Placer County roadways, this impact is considered **significant and unavoidable**.

Table 19
Level of Service at Placer County Intersections
2025 CIP Plus Project Alternative Conditions

Intersection	LOS Standard	Scenario													
				2025 CIP Plus Project											
		No Project		Proposed Action "The Project"		Alternative #1 Reduced Footprint Increased Density		Alternative #2 Reduced Footprint Same Density		Alternative #3 Focused Avoidance		Alternative #4 Off-Site Alternative		Alternative #5 No Federal Action	
		LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
AM Peak Hour															
2. Baseline & Brewer	D	A	0.41	A	0.47	A	0.49	A	0.49	A	0.48	**F**	**1.05**	A	0.48
3. Locust & Baseline	D	A	0.44	A	0.46	A	0.35	A	0.36	A	0.35	A	0.44	A	0.35
4. Watt Ave & PFE Rd	C	A	0.48	A	0.55	A	0.57	A	0.56	A	0.55	A	0.53	A	0.55
5. Walerga Rd & PFE Rd	F	E	0.96	E	0.94	E	0.99	E	0.99	**F**	**1.01**	**F**	**1.04**	F	1.00
PM Peak Hour															
2. Baseline & Brewer	D	A	0.54	B	0.64	B	0.63	B	0.63	B	0.65	**F**	**1.27**	B	0.65
3. Locust & Baseline	D	B	0.62	B	0.69	A	0.52	A	0.52	A	0.55	B	0.61	A	0.55
4. Watt Ave & PFE Rd	C	A	0.55	A	0.54	A	0.54	A	0.54	A	0.56	A	0.60	A	0.56
5. Walerga Rd & PFE Rd	F	D	0.87	D	0.89	D	0.88	D	0.88	E	0.91	E	0.91	E	0.91

Note: **BOLD** Locations do not meet LOS Policy, **Shaded** Locations indicate LOS Impacts

Source: DKS Associates, 2010

Table 20
Level of Service at Placer County Roadway Segments
2025 CIP Plus Project Alternative Conditions

Roadway Segment	LOS Standard	Lanes	Scenario													
					2025 CIP Plus Project											
			No Action		Proposed Action "The Project"		Alternative #1 Reduced Footprint Increased Density		Alternative #2 Reduced Footprint Same Density		Alternative #3 Focused Avoidance		Alternative #4 Off-Site Alternative		Alternative #5 No Federal Action	
			ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
Baseline Rd W/O SVSP	D	6	33,200	B	38,600	C	37,200	B	37,000	B	36,700	B	42,400	C	36,600	B
Watt Ave S/O Baseline	F	6	18,100	A	22,900	A	21,500	A	20,900	A	19,300	A	21,000	A	19,200	A
Walerga Rd S/O Baseline	D	4	**34,700**	**E**	**37,700**	**F**	**37,000**	**F**	**37,000**	**F**	**37,400**	**F**	**35,000**	**E**	**37,500**	**F**
PFE Rd E/O Watt Ave	C	2	6,700	A	6,500	A	6,400	A	6,400	A	6,500	A	6,800	A	6,500	A
Fiddyment Rd S/O Athens	C	4	23,600	B	24,600	B	24,600	B	24,400	B	24,500	B	23,200	B	24,500	B

Note: **BOLD** Locations do not meet LOS Policy, **Shaded** Locations indicate LOS Impacts

Source: DKS Associates, 2010

Table 21
Level of Service at Sacramento County Intersections
2025 CIP Plus Project Alternative Conditions

Intersection	LOS Standard	Scenario													
				2025 CIP Plus Project											
		No Project		Proposed Action "The Project"		Alternative #1 Reduced Footprint Increased Density		Alternative #2 Reduced Footprint Same Density		Alternative #3 Focused Avoidance		Alternative #4 Off-Site Alternative		Alternative #5 No Federal Action	
		LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
AM Peak Hour															
1. Watt Ave & Elverta Rd	E	D	0.82	D	0.87	D	0.87	D	0.86	D	0.87	D	0.84	D	0.87
2. Walerga Rd & Elverta Rd	E	E	0.92	E	0.90	E	0.91	D	0.90	E	0.91	E	0.94	E	0.90
3. Watt Ave & Antelope Rd	E	**F**	**1.01**	**F**	**1.02**	**F**	**1.01**	**F**	**1.01**	**F**	**1.02**	**F**	**1.03**	**F**	**1.02**
4. Walerga Rd & Antelope Rd	E	B	0.61	B	0.62	B	0.62	B	0.61	B	0.61	B	0.62	B	0.62
5. Watt Ave & Elkhorn	E	D	0.84	D	0.86	D	0.86	D	0.86	D	0.86	D	0.86	D	0.86
6. Walerga Rd & Elkhorn	E	B	0.65	B	0.64	B	0.64	B	0.64	B	0.64	B	0.65	B	0.64
PM Peak Hour															
1. Watt Ave & Elverta Rd	E	D	0.89	E	0.97	E	0.96	E	0.95	E	0.94	E	0.93	E	0.95
2. Walerga Rd & Elverta Rd	E	**F**	**1.10**	**F**	**1.10**	**F**	**1.09**	**F**	**1.09**	**F**	**1.10**	**F**	**1.13**	**F**	**1.10**
3. Watt Ave & Antelope Rd	E	**F**	**1.03**	**F**	**1.05**	**F**	**1.03**	**F**	**1.05**	**F**	**1.05**	**F**	**1.03**	**F**	**1.05**
4. Walerga Rd & Antelope Rd	E	D	0.83	D	0.85	D	0.85	D	0.84	D	0.84	D	0.84	D	0.84
5. Watt Ave & Elkhorn	E	**F**	**1.00**	**F**	**1.03**	**F**	**1.03**	**F**	**1.02**	**F**	**1.03**	**F**	**1.03**	**F**	**1.03**
6. Walerga Rd & Elkhorn	E	D	0.86	D	0.86	D	0.88	D	0.87	D	0.87	D	0.86	D	0.88

Note: **BOLD** Locations do not meet LOS Policy, **Shaded** Locations indicate LOS Impacts

Source: DKS Associates, 2010

Table 22
Level of Service at Sacramento County Roadway Segments
2025 CIP Plus Project Alternative Conditions

Roadway Segment	LOS Standard	Lanes	Scenario													
					2025 CIP Plus Project											
			No Action		Proposed Action "The Project"		Alternative #1 Reduced Footprint Increased Density		Alternative #2 Reduced Footprint Same Density		Alternative #3 Focused Avoidance		Alternative #4 Off-Site Alternative		Alternative #5 No Federal Action	
			ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
Watt Ave S/O PFE	E	6	45,200	D	50,200	E	49,500	E	49,300	E	49,100	E	46,900	D	49,000	E
Watt Ave S/O Elverta	E	6	39,600	C	40,100	C	40,100	C	40,000	C	40,000	C	39,900	C	40,000	C
Watt Ave S/O Antelope	E	6	36,200	B	37,300	B	37,100	B	37,100	B	37,100	B	37,400	B	37,200	B
Watt Ave S/O Elkhorn	E	6	43,500	D	44,700	D	44,700	D	44,700	D	44,700	D	43,900	D	44,600	D
Walerga Rd S/O PFE	E	4	**46,100**	**F**	**48,500**	**F**	**48,000**	**F**	**47,900**	**F**	**48,000**	**F**	**47,200**	**F**	**48,100**	**F**
Walerga Rd S/O Elverta	E	4	31,600	D	32,500	E	32,500	E	32,400	E	32,400	E	32,200	D	32,500	E
Walerga Rd S/O Antelope	E	4	33,200	E	32,900	E	32,800	E	32,900	E	32,900	E	33,100	E	33,000	E
Walerga Rd S/O Elkhorn	E	4	30,800	D	30,600	D	30,600	D	30,500	D	30,600	D	30,800	D	30,600	D

Note: **BOLD** Locations do not meet LOS Policy, **Shaded** Locations indicate LOS Impacts

Source: DKS Associates, 2010

2025 CIP Plus Project Conditions – Sacramento County

The Proposed Project would result in traffic volume increases on a number of roadways in Sacramento County under 2025 CIP conditions.

Sacramento County: AM Peak Hour Impacts

Table 21 shows the changes in a.m. peak hour intersection level of service at a number of Sacramento County intersections with the addition of the proposed project and project alternatives. The table shows that one intersection is projected to operate at LOS F during the a.m. peak hour with or without the proposed project and alternatives, but would not experience an increase in V/C of over 0.05. Thus the impact is considered **less than significant**.

Sacramento County: PM Peak Hour Impacts

Table 21 shows the changes in p.m. peak hour intersection level of service at a number of Sacramento County intersections with the addition of the proposed project and project alternatives. The table shows that three intersections are projected to operate at LOS F during the a.m. peak hour with or without the proposed project and alternatives, but would not experience an increase in V/C of over 0.05. Thus the impact is considered **less than significant**.

Sacramento County: Daily Impacts

Table 22 shows the changes in daily traffic volume on Sacramento County roadways under 2025 CIP and 2025 CIP plus project conditions. The table shows that there would be volume increases on Watt Avenue and Walerga Road south of the county line with the addition of the proposed project. The increase on Walerga Road south of PFE Road would degrade that segment's V/C by 0.05, which represents a **significant impact**. It should be noted that the volume would increase on this segment with all of the project alternatives, but all of those increases would be less than 0.05. Thus this segment is only significantly impacted with the addition of the proposed project and not any of the project alternatives. Previous studies, including the Placer Vineyards EIR, have identified a need for six lanes on Walerga Road south of the County line.

Walerga Road south of Baseline Road - Under the no project scenario, Walerga Road south of PFE Road is forecast to carry 46,100 vehicles per day and operates at LOS F. Under the Plus Project scenario, traffic volumes would increase along this segment to 48,500 vehicles per day and operate at LOS F. This increase on Walerga Road south of PFE Road would degrade that segment's V/C by 0.05, which represents a significant impact. The widening of Walerga Road to 6 lanes would improve the operation of this roadway segment to LOS D. Because this improvement is located within Sacramento County, the County may determine the improvement to be infeasible. Should Sacramento County determine that the widening of Walerga to six lanes along this segment is feasible, the City of Roseville shall negotiate in good faith to enter into fair and reasonable arrangements with the intention of achieving within a reasonable time period after approval of the Sierra Vista Specific Plan commitment for the provision of adequate fair share mitigation from the Specific Plan for impacts on Walerga Road.

However, since the City of Roseville does not have control over improvements on Sacramento County roadways, this impact is considered **significant and unavoidable**.

Table 23
Level of Service at Sutter County Intersections
2025 CIP Plus Project Alternative Conditions

Intersection	LOS Standard	Scenario													
				2025 CIP Plus Project											
		No Project		Proposed Action "The Project"		Alternative #1 Reduced Footprint Increased Density		Alternative #2 Reduced Footprint Same Density		Alternative #3 Focused Avoidance		Alternative #4 Off-Site Alternative		Alternative #5 No Federal Action	
		LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
AM Peak Hour															
1. Pleasent Grove N & Riego	D	B	0.67	C	0.77	B	0.65	B	0.63	B	0.63	B	0.63	B	0.44
2. Pleasent Grove S & Riego	D	B	0.62	B	0.67	B	0.70	B	0.69	B	0.68	C	0.72	B	0.77
3. SR 99 NB Off Ramp & Riego Rd	D	A	0.36	A	0.41	A	0.43	A	0.42	A	0.42	A	0.45	A	0.37
4. SR 99 SB Off Ramp & Riego Rd	D	A	0.14	A	0.14	A	0.15	A	0.15	A	0.15	A	0.20	A	0.21
PM Peak Hour															
1. Pleasent Grove N & Riego	D	B	0.68	C	0.72	A	0.54	A	0.54	A	0.57	A	0.58	A	0.57
2. Pleasent Grove S & Riego	D	C	0.75	D	0.81	B	0.76	C	0.76	D	0.80	C	0.72	D	0.80
3. SR 99 NB Off Ramp & Riego Rd	D	A	0.35	A	0.37	A	0.37	A	0.37	A	0.39	A	0.40	A	0.39
4. SR 99 SB Off Ramp & Riego Rd	D	A	0.21	A	0.20	A	0.20	A	0.20	A	0.22	A	0.20	A	0.22

Note: **BOLD** Locations do not meet LOS Policy, **Shaded** Locations indicate LOS Impacts

Source: DKS Associates, 2010

Table 24
Level of Service at Sutter County Roadway Segments
2025 CIP Plus Project Alternative Conditions

Roadway Segment	LOS Standard	Lanes	Scenario													
					2025 CIP Plus Project											
			No Action		Proposed Action "The Project"		Alternative #1 Reduced Footprint Increased Density		Alternative #2 Reduced Footprint Same Density		Alternative #3 Focused Avoidance		Alternative #4 Off-Site Alternative		Alternative #5 No Federal Action	
			ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
Riego Rd E/O SR 70-99	D	4	**31,100**	**E**	**33,900**	**F**	**33,500**	**F**	**33,300**	**F**	**33,200**	**F**	**34,700**	**F**	**33,300**	**F**

Note: **BOLD** Locations do not meet LOS Policy, **Shaded** Locations indicate LOS Impacts

Source: DKS Associates, 2010

Table 25
Level of Service at Rocklin Roadway Segments
2025 CIP Plus Project Alternatives Scenario

Roadway Sergment	*LOS Standard*	*Lanes*	*No Project Conditions*		*2025 CIP Plus Project*											
					Proposed Action "The Project"		*Alternative #1 Reduced Footprint Increased Density*		*Alternative #2 Reduced Footprint Same Density*		*Alternative #3 Focused Avoidance*		*Alternative #4 Off-Site Alternative*		*Alternative #5 No Federal Action*	
			ADT	*LOS*	*ADT*	*LOS*	*ADT*	*LOS*	*ADT*	*LOS*	*ADT*	*LOS*	*ADT*	*LOS*	*ADT*	*LOS*
Lonetree Blvd north of Blue Oaks Blvd	D*	4	**35,400**	**E**	**35,900**	**E**	**35,800**	**E**	**35,700**	**E**	**35,700**	**E**	**35,500**	**E**	**35,800**	**E**
Blue Oaks Blvd at Roseville City Limit	D*	4	14,800	A	15,200	A	15,100	A	15,200	A	15,400	A	14,800	A	15,200	A
Pleasant Grove Blvd at Roseville City Limit	C	6	29,800	A	29,100	A	29,100	A	29,200	A	29,100	A	29,600	A	29,100	A
Stanford Ranch Rd at Roseville City Limit	C	6	28,600	A	29,100	A	29,100	A	29,000	A	29,100	A	28,700	A	29,100	A

Notes:* Within ½ Mile of Freeway Ramp

BOLD Locations Do Not Meet LOS Policy

Shaded Locations Indicate Significant LOS Impact

2025 CIP Plus Project Conditions – Sutter County

The Proposed Project would result in traffic volume increases on some Sutter County roadways. **Table 23** shows the projected a.m. and p.m. peak hour levels of service at Sutter County intersections in the vicinity of the Proposed Project under 2025 CIP Plus Project conditions, as well as the project alternatives.

Sutter County: AM Peak Hour Impacts

Table 23 shows that all study area intersections in Sutter County are projected to operate at acceptable levels with or without the proposed project or any of the project alternatives. As such, this impact is considered **less than significant**.

Sutter County: PM Peak Hour Impacts

Table 23 shows that all study area intersections in Sutter County are projected to operate at acceptable levels with or without the proposed project or any of the project alternatives. As such, this impact is considered **less than significant**.

Sutter County: Daily Impacts

Table 24 shows that the addition of the Proposed Project is projected to increase daily traffic on Riego Road east of SR 70/99 by about 2,800 daily vehicles, from 31,100 to 33,900 daily vehicles. This increase would result in a significant change in level of service, from LOS E to LOS F. This represents an increase of approximately 9%. All of the project alternatives would also result in LOS F, with increases ranging from 7% to 12%. The highest increase (12%) would take place with the off-site alternative, as it is located much closer to the county line than the proposed project or other project alternatives.

The widening of Riego Road to 6 lanes would improve the operation of this roadway segment to LOS C. Because this improvement is located within Sutter County, the County may determine the improvement to be infeasible. Should Sacramento County determine that the widening of Walerga to six lanes along this

segment is feasible, the City of Roseville shall negotiate in good faith to enter into fair and reasonable arrangements with the intention of achieving within a reasonable time period after approval of the Sierra Vista Specific Plan commitment for the provision of adequate fair share mitigation from the Specific Plan for impacts on Riego Road.

However, since the City of Roseville does not have control over improvements on Sutter County roadways, this impact is considered **significant and unavoidable**.

2025 CIP Plus Project Conditions – Rocklin

The Proposed Project would result in traffic volume increases on some Rocklin roadways. **Table 25** shows that the addition of the Proposed Project is projected to increase daily traffic on three of the four study segments; however these increases would not result in a significant change in level of service. No level of service changes are projected at these Rocklin locations with the addition of the Proposed Project under 2025 CIP conditions. As such, this impact is considered to be **less than significant**.

2025 CIP Plus Project Conditions – State Facilities

State Facilities: Peak Hour Intersection Impacts

The addition of the Proposed Project to 2025 CIP conditions would cause minor changes in traffic volumes at State highway interchanges providing access to the site. It should be noted that the project site is a number of miles from any State highway, so impacts to State highway facilities are minimal. **Table 26** shows the levels of service at area State highway interchange intersections with and without the proposed project and each alternative. The table shows that none of the intersections are projected to operate at worse than LOS E.

State Facilities: Daily Mainline Segment Impacts

Portions of I-80, SR 65, and SR 70/99 are projected to operate at LOS F and the addition of the Proposed Project and on-site alternatives would add some volume (less than one percent on I-80 and SR 65, and less than three percent on SR 70/99) to these already deficient facilities. **Table 27** shows the segments on

the state highway system that would be significantly impacted with the addition of the Proposed Project and its alternatives. The table shows that the impacts of the on-site alternatives are all similar to or slightly less than the impacts of the Proposed Project. The off-site alternative results in greater impacts to the state highway system. Increases on SR 70/99 are greater and different segments of I-80 and SR 65 are impacted.

Because Caltrans considers any increase in volume on an already deficient facility an in impact, this represents a **significant** impact.

No specific improvements have been identified to mitigate project impacts on I-80 and SR 65; however, the City is willing to work with Caltrans & the Placer County Transportation Planning Agency (PCTPA) to establish a regional approach to institute a fee program for the purpose of funding improvements on these facilities. If and when Caltrans and the City enter into an enforceable agreement, the Project shall pay impact fees to the City of Roseville in amounts that constitute the Project's fair share contributions to the construction of transportation facilities and/or improvements, consistent with the Mitigation Fee Act (Gov. Code, § 66000 et seq.).

The City recognizes the magnitude of the projected growth in Placer County, its resulting increase in travel demand, and the need for a cooperative approach to plan, fund and implement transportation improvements to accommodate that growth, including improvements to the State Highway System in Placer County.

The City is working with the Placer County Transportation Planning Agency (PCTPA), the South Placer Regional Transportation Authority (SPRTA) and their member jurisdictions to develop a strategic "Transportation Expenditure Plan" that includes funding for improvements for State highways in Placer County. The Expenditure Plan includes a number of critical transportation projects and programs including construction of the Placer Parkway, improvements to I-80 and SR 65, and construction of SR 65 Lincoln Bypass.

The proposed funding components for the Expenditure Plan are as follows:

- Additional development fees
  - Tier 2 Fee for construction of Placer Parkway
  - Transportation Uniform Mitigation Fee

- Transportation sales tax
- Existing and future State and Federal funds

The Tier 2 fees for Placer Parkway have been adopted in Roseville, Rocklin, Lincoln and Placer County and will be applied to all new growth areas. The Sierra Vista Specific Plan will be required to participate in this fee program. In addition, the Sierra Vista Plan area will be required to participate in the South Placer Regional Transportation Authority Fee Program (SPRTA) and the Highway 65 Joint Powers Authority to fund improvements along Highway 65. The additional development fees will need to be adopted by each of the jurisdictions in South Placer County. The City supports implementation of the Transportation Expenditure Plan to fund regional improvements in South Placer County. The City will support Caltrans and regional agencies in efforts to:

- Secure as much Federal and State funding for improvements to the State Highway System as possible, including funds for the transportation bond measure approved by the voters in 2006.

- Establish impact fees so that development throughout South Placer County pays their fair share of the unfunded cost of regional improvements, including improvements to SR 65

Funding currently exists for the construction of interchanges on SR 70/99 at Riego Road and Elverta Road. Caltrans has identified funding for the entire Elverta Road interchange and for the first phase of the Riego Road interchange. Funding also has been identified for the reconstruction of the Feather River crossing, well to the north of the proposed project on State Route 99. Funding has not been identified for any mainline improvements or additional auxiliary lanes on State Route 99 in the vicinity of the Proposed Project north and south of Riego Road. As with Interstate 80 and State Route 99, the Proposed Project would be required to participate in any fee program developed to provide mainline improvements in the State Route 99 corridor in the vicinity of Riego Road.

Because the City of Roseville does not have jurisdiction over State Highway facilities, this impact is considered **significant and unavoidable**.

Table 26
Level of Service at State Highway Ramp Intersections
2025 CIP Plus Project Alternative Conditions

Intersection	LOS Standard	Scenario: No Project		Scenario: 2025 CIP Plus Project — Proposed Action "The Project"		Alternative #1 Reduced Footprint Increased Density		Alternative #2 Reduced Footprint Same Density		Alternative #3 Focused Avoidance		Alternative #4 Off-Site Alternative		Alternative #5 No Federal Action	
		LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
AM Peak Hour															
SR 65 N/B Off & Blue Oaks Blvd	E	A	0.57	A	0.57	A	0.57	A	0.57	A	0.57	B	0.57	A	0.57
Washington Blvd & Blue Oaks Blvd	E	A	0.49	A	0.48	A	0.48	A	0.48	A	0.48	B	0.48	A	0.48
I-80 WB Off & Douglas Blvd	E	C	0.70	C	0.70	B	0.69	C	0.70	C	0.70	C	0.70	C	0.70
I-80 WB On & Atlantic St	E	A	0.42	A	0.42	A	0.42	A	0.42	A	0.42	A	0.42	A	0.42
SR 65 N/B Off & Pleasant Grove Blvd	E	A	0.54	A	0.54	A	0.54	A	0.54	A	0.54	C	0.54	A	0.54
SR 65 S/B Off & Pleasant Grove Blvd	E	A	0.44	A	0.43	A	0.43	A	0.44	A	0.44	C	0.44	A	0.44
I-80 WB Off & Riverside Ave	E	C	0.73	C	0.72	C	0.72	C	0.72	C	0.73	B	0.72	C	0.73
Stanford Ranch & Sr-65 N/B On	E	A	0.53	A	0.53	A	0.53	A	0.53	A	0.53	D	0.53	A	0.53
Stanford Ranch/Galleria & Sr-65 S/B On	E	A	0.44	A	0.44	A	0.44	A	0.44	A	0.43	D	0.44	A	0.43
Taylor & Eureka I-80 EB Off	E	D	0.82	D	0.83	D	0.83	D	0.83	D	0.83	E	0.83	D	0.83
I-80 EB Off/Orlando & Riverside Ave	E	C	0.77	C	0.77	C	0.76	C	0.77	C	0.77	D	0.77	C	0.77
SR 99 NB Off Ramp & Riego Rd	E	A	0.36	A	0.41	A	0.43	A	0.42	A	0.42	A	0.42	A	0.42
SR 99 SB Off Ramp & Riego Rd	E	A	0.14	A	0.14	A	0.15	A	0.15	A	0.15	A	0.15	A	0.15
PM Peak Hour															
SR 65 N/B Off & Blue Oaks Blvd	E	B	0.64	B	0.66	B	0.66	B	0.65	B	0.65	B	0.66	B	0.66
Washington Blvd & Blue Oaks Blvd	E	B	0.63	B	0.65	B	0.65	B	0.65	B	0.65	B	0.65	B	0.65
I-80 WB Off & Douglas Blvd	E	C	0.78	C	0.78	C	0.79	C	0.78	C	0.78	C	0.78	C	0.79
I-80 WB On & Atlantic St	E	A	0.56	A	0.56	A	0.56	A	0.56	A	0.57	A	0.56	A	0.56
SR 65 N/B Off & Pleasant Grove Blvd	E	C	0.74	C	0.74	C	0.74	C	0.74	C	0.74	C	0.74	C	0.74
SR 65 S/B Off & Pleasant Grove Blvd	E	C	0.72	C	0.72	C	0.72	C	0.72	C	0.72	C	0.72	C	0.72
I-80 WB Off & Riverside Ave	E	B	0.63	B	0.63	B	0.63	B	0.63	B	0.63	B	0.63	B	0.63
Stanford Ranch & Sr-65 N/B On	E	D	0.85	D	0.86	D	0.86	D	0.85	D	0.85	D	0.85	D	0.86
Stanford Ranch/Galleria & Sr-65 S/B On	E	D	0.82	D	0.82	D	0.82	D	0.82	D	0.82	D	0.82	D	0.82
Taylor & Eureka I-80 EB Off	E	E	0.96	E	0.96	E	0.96	E	0.96	E	0.96	E	0.97	E	0.96
I-80 EB Off/Orlando & Riverside Ave	E	D	0.89	D	0.89	D	0.90	D	0.89	D	0.89	D	0.90	D	0.90
SR 99 NB Off Ramp & Riego Rd	E	A	0.35	A	0.37	A	0.37	A	0.37	A	0.37	A	0.39	A	0.39
SR 99 SB Off Ramp & Riego Rd	E	A	0.21	A	0.20	A	0.20	A	0.20	A	0.21	A	0.22	A	0.22

Note: BOLD Locations do not meet LOS C Policy (p.m. peak hour only)
a.m. LOS for informational purposes only

Table 27
Average Daily Traffic Volumes and LOS on State Highways
2025 CIP Plus Project Alternatives

					2025 CIP Plus Project											
			No Build		Proposed Action "The Project"		Alternative #1 Reduced Footprint Increased Density		Alternative #2 Reduced Footprint Same Density		Alternative #3 Focused Avoidance		Alternative #4 Off-Site Alternative		Alternative #5 No Federal Action	
Facility	Segment	Lanes	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS	ADT	LOS
I-80	Sacramento County line to Riverside Ave	8	**216,300**	**F**	**216,500** 0.09%	**F**	**216,100**	**F**	**216,100**	**F**	**216,200**	**F**	**217,000** 0.32%	**F**	**216,200**	**F**
	Riverside Avenue to Douglas Blvd	6	**190,300**	**F**	**190,400** 0.05%	**F**	**190,200**	**F**	**190,200**	**F**	**190,200**	**F**	**190,700** 0.21%	**F**	**190,200**	**F**
	Douglas Blvd to Eureka Rd	6	**188,500**	**F**	**188,500**	**F**	**188,300**	**F**	**188,200**	**F**	**188,200**	**F**	**188,800** 0.16%	**F**	**188,300**	**F**
	Eureka Rd to Taylor Rd	8	**203,700**	**F**	**202,900**	**F**	**202,800**	**F**	**202,700**	**F**	**202,800**	**F**	**204,200** 0.25%	**F**	**202,800**	**F**
	Taylor Rd to SR 65	8	**192,400**	**F**	**191,500**	**F**	**191,500**	**F**	**191,300**	**F**	**191,400**	**F**	**192,800** 0.21%	**F**	**191,400**	**F**
SR 65	I-80 to Galleria Blvd	6	**135,700**	**F**	**136,500** 0.59%	**F**	**136,300** 0.44%	**F**	**136,300** 0.44%	**F**	**136,400** 0.52%	**F**	**136,100** 0.29%	**F**	**136,400** 0.52%	**F**
	Galleria Blvd to Pleasant Grove Blvd	6	**138,500**	**F**	**139,000** 0.36%	**F**	**139,100** 0.43%	**F**	**139,000** 0.36%	**F**	**139,000** 0.36%	**F**	**138,800** 0.22%	**F**	**139,100** 0.43%	**F**
	Pleasant Grove Blvd to Blue Oaks Blvd	6	**129,200**	**F**	**128,700**	**F**	**128,900**	**F**	**128,800**	**F**	**128,800**	**F**	**129,500** 0.23%	**F**	**128,800**	**F**
	Blue Oaks Blvd to Sunset Blvd	4	**123,900**	**F**	**124,200** 0.24%	**F**	**124,100** 0.16%	**F**	**124,100** 0.16%	**F**	**124,000** 0.08%	**F**	**123,900**	**F**	**124,100** 0.16%	**F**
SR 70/99	Sankey Rd to Riego Rd	4	60,300	C	60,500	C	60,500	C	60,500	C	60,500	C	60,900	C	60,500	C
	Riego Rd to Elverta Rd	4	**86,000**	**F**	**88,700** 3.14%	**F**	**88,400** 2.79%	**F**	**88,000** 2.33%	**F**	**88,100** 2.44%	**F**	**90,100** 4.77%	**F**	**88,100** 2.44%	**F**
	Elverta Rd to Elkhorn Blvd	4	**85,100**	**F**	**87,600** 2.94%	**F**	**87,400** 2.70%	**F**	**87,000** 2.23%	**F**	**87,100** 2.35%	**F**	**88,500** 4.00%	**F**	**87,100** 2.35%	**F**

Notes:

Roadway segment levels of service (LOS) are based on roadway capacities and LOS criteria in Table x

Highway segments operating at LOS F are **BOLD**.

Impacts are **Shaded**

Volumes Exclude Carpool Lanes

Transit Impacts

With its additional residential and non-residential land uses, the proposed project and alternatives would increase demand for transit within the City of Roseville and neighboring jurisdictions. Traditionally, Roseville Transit has been funded primarily by local Transportation Development Act (TDA) funding sources, which are derived from a statewide one-quarter cent sales tax. Secondary and tertiary historical funding sources have been Federal Transit Administration (FTA) funds and local transit fares. General funds have not historically been used to support Roseville Transit and would not be expected to be used to support transit services for the CSP. As TDA revenues rise or fall during various economic conditions, transit services are expected to reflect the amount of funding available versus the unmet needs which are evaluated annually by the Placer County Transportation Planning Agency (PCTPA). Currently, Roseville Transit is facing reduced revenues and is making adjustments to reduce its services to align itself with increased costs and reduced revenues. Accordingly, if TDA revenues increase in the years ahead, Roseville Transit will have an opportunity to expand its services to best meet the unmet transit needs within the City of Roseville, which may include the new Creekview Specific Plan area. At a minimum, the current policy is to provide DAR services citywide. Thus, DAR services would provide a minimum level of transit services to the CSP upon development under the City's current policies."

The addition of residential units and commercial square footage would increase the demand for transit within the City of Roseville. There are currently no Roseville Transit routes directly serving the project site. Transit needs within the Proposed Project would not be met by current transit lines. This would result in a potentially significant impact on transit demand.

As mitigation, the project would be required to develop transit stops at key arterial intersections and at other locations as determined by the Public Works Director, in accordance with the City's Improvement Standards. Roseville Transit shall provide transit services in accordance with the SRTP and LRTP as funding allows. Although the Roseville Transit System is currently facing funding problems, the requirement that the Project develop transit stops at key arterial intersections and other locations determined by Public Works will be sufficient to allow service to be extended to the Project area. Notably, nothing about the inclusion of such transit stops will worsen the current funding problems of the Roseville Transit system, which should improve as the national and regional economies recover from the recent recession. Because development in the Project area is not expected to occur to any significant degree until economic conditions improve, the City expects system revenues to increase as demand for

transit service in the Project area arises. For these reasons, the proposed mitigation would reduce impacts to a **less than significant** level.

Bicycle System Impacts

With its additional residential and non-residential land uses, the proposed project and alternatives would increase demand for bicycle facilities within the City of Roseville and neighboring jurisdictions. The Proposed Project would result in demand for safe and convenient pedestrian/bicycle facilities by residents and employees of the site for primarily transportation-related purposes. The SVSP project proposal includes Class I trails, Class II bike lanes and the Class IA facilities (paseos, etc.). These are connected within the project and to the existing City bikeway system. The Class II bike lanes for collectors have been modified to accommodate slower vehicular speeds and narrower street sections; this is a deviation from current City of Roseville Design/Construction Standards. However, they do comply with the minimum requirements of the Highway Design Manual. Thus, this impact is considered to be **less than significant**.