United States Army Corps of Engineers

PLACER VINEYARDS SPECIFIC PLAN

Draft Environmental Impact Statement

USACE Action ID: SPK-1999-00737

Volume I

U.S. Army Corps of Engineers
Sacramento District
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DRAFT ENVIRONMENTAL IMPACT STATEMENT

Placer Vineyards Specific Plan

USACE Action ID: SPK-1999-00737

Volume I

Prepared for:

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Draft Environmental Impact Statement
Placer Vineyards Specific Plan
Placer County, California

USACE Action ID: **SPK-1999-00737**

Lead Agencies:
NEPA Lead Agency: U.S. Army Corps of Engineers (USACE), Sacramento District

NEPA Cooperating Agencies:
U.S. Environmental Protection Agency, Region IX

ABSTRACT

This Draft Environmental Impact Statement (Draft EIS) analyzes the potential effects of authorizing, via Department of the Army (DA) permits, the discharge of dredged or fill material into Waters of the United States, for the development of a 5,230-acre (2,117-hectare) project site in western Placer County under the Placer Vineyards Specific Plan (PVSP). The site includes 3,746 acres (1,516 hectares) of property for which 22 DA permit applications have been submitted along with a DA permit application for the development of backbone infrastructure that involves about 35 acres (14 hectares). The owners of the remaining properties (comprising 505 acres [204 hectares] within the PVSP site outside of the Special Planning Area [SPA] and 979 acres [396 hectares] within the SPA) are not applying for DA permits at this time.

The Proposed Action encompasses two possible scenarios that represent the potential low-end and high-end of the range of development densities that could be developed on the project site: the "Base Plan scenario" and "Blueprint scenario." The development footprint under both scenarios would be the same, though the land use designations and acreages under the various land uses would differ. The "Base Plan" scenario includes: 3,361 acres (1,360 hectares) of residential uses totaling 14,132 single- and multi-family residential units at buildout, 309 acres (125 hectares) of commercial and office uses, 309 acres (125 hectares) of public/quasi-public uses such as schools, 211 acres (85 hectares) of parks, 709 acres (287 hectares) of open space, and 331 acres (134 hectares) of roadways. The "Blueprint" scenario includes: 3,220 acres (1,303 hectares) of residential uses totaling 21,631 single- and multi-family residential units at buildout, 342 acres (138 hectares) of commercial and office uses, 366 acres (148 hectares) of public/quasi-public uses such as schools, 273 acres (110 hectares) of parks, 709 acres (287 hectares) of open space, and 321 acres (130 hectares) of roadways.

Development of the project site under the Proposed Action would fill approximately 119.3 acres (48.2 hectares) of wetlands and other jurisdictional waters of the United States as defined by the federal Clean Water Act (CWA). Of this total, development authorized by the 23 DA permits would fill about 104.0 acres. This discharge of fill material requires approval from the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the CWA, under which the USACE issues or denies DA permits for activities involving a discharge of dredged or fill materials into the waters of the United States, including

wetlands. The USACE intends to adopt this document to satisfy the requirements of the National Environmental Policy Act (NEPA).

This Draft EIS is prepared in compliance with NEPA, the Council on Environmental Quality's Regulations for Implementing NEPA, and USACE NEPA Regulations. Consistent with NEPA requirements, this Draft EIS evaluates the direct, indirect, and cumulative impacts on the environment that would result from the Proposed Action and a number of alternatives.

This Draft EIS is available for public review and comment for 45 days from the date of publication of the Notice of Availability in the Federal Register. An electronic version of the Draft EIS can be found on the Internet at http://www.spk.usace.army.mil/Missions/Regulatory/Permitting/EnvironmentalImpactStatements.aspx.

Please submit comments on this document by including the USACE Action ID above and sending it via mail or electronic mail to:

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EXECUTIVE SUMMARY

ES.1 PURPOSE OF THIS DOCUMENT

This Environmental Impact Statement (EIS) has been prepared pursuant to the National Environmental Policy Act (NEPA) to analyze and disclose the environmental effects of the development of approximately 5,230 acres (2,117 hectares) in western Placer County under the Placer Vineyards Specific Plan (PVSP).

Development under the proposed PVSP, if authorized, would fill approximately 119.2 acres (43.24 hectares) of wetlands and other jurisdictional waters of the United States. This discharge of fill material requires approval pursuant to Section 404 of the federal Clean Water Act, under which the U.S. Army Corps of Engineers (USACE) issues or denies Department of the Army (DA) permits for activities involving a discharge of dredged or fill materials into the waters of the United States, including wetlands.

The project proponents/applicants are seeking DA permits from the USACE under Section 404 of the Clean Water Act (33 USC §1344). The USACE has received 22 permit applications to develop up to 3,746 acres (1,516 hectares) of land within the PVSP area and an application for the development of backbone infrastructure. The owners of the remaining properties (comprising 505 acres [204 hectares] within the PVSP area outside of the Special Planning Area [SPA] and 979 acres [396 hectares] within the SPA) are not applying for DA permits at this time. However, for reasons presented in **Chapter 1.0**, for purposes of this EIS, the Proposed Action encompasses the development of the entire PVSP site consistent with the footprint of the County-approved PVSP.

The USACE's general regulatory policies and approach are defined in 33 CFR Parts 320-325 and 332. In its regulatory capacity, the USACE is neither a proponent nor an opponent of projects seeking federal approvals; rather, as identified in 33 CFR § 320.1[a][1], USACE conducts a "public interest review" that seeks to balance a proposed action's favorable impacts against its detrimental impacts. Additionally, as identified in 33 CFR §325.2[a][6], the USACE is also required to review actions in accordance with guidelines developed by the U.S. Environmental Protection Agency (USEPA) under Section 404(b)(1) of the Clean Water Act (33 USC §1344(b)(1)) (hereinafter "404(b)(1) Guidelines"). The USACE's permit review and decision making triggers a requirement for environmental review under NEPA. The USACE has determined that the DA permit decision for the proposed development within the PVSP site constitutes a "major federal action significantly affecting the quality of the human environment," requiring the preparation of an EIS.

The USACE's permit action under Section 404 of the Clean Water Act is the proposed federal action analyzed in this EIS. As PVSP implementation is a reasonably foreseeable outcome of federal permit approval, this EIS analyzes the environmental effects of full buildout of the project site under the PVSP, and for brevity, the PVSP as proposed by the applicants is referred to as the Proposed Action throughout this EIS. The USACE is the federal lead agency under NEPA for the Proposed Action.

ES.2 PURPOSE AND NEED FOR ACTION

The USACE has determined that the purpose of the Proposed Action is to construct a large-scale, regional mixed-use residential project in western Placer County.

The project is proposed as a large-scale residential community because the primary purpose of the project is to accommodate projected population growth in Placer County and provide a coordinated development envelope consisting of residential, commercial, recreational, public/quasi-public land uses, required infrastructure, and open space to accommodate a population range of approximately 30,000 to 50,000 persons. The project is intended to assist in meeting the region's future needs for residential opportunities through comprehensive planning.

The project is proposed as a mixed-use community with adequate employment-generating non-residential uses in order to provide a balance of jobs, housing, and other amenities. The commercial component of this community is important and necessary so that the County has sufficient tax revenues to provide services to the project. A large-scale residential-only development would not be fiscally sustainable because the tax revenue from property taxes alone would be insufficient to provide the needed County services. This is especially the case for the project site and its vicinity in western Placer County where a high proportion of the property tax revenues go to the local school district and the County share is relatively small. In addition, there are no nearby existing retail centers to serve the PVSP area, so early development of a commercial center is important from a service standpoint as well as for fiscal reasons.

Placer County has identified this area for urban development. This was based on a number of important planning factors, including that (1) the cities and areas surrounding the Specific Plan area are experiencing rapid growth in jobs, creating the need for additional housing in southwestern Placer County; (2) the area is contiguous to existing urban development to the south (Sacramento County) and new development to the north (Roseville); (3) the region is planning improvements to the transportation network that could accommodate the level of growth associated with the Specific Plan; and (4) the Specific Plan area is better suited to concentrated new growth than other locations, as it would create less sprawl. For purposes of this EIS, western Placer County is defined as the portion of Placer County west of Interstate 80 (I-80) and State Route 65 (SR 65).

ES.3 PROPOSED ACTION AND ALTERNATIVES

The Proposed Action would implement the PVSP, which is a proposed specific plan project that includes development of the 5,230 acres (2,117 hectares) site with a mix of land uses. The Proposed Action encompasses two possible scenarios that represent the potential low-end and high-end of the range of development densities that could be developed on the project site: the "Base Plan scenario" and "Blueprint scenario." The development footprint under both scenarios would be the same, though the land use designations and acreages would differ. Under the Proposed Action - Base Plan scenario, the community would include about 3,361 acres (1,360 hectares) of residential uses, 309 acres (125 hectares) of commercial and office uses, 309 acres (125 hectares) of public/quasi-public uses (such as schools), 211 acres (85 hectares) of parks, 709 acres (287 hectares) of open space, and 331.5 acres (134 hectares) of

major roadways. Under the Proposed Action - Blueprint scenario, the community would include about 3,220 acres (1,303 hectares) of residential uses, 342 acres (138 hectares) of commercial and office uses, 366 acres (148 hectares) of public/quasi-public uses (such as schools), 273 acres (110 hectares) of parks, 709 acres (287 hectares) of open space, and 321 acres (130 hectares) of major roadways.

In addition to the Proposed Action, this EIS evaluates a No Action Alternative and five other on-site alternatives (Alternatives 1 through 5 individually or combined). All of the alternatives would also develop a similar large-scale, mixed-use, mixed-density, master-planned residential community on the project site. Under the No Action Alternative, the project site would be developed in a manner that avoids activities in jurisdictional waters of the United States, including wetlands, thereby avoiding the need for the USACE approvals under Section 404 of the Clean Water Act. Alternatives 1 through 5 individually or combined would place additional amounts of acreage in open space, ranging from a minimum of 1 additional acre (0.4 hectare) greater than the Proposed Action under Alternative 4 up to a maximum of 47 additional acres (19 hectares) under Alternative 3.

In addition to on-site development, off-site potable water, recycled water, and sewer infrastructure improvements would be required to serve the Proposed Action and all alternatives.

Table ES-1, Proposed Action and Alternatives – Acreages by Land Use, presents the key attributes of the Proposed Action and the alternatives and the potential impacts to the waters of the U.S. anticipated to result from the development of the Proposed Action and alternatives.

Table ES-1
Proposed Action and Alternatives – Acreages by Land Use

Alternative	Development Footprint (in acres)	Residential Development (in acres)	Residential Units at Buildout	Other Development (in acres)	Open Space (in acres)	Potential Direct Impacts on Aquatic Resources*
Proposed Action – Base Plan	4,522	3,361	14,132	Commercial – 309	709	119.3
				Public Uses – 309		
				Parks – 211		
				Roads – 332		
Proposed Action - Blueprint	4,522	3,220	21,634	Commercial – 342	709	119.3
				Public Uses – 366		
				Parks – 273		
				Roads – 321		
No Action Alternative	3,297	2,410	8,441	Commercial – 221	1,933	0
				Public Uses – 211		
				Parks – 124		
				Roads – 332		

Alternative	Development Footprint (in acres)	Residential Development (in acres)	Residential Units at Buildout	Other Development (in acres)	Open Space (in acres)	Potential Direct Impacts on Aquatic Resources*
Combined Alternatives 1 through 5	4,431	3,267	14,132***	Commercial – 340	799	106.4
				Public Uses – 293		
				Parks – 200		
				Roads – 330		
Alternative 1	4,504	3,357	14,132***	Commercial – 310	726	115.1
				Public Uses – 301		
				Parks – 210		
				Roads – 329		
Alternative 2	4,516	3,328	14,132***	Commercial – 340	714	116.4
				Public Uses – 307		
				Parks – 207		
				Roads – 335		
Alternative 3	4,473	3,322	14,132***	Commercial – 309	757	114.3
				Public Uses – 304		
				Parks – 208		
				Roads – 332		
Alternative 4**	4,520	3,361	14,132***	Commercial – 309	711	119.1
				Public Uses – 309		
				Parks – 211		
				Roads – 332		
Alternative 5	4,502	3,345	14,132***	Commercial – 309	728	117.2
				Public Uses – 309		
				Parks – 208		
				Roads – 331		

* *Direct impacts from all development on properties with active DA permit applications and within the Special Planning Area. An estimated 4.2 acres of direct impact expected to result from off-site infrastructure development is included in the reported values.*

** *Implementation of Alternative 4 would be contingent upon implementation of Alternative 3. Therefore, impact value reported for Alternative 4 is inclusive of impact value reported for Alternative 3, above.*

****The number of units that would be built under Alternatives 1 through 5 would be the same as the Proposed Action. This is because to the extent that the number of units to be built on a property is reduced due to the revised footprint, the same number of units would be built on another property by increasing the density, so that the total number of units for the PVSP as a whole would still remain 14,132 (or 21,634 units if Alternatives 1 through 5 are combined with the Blueprint scenario).*

ES.3.1 Major Conclusions of the Environmental Analysis

Summary of Environmental Effects and Mitigation Measures

The environmental effects of the No Action Alternative, Proposed Action, and Alternatives 1 through 5 are summarized in **Table ES-2, Summary of Effects for Major Topics**. A full discussion of the environmental effects is provided in **Chapter 3.0, Affected Environment and Environmental**

Consequences. The basis of the impact conclusions summarized in the table are regulatory thresholds for those resource topics for which such thresholds exist, and qualitative thresholds for other resource topics. The significance thresholds are described for each topic in **Chapter 3.0.**

Significant Effects That Cannot Be Mitigated

The No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) would have several significant effects that cannot be mitigated, as described below.

Aesthetics

The visual resource analysis in this EIS evaluates the effects of the proposed development in terms of loss of scenic views and alterations to the visual character of the area. The project site is characterized by gently rolling topography and large, open annual grassland areas. Views of the project site, the Sierra foothills, and the Sierra Nevada are available from the roadways that border and pass through the site, including Baseline Road, Walerga Road, and Watt Avenue.

With the implementation of the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined), the project site would be developed with a variety of urban uses and views of open rangeland and the foothills and Sierra Nevada would no longer be available from Baseline Road, Walerga Road, and Watt Avenue. In addition to loss of views, the conversion of undeveloped rangeland to urban development under all of these alternatives would significantly modify the visual character of the project site.

No feasible mitigation is available to address these visual effects of the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) on scenic vistas and visual character of the project area.

The construction and operation of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which may be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined), would result in less than significant effects to aesthetics with implementation of mitigation. However, the USACE does not have the authority to impose mitigation measures on PCWA's project and the impact would remain significant.

Agricultural Resources

The agricultural resource assessment evaluates the potential for the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) to directly or indirectly convert Important Farmland to non-agricultural uses. The alternatives would result in a significant impact related to the conversion of agricultural land to non-agricultural uses and would be a significant effect. Mitigation is proposed that would partially mitigate this effect but not to a less than significant level.

Air Quality

The air quality assessment addresses the effects of the construction- and operation-related emissions of the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) on the regional and local air quality.

The U.S. EPA and California Air Resources Board designate air basins or portions of air basins as being in "attainment" or "nonattainment" for each of the criteria pollutants. Nonattainment areas are ranked (marginal, moderate, serious, severe, or extreme) according to the degree of nonattainment. The Placer County portion of Sacramento Valley Air Basin is designated nonattainment for ozone, particulate matter 10 microns in diameter or less (PM10), and particulate matter 2.5 microns in diameter or less (PM2.5).

Construction associated with the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) would result in emissions of reactive organic gases (ROG) and nitrogen oxide (NOx) which are ozone precursors, and PM10 emissions. The construction emissions under the Proposed Action and all of the alternatives would exceed Placer County Air Pollution Control District (PCAPCD) significance thresholds. Therefore, the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) would have a significant effect on air quality in the air basin. Mitigation would partially mitigate this effect but not to a less than significant level.

Operational emissions of ROG, NOx, carbon monoxide (CO), and PM10 from buildout of the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) are also estimated to exceed PCAPCD significance thresholds for these pollutants, and would have a significant effect on air quality in the air basin. Mitigation would partially mitigate this effect but not to a less than significant level.

The construction activities associated with the off-site water pipeline infrastructure that would be built by the PCWA to serve the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (singly or combined), would result in exhaust emissions, primarily NOx, and fugitive dust. Given the nonattainment status of the Air Basin with respect to ozone and particulate matter, the USACE conservatively assumes that the emissions would result in a significant impact. Standard construction-phase mitigation measures would partially mitigate this effect but not to a less than significant level.

Biological Resources

The biological resource assessment evaluates the potential for construction and operation of the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) to directly or indirectly affect the biological resources present on the project site and in the area of the off-site infrastructure improvements, including impacts to the waters of the U.S., special status invertebrates, other wildlife, riparian habitat, and plant species. The Proposed Action and Alternatives 1 through 5 individually or combined will result in the filling of the waters of the U.S. with impacts ranging between 106.4 and 119.3 acres depending on alternative. Because the mitigation strategy put forth by the Applicants is conceptual and a detailed plan has not been submitted to the USACE pursuant to the mitigation measure in this EIS, the USACE cannot fully evaluate the effectiveness of the mitigation

strategy to reduce the impact of the Proposed Action and Alternatives 1 through 5 (singly or combined) on the waters of the U.S. to less than significant, and has therefore concluded that the effect would remain potentially significant.

Climate Change

The evaluation of climate change effects in this EIS presents the greenhouse gas (GHGs) emissions associated with the construction and operation of the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined). The impact from construction emissions of GHGs associated with all of the alternatives would be significant. Mitigation would partially mitigate this effect but not to a less than significant level.

Similarly, the impact associated with the operational GHG emissions for the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) would be significant. Mitigation would partially mitigate this effect but not to a less than significant level.

Geology, Soils, and Minerals

The construction and operation of off-site water pipeline infrastructure by the PCWA which may be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined), would result in less than significant effects associated with geology, soils, and minerals with implementation of mitigation. However, the USACE does not have the authority to impose mitigation measures on PCWA's project and the impact would remain significant.

Hazards and Hazardous Materials

The construction and operation of off-site water pipeline infrastructure by the PCWA which may be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined), would result in less than significant effects associated with hazards and hazardous materials with implementation of mitigation. However, the USACE does not have the authority to impose mitigation measures on PCWA's project and the impact would remain significant.

Hydrology and Water Quality

The hydrology and water quality assessment evaluates the potential for the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) to result in on-site and off-site flooding and water quality effects. The water bodies that could be affected include Curry Creek, Dry Creek, and Steelhead Creek.

Due to a lack of flood control improvements, only the No Action Alternative would result in a significant impact related to the flood capacity of the on-site drainages. Mitigation would partially mitigate this effect but not to a less than significant level.

The construction and operation of off-site water pipeline infrastructure by the PCWA which may be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined), would result in less than significant effects to hydrology and water quality with implementation of

mitigation. However, the USACE does not have the authority to impose mitigation measures on PCWA's project and the impact would remain significant.

Land Use

The land use assessment addresses the potential for the Proposed Action or an alternative to conflict with adopted local plans. The project site is located in unincorporated Placer County. The applicable plans are the Placer County General Plan and the Sacramento Area Council of Governments (SACOG) Blueprint plan.

Implementation of the No Action Alternative, Proposed Action Base Plan scenario, and Alternatives 1 through 5 (individually or combined) would conflict with the SACOG Blueprint plan due to a lower provision of housing units. This conflict is a significant effect. No feasible mitigation is available to address this effect.

Noise

The construction of off-site water pipeline infrastructure by the PCWA which may be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (singly or combined), would result in less than significant noise effects with implementation of mitigation. However, the USACE does not have the authority to impose mitigation measures on PCWA's project and the impact would remain significant.

Transportation and Traffic

Traffic associated with the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) would result in effects to intersections and roadways in Placer County, Sacramento County, Sutter County, and Roseville. These effects would be significant. Mitigation is available that would require that the proposed development pay its fair share of the cost of necessary improvements to the affected intersections and roadway segments by paying traffic impact fees to the applicable jurisdictions. However, the mitigation would not reduce effects to all roadways and intersections. In addition, USACE does not have jurisdiction over the required improvements to Sacramento County, Sutter County, and Roseville roadways. Therefore, these effects would remain significant.

Traffic from the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) would result in significant effects to certain segments of Interstate 80, SR 65, and SR 70/99 which would already be deficient without the traffic added by the Proposed Action and alternatives in 2025. Mitigation would reduce effects on affected state highway segments. However, the USACE does not have control over the required improvements to state highway facilities and there is no guarantee that improvements would be built within the timeframe of any of the alternatives. Therefore, the effects would remain significant.

Utilities and Service Systems

The utilities analysis evaluated whether the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) would result in a demand for utilities or service systems such that the existing facilities would not have adequate capacity to serve the Proposed Action or an alternative as well as the projected buildout of the surrounding area, and substantial expansion of the service facilities would be required.

As the analysis shows, the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) would not have an adequate supply of recycled water to meet demand. This is a significant effect and no mitigation is available. In addition, implementation of all of the alternatives would significantly affect the Materials Recovery Facility (MRF) and the regional landfill. Mitigation, which includes a fair share payment toward the expansion of the MRF and regional landfill, would partially mitigate this effect but not to a less than significant level.

Cumulative Effects of the Proposed Action and Alternatives

The following significant cumulative effects are associated with the Proposed Action and alternatives.

Aesthetics

The No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) would have a substantial adverse effect on scenic vistas and the visual character of the project vicinity by altering views of open rangeland, foothills, and Sierra Nevada, and by converting undeveloped rangeland to urban development as viewed from Walerga Road, Watt Avenue, and Baseline Roads. Development of both the project site and the Sierra Vista Specific Plan area to the north of the project site would permanently alter the visual character of the area, both under daytime conditions and at night. The Proposed Action and Sierra Vista Specific Plan development would also introduce new sources of light and glare. This would be a significant cumulative aesthetics effect. No feasible mitigation measures are available to fully address the cumulative effect.

Agricultural Resources

The project site contains 2,300 acres (931 hectares) that are designated as Important Farmland. The No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined), in conjunction with other present and foreseeable future projects, would result in the conversion of Important farmland to non-agricultural uses. The Proposed Action and alternatives would implement **PVSP EIR Mitigation Measure 4.4-1a** which would reduce the contribution to the cumulative loss of agricultural land. However, because Important Farmland would be converted, its contribution to the significant cumulative effect would not be fully mitigated.

Air Quality

The project site is located in an area that is designated non-attainment for ozone, PM10, and PM2.5. As noted above, operational emissions from buildout of the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) are estimated to exceed Air District thresholds for ROG and NOx (ozone precursors), and PM10.

In order to bring the region into compliance with state and federal air pollutant standards, air districts use General Plans and similar planning documents to determine where and how future growth will occur within the region. When development occurs that is not consistent with the intensity of development presented in a General Plan or if it was not previously accounted for, it is assumed that the emissions associated with that development are unaccounted for in the State Implementation Plan, which could hinder the region's ability to achieve compliance with state and federal air pollutant standards. The Proposed Action is consistent with the Placer County General Plan and therefore its emissions have been accounted for in the local air quality plans and in the SIP. As the No Action Alternative and Alternatives 1 through 5 (individually or combined) would develop a large-scale community that is similar to or smaller in size than the Proposed Action, the emissions from the alternatives are also within the emissions budget of the local air district and in the SIP. Because the Proposed Action Blueprint scenario is not consistent with the General Plan, it would result in emissions that would exceed the budgeted emissions.

PVSP EIR Mitigation Measures 4.8-3a through **4.8-3k,** and **4.13-1a** through **4.13-1p**, which require implementation of a number of measures to reduce vehicular and area source emissions, would reduce the amount of emissions generated by the No Action Alternative, Proposed Action, or Alternatives 1 through 5 (individually or combined). All of the alternatives would also be subject to a variety of policies that would promote the use of alternative forms of transportation and pedestrian access to commercial and office uses within the project site. However, even with mitigation, the emissions would be substantial and No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) would make a substantial contribution to the cumulative effect on regional air quality.

Biological Resources

Agricultural practices and conversions, urban development, and infrastructure development have resulted in a cumulative loss of wetlands, including vernal pools, in the study area. Future growth is anticipated to further add to this cumulative impact and the Proposed Action and Alternatives 1 through 5 (individually or combined) would contribute to this impact by filling vernal pools and other waters of the U.S. Compliance with the USACE's regulatory requirements will reduce the Proposed Action's or an alternative's contribution to the cumulative impact to less than significant. However, because a final wetlands mitigation plan has not been submitted to the USACE by the Applicants for the Proposed Action or any of the alternatives, the USACE cannot determine whether a no net loss of wetlands will be achieved and therefore concludes that the Proposed Action's contribution or the contribution of any of the alternatives to the cumulative impact would remain significant.

Hydrology and Water Quality

Proposed and current development within the Dry Creek watershed upstream of the project site combined with the Proposed Action or any alternative would increase the flows in Dry Creek, which is expected to result in adverse downstream flooding impacts. The contribution of any of the alternatives would be significant. **PVSP EIR Mitigation Measures 4.3.2-11a** and **4.3.2-11b** would reduce the contribution of all alternatives to the cumulative flooding effect but not to less than significant. The cumulative flooding effect would remain significant and unavoidable.

Noise

Several roadways adjacent to proposed residential areas under the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) would have noise levels that exceed 60 decibels (dB) day-night average sound level (Ldn). Depending on the distance to residences at these locations, the exterior noise levels could exceed County standards under 2025 conditions (future conditions that include traffic from past, present and other reasonably foreseeable future development in the area). **PVSP EIR Mitigation Measure 4.9-4** requires new development on the project site to include noise reduction measures such as berms, setbacks, and other feasible measures to reduce noise impacts in residential areas of the project site. However, noise reduction measures may not be feasible in some cases and it is unlikely that the noise impact would be eliminated at all affected locations. The cumulative effect on on-site receptors near major roadways would remain significant.

Similarly, cumulative traffic, including traffic associated with the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined), would increase ambient noise levels along off-site roadways and despite installation of noise barriers where feasible, it is unlikely that the significant noise effect would be eliminated at all affected off-site locations. The cumulative effect on off-site receptors near major roadways would remain significant.

ES.3.2 Areas of Controversy and Issues to be Resolved

Areas of Controversy

NEPA regulations (40 CFR Section 1502.12) require that a summary of an EIS identify areas of controversy known to the lead agency, including issues raised by agencies and the public. During the public comment period for the Notice of Intent, various comment letters were received regarding the project. **Appendix 1.0** of the Draft EIS includes a scoping report containing a summary of the public scoping process as well as comments received in writing. In general, areas of potential controversy known to the USACE and the project Applicants included the selection of alternatives, compliance with the Clean Water Act (CWA) Section 404(b)(1) Guidelines, the reasonable range of on-site and off-site project alternatives, analysis of direct, secondary, and cumulative impacts, impacts to wetlands, impacts to flora and wildlife, water quality impacts from stormwater runoff, air quality mitigation, and impacts related to environmental justice. These issues were considered in the preparation of this Draft EIS and are addressed in the environmental impact analyses presented in **Chapter 3.0, Affected Environment and Environmental Consequences, Chapter 4.0, Cumulative Impacts**, and **Chapter 5.0, Other Statutory Requirements**.

Issues to be Resolved

USACE will need to determine whether to grant permits for the Proposed Action pursuant to Section 404 of the Federal Clean Water Act (33 USC 3144).

ES.3.3 Intended Uses of the EIS

The EIS will be used by USACE in exercising its decision-making authority under Section 404 of the Federal Clean Water Act (33 USC 3144).

Table ES-2
Summary of Effects for Major Topics

Resource Topic/Impact	No Action	Proposed Action	Alternative 1	Alternative 2	Alternative 3/4	Alternative 5
Aesthetics						
Impact AES-1: Effect on Scenic Vistas	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible**
Impact AES-2: Effect on Scenic Resources	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact AES-3: Degradation of Visual Character	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact AES-4: Effects from New Sources of Light and Glare	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact AES-5: Indirect Effects on Aesthetics from Off-Site Infrastructure Not Constructed as Part of the Project	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**
Agricultural Resources						
Impact AG-1: Conversion of Important Farmland	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact AG-2: Compatibility with Adjacent Agricultural Uses	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact AG-3: Indirect Effects on Agricultural Resources from Off-Site Infrastructure Not Constructed as Part of the Project	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Air Quality						
Impact AQ-1: Emissions Associated with Construction	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**

Resource Topic/Impact	No Action	Proposed Action	Alternative 1	Alternative 2	Alternative 3/4	Alternative 5
Impact AQ-2: Criteria Pollutant Emissions Associated with Occupancy/Operation	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact AQ-3: CO Hotspots	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact AQ-4: Exposure to Toxic Air Contaminants	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact AQ-5: Exposure to Objectionable Odors	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact AQ-6: Indirect Effects on Air Quality from Off-Site Infrastructure Not Constructed as Part of the Project	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Biological Resources						
Impact BIO-1: Loss and Degradation of Functions and Services of the Waters of the U.S. through Direct Removal, Filling, Hydrological Interruption or Other Means	No effect, no mitigation	**Potentially significant pending revised Mitigation Strategy**	**Potentially significant pending revised Mitigation Strategy**	**Potentially significant pending revised Mitigation Strategy**	**Potentially significant pending revised Mitigation Strategy**	**Potentially significant pending revised Mitigation Strategy**
Impact BIO-2: Effects on Listed Vernal Pool Invertebrates and Their Habitat	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact BIO-3: Effects on Federally Listed Plant Species	**Significant effect, no authority to impose mitigation**	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact BIO-4: Effects on Federally Listed Amphibian and Reptile Species	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact BIO-5: Effects on Valley Elderberry Longhorn Beetle	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact BIO-6: Effects on Delta Smelt	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation

Resource Topic/Impact	No Action	Proposed Action	Alternative 1	Alternative 2	Alternative 3/4	Alternative 5
Impact BIO-7: Effects on State Special-Status Plant and Wildlife Species	Less than significant, no mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact BIO-8: Effects on Protected Raptor Species and Other Nesting Birds	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact BIO-9: Effects on Special-Status Bats	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact BIO-10: Effects on Wildlife Movement	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact BIO-11: Loss of Riparian Habitat	Less than significant, no mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact BIO-12: Effects on Special Status Fish Species	Less than significant, no mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact BIO-13: Effects on Fish Habitat from Water Diversions	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact BIO-14: Indirect Effects to Biological Resources from Off-Site Infrastructure Not Constructed as Part of the Project	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**
Climate Change						
Impact GHG-1: GHG Emissions due to Construction	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact GHG-2: GHG Emissions due to Operation/Occupancy	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact GHG-3: Indirect Effects on Climate Change from Off-Site Infrastructure Not Constructed as Part of the Project	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation

Resource Topic/Impact	No Action	Proposed Action	Alternative 1	Alternative 2	Alternative 3/4	Alternative 5
Cultural Resources						
Impact CR-1: Possible Destruction of or Damage to Known Prehistoric and Historic-Era Cultural Resources during Construction	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact CR-2: Potential to Damage Undiscovered Historic Properties or Human Remains during Construction	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact CR-3: Indirect Effects on Cultural Resources from Off-Site Infrastructure Not Constructed as Part of the Project	No impact on Native American archaeological resources, unknown effects on historic sites	No impact on Native American archaeological resources, unknown effects on historic sites	No impact on Native American archaeological resources, unknown effects on historic sites	No impact on Native American archaeological resources, unknown effects on historic sites	No impact on Native American archaeological resources, unknown effects on historic sites	No impact on Native American archaeological resources, unknown effects on historic sites
Environmental Justice, Population, and Housing						
Impact EJ-1: Disproportionate Adverse Environmental Effects on Minority or Low-income Populations	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact EJ-2: Impacts to Population and Housing	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact EJ-3: Indirect Effects on Environmental Justice, Population, and Housing from Off-Site Infrastructure Not Constructed as Part of the Project	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Geology, Soils, and Minerals						
Impact GEO-1: Hazard associated with Seismic Ground-shaking	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied
Impact GEO-2: Hazard associated with Slope Failure	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied
Impact GEO-3: Potential Structural Damage due to Expansive Soils	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation

Resource Topic/Impact	No Action	Proposed Action	Alternative 1	Alternative 2	Alternative 3/4	Alternative 5
Impact GEO-4: Effect on Mineral Resources	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact GEO-5: Indirect Effects Associated with Geology, Soils, and Minerals from Off-Site Infrastructure Not Constructed as Part of the Project	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**
Hazards and Hazardous Materials						
Impact HAZ-1: Exposure to Soil or Groundwater Contamination from Past Uses	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact HAZ-2: Hazards from Accidental Release of Hazardous Materials or Wastes	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact HAZ-3: Hazard associated with Adjacent Natural Gas Pipeline	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact HAZ-4: Risk related to Use of Recycled Water	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact HAZ-5: Risk of Exposure to Electromagnetic Fields from Transmission Lines	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact HAZ-6: Indirect Effects Associated with Hazards and Hazardous Materials from Off-Site Infrastructure Not Constructed as Part of the Project	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**
Hydrology and Water Quality						
Impact HYDRO-1: Effect related to Off-Site Flood Hazards	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact HYDRO-2: Effects on Culvert Capacity	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation

Resource Topic/Impact	No Action	Proposed Action	Alternative 1	Alternative 2	Alternative 3/4	Alternative 5
Impact HYDRO-3: Effects on Flood Capacity	**Significant residual effect after mitigation**	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact HYDRO-4: Effects from Construction within a Floodplain	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact HYDRO-5: Exposure to Flood Hazards related to Dam or Levee Failure	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact HYDRO-6: Water Quality Effects during Construction	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact HYDRO-7: Water Quality Effects from Project Occupancy and Operation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact HYDRO-8: Effect on Groundwater Recharge	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied	Less than significant, additional mitigation applied
Impact HYDRO-9: Effects on Groundwater Basin	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact HYDRO-10: Indirect Effects to Hydrology and Water Quality from Off-Site Infrastructure Not Constructed as Part of the Project	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**
Land Use and Planning						
Impact LU-1: Result in Incompatible Land Uses	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact LU-2: Physically Divide an Established Community	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact LU-3: Conflict with General Plan	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation

Resource Topic/Impact	No Action	Proposed Action	Alternative 1	Alternative 2	Alternative 3/4	Alternative 5
Impact LU-4: Conflict with SACOG Blueprint	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible (*Base Plan only*)**	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible**
Impact LU-5: Indirect Effects on Land Use and Planning from Off-Site Infrastructure Not Constructed as Part of the Project	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Noise						
Impact NOISE-1: Construction Noise and Vibration	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact NOISE-2 Noise from Project Operations	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact NOISE-3: Increase in Traffic Noise at Buildout (Year 2025)	Less than significant, no mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact NOISE-4: Aviation Noise	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact NOISE-5: Indirect Effects on Noise from Off-Site Infrastructure Not Constructed as Part of the Project	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**	**Significant effect, no authority to impose mitigation**
Public Services						
Impact PUB-1: Demand for Law Enforcement Services	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact PUB-2: Demand for Fire Protection Services	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact PUB-3: Demand for School Facilities	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation

Resource Topic/Impact	No Action	Proposed Action	Alternative 1	Alternative 2	Alternative 3/4	Alternative 5
Impact PUB-4: Demand for Library Services	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact PUB-5: Indirect Effects on Public Services from Off-Site Infrastructure Not Constructed as Part of the Project	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Transportation and Traffic						
Impact TRA-1: Increased Traffic along Placer County Roadways	Less than significant, no mitigation	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact TRA-2: Increased Traffic at Placer County Intersections	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact TRA-3: Increased Traffic along Sacramento County Roadway Segments	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact TRA-4: Increased Traffic at Sacramento County Intersections	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact TRA-5: Increased Traffic along Sutter County Roadway Segments	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact TRA-6: Increased Traffic at Sutter County Intersections	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact TRA-7: Increased Traffic at City of Roseville Intersections	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact TRA-8: Increased Traffic on State Highway Segments	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact TRA-9: Increased Demand for Local Transit Service	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation

Resource Topic/Impact	No Action	Proposed Action	Alternative 1	Alternative 2	Alternative 3/4	Alternative 5
Impact TRA-10: Increased Demand for Local Bicycle Facilities	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact TRA-11: Impact to the Riego Road Railroad Crossing	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact TRA-12: Construction Impacts	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact TRA-13: Indirect Effects on Transportation and Traffic from Off-Site Infrastructure Not Constructed as Part of the Project	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Utilities						
Impact UTIL-1: Availability of Potable Water Supplies to Meet Demand	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact UTIL-2: Availability of Recycled Water Supplies to Meet Demand	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible**	**Significant effect, no mitigation feasible**
Impact UTIL-3: Capacity for Wastewater Treatment Facilities to Meet Demand	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation	Less than significant after mitigation
Impact UTIL-4: Increased Demand for Solid Waste Services	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**	**Significant residual effect after mitigation**
Impact UTIL-5: Increased Demand for Electricity, Natural Gas, and Telecommunications	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation
Impact UTIL-6: Indirect Effects on Utilities from Off-Site Infrastructure Not Constructed as Part of the Project	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation	Less than significant, no mitigation

Significant effects that cannot be reduced to less than significant are indicated in ***bold***

1.0 INTRODUCTION AND STATEMENT OF PURPOSE AND NEED

1.1 INTRODUCTION

This document is an Environmental Impact Statement (EIS) prepared pursuant to the National Environmental Policy Act (NEPA) that analyzes and discloses the effects of construction of a large-scale regional mixed use residential community project in unincorporated western Placer County under the Placer Vineyards Specific Plan (PVSP) for which a number of individual project proponents are seeking permits under Section 404 of the Clean Water Act (33 USC §1344). The PVSP area includes approximately 5,230 acres (2,116 hectares). Of this area, there are active permit applications for development on 3,781 acres (1,530 hectares). The remaining 1,449 acres (586 hectares) comprising 505 acres [204 hectares] within the PVSP site outside of the Special Planning Area [SPA] and 979 acres [396 hectares] within the SPA) are not the subject of permit applications, although it is anticipated that those lands outside of the SPA would also eventually be developed consistent with the PVSP.

Two scenarios that represent the potential low-end and high-end of the range of densities that could be developed within the PVSP area are evaluated in this EIS: the "Base Plan" and "Blueprint." The Base Plan scenario, which is the specific plan that was approved by Placer County in 2007, would allow for the development of approximately 14,132 residential units on the project site. The Blueprint scenario, which was also considered by the County but was not eventually adopted, would develop the project site at a higher density consistent with the Sacramento Area Council of Governments (SACOG) Blueprint and provide for up to 21,631 residential units. The development footprint of these scenarios would be the same, although the land use designations, acreages, and density of development would differ. This EIS evaluates the environmental effects from development under both scenarios in order to provide the range of likely effects.

The proposed federal action is a decision by the U.S. Army Corps of Engineers (USACE) whether or not to issue Department of the Army (DA) permits to authorize the placement of fill in jurisdictional waters of the United States in conjunction with the proposed development. The discharge of fill material into jurisdictional waters requires approval from the USACE pursuant to Section 404 of the federal Clean Water Act, under which the USACE issues or denies Department of the Army (DA) permits for activities involving a discharge of dredged or fill materials into the water of the United States, including wetlands.

The 3,781-acre (1,530-hectare) area subject to current USACE applications is made up of 3,746 acres (1,516 hectares) on 22 individual properties, each property with its own Section 404 permit application. In addition, the property owners have jointly applied for a permit to fill wetlands in conjunction with the development of backbone infrastructure, including approximately 35 acres (14 hectares) of roadways on non-participating properties internal to the PVSP area. If the USACE approves the 22 individual permits and a Regional General Permit for the infrastructure improvements, the Applicants would be allowed to fill approximately 103.8 acres (42.0 hectares) of wetlands and other jurisdictional waters of the United States within the 3,781-acre (1,530-hectare) area, and development of urban uses in the area would be a

reasonably foreseeable outcome of the approvals. In addition, development of the remaining area within the PVSP area would also be reasonably foreseeable (see **Section 1.6** below). Therefore, for brevity, the "Proposed Action" in this document refers to development of the entire 5,230-acre (2,116-hectare) PVSP site.

The USACE's general regulatory policies and approach are defined in 33 CFR Parts 320-325 and 332. In its regulatory capacity, the USACE is neither a proponent nor an opponent of projects seeking federal approvals; rather, as identified in 33 CFR § 320.1[a][1], USACE conducts a "public interest review" that seeks to balance a proposed action's favorable impacts against its detrimental impacts. Additionally, as identified in 33 CFR § 325.2[a][6], the USACE is also required to review actions in accordance with guidelines developed by the U.S. Environmental Protection Agency (USEPA) under § 404(b)(1) of the Clean Water Act (33 USC § 1344(b)(1)) [hereinafter "404(b)(1) Guidelines"]. The USACE's permit review and decision making triggers a requirement for environmental review under NEPA. The USACE has determined that the DA permit decisions for the Proposed Action constitute a "major federal action significantly affecting the quality of the human environment" requiring the preparation of an EIS. The USACE is the federal lead agency under NEPA for the Proposed Action (see **Subsection 1.7, Lead, Cooperating Agencies, and Other Agencies with Jurisdiction over the Proposed Action,** below).

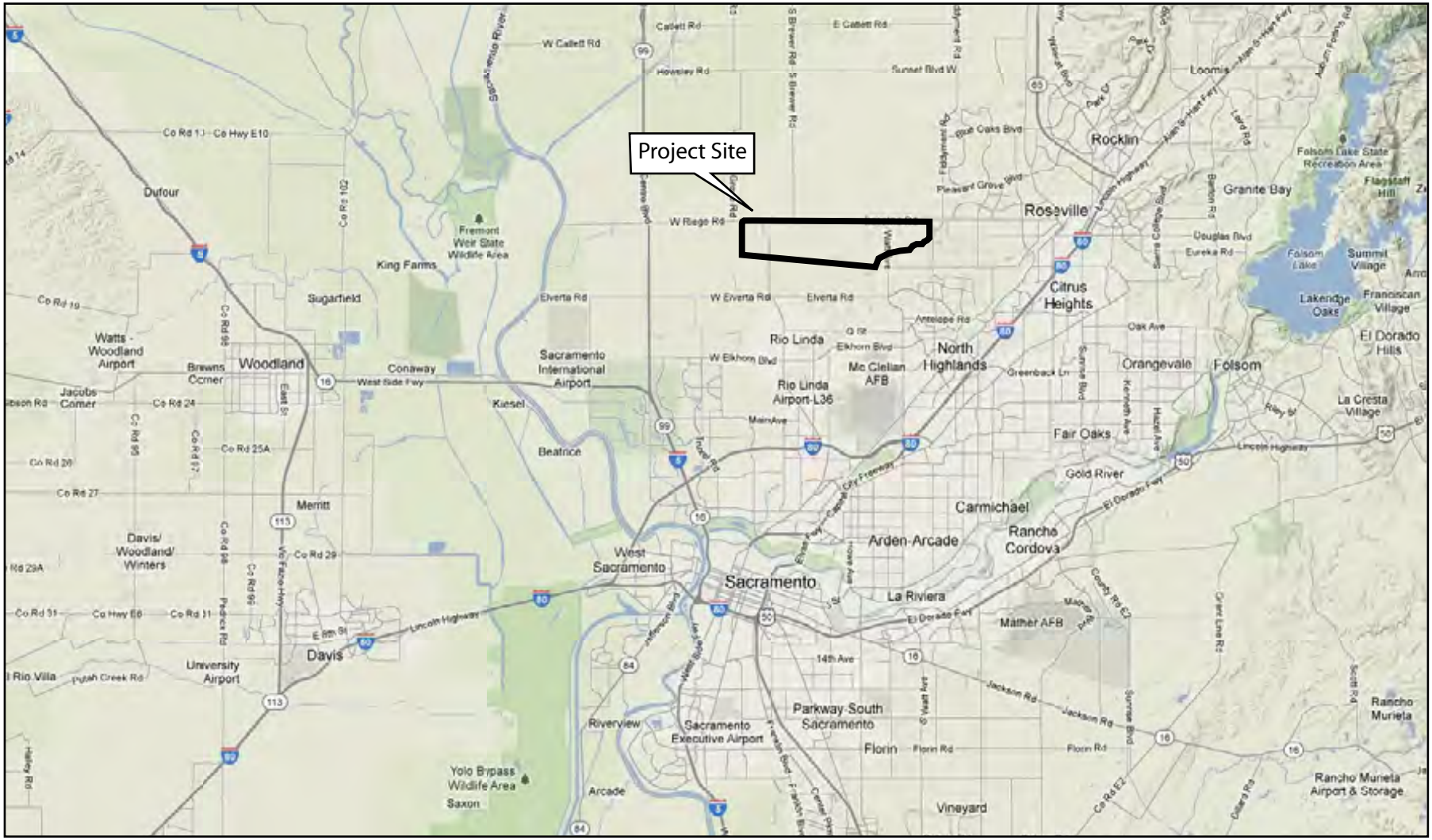
Placer County, the lead agency for the PVSP under the California Environmental Quality Act (CEQA), completed the state environmental review for the PVSP in July 2007.

1.2 PROJECT LOCATION

The 5,230-acre (2,117-hectare) PVSP area (project site) is located in the southwest portion of unincorporated Placer County, approximately 15 miles (24 kilometers) north of Sacramento, and southwest of the City of Roseville (see **Figure 1.0-1, Regional Location**). As shown in **Figure 1.0-2, Project Site Location,** the project site is bounded by Baseline Road on the north, the Sacramento and Placer County line on the south, Dry Creek and Walerga Road on the east, and the Sutter and Placer County line on the west. The individual properties that comprise the PVSP, including properties that are proposed for development at this time and properties not currently proposed for development, are shown in **Figure 1.0-3, Site Ownership.**

1.3 BACKGROUND AND HISTORY OF THE PROPOSED ACTION

Placer County first identified development of the project site in 1990. Following the adoption of the West Placer Community Plan in 1990, Placer County identified the remaining area to the west of the West Placer Community Plan as appropriate for urban development. In its 1994 General Plan, the County noted that this area could develop following adoption and implementation of a comprehensive Specific Plan, and the County amended the boundaries of the Dry Creek/West Placer Community Plan to include this land.



NOT TO SCALE

SOURCE: Google Maps – 2012

FIGURE **1.0-1**

Regional Location

1090-002•01/12

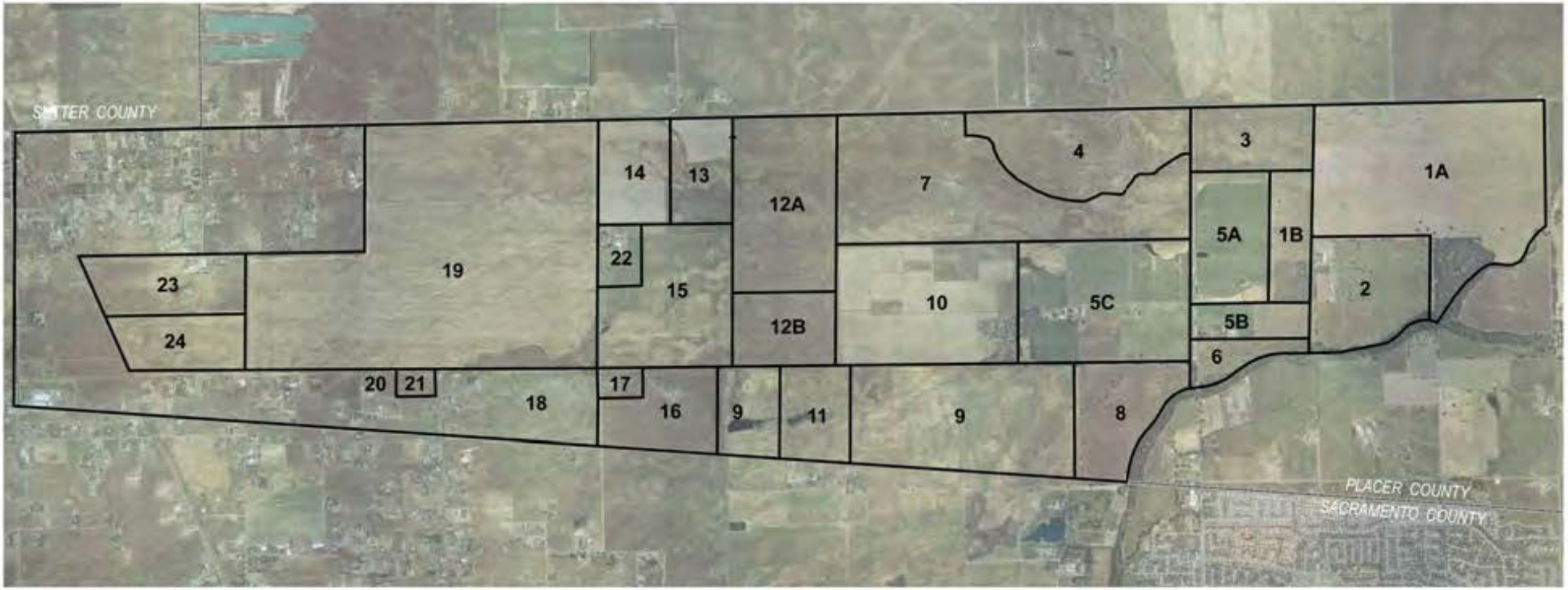
NOT TO SCALE

SOURCE: Microsoft Streets & Trips – 2001 / Quad Knopf, Inc. – 2002

FIGURE **1.0-2**

Project Site Location

1090-002•01/12



NOT TO SCALE

SOURCE: Quad Knopf – 2005

FIGURE **1.0-3**

Site Ownership

1090-002•04/13

Consistent with the direction provided by the Placer County 1994 General Plan, the Applicants sponsored preparation of the PVSP for this 5,230-acre (2,117-hectare) area. The purpose of the PVSP was to comprehensively plan the development of the remaining unplanned area in southwestern Placer County for the establishment of a new self-sufficient community that not only included residential and commercial uses but also other public uses, including a mixed-use Town Center that provides for civic and community activities. In July 2007, the County Board of Supervisors approved the PVSP.

In May 2006, property owners within the plan area (Applicants) submitted 24 applications to the USACE under Section 404 of the Clean Water Act for the development of backbone infrastructure and individual properties within the PVSP area (participating properties). Since then, one application has become inactive and there are now a total of 22 applications for the development of individual projects and one application covers the construction of the proposed infrastructure needed to support the development of the proposed mixed-use residential community (see **Figure 1.0-4, Participating Properties**).

1.4 PROJECT PURPOSE AND NEED

The USACE has determined that the project purpose is:

> *to construct a large-scale, regional mixed-use residential project in western Placer County.*

The Applicants' stated need for the Proposed Action is described as follows.

> *The project is proposed as a large scale residential community because the primary purpose of the Project is to accommodate projected population growth in Placer County and provide a coordinated development envelope consisting of residential, commercial, recreational, public/quasi-public land uses, required infrastructure and open space to accommodate a population range of approximately 30,000 to 50,000 persons. The project is intended to assist in meeting the region's future needs for residential opportunities through comprehensive planning.*

A distinguishing component of the Proposed Action is the Town Center. The USACE examined other projects proposed in the Central Valley with town centers (see **Table 1.0-1, Central Valley New Town Projects,** below). Of the three such projects that were identified, the smallest of the new town proposals with town centers and urban amenities was a community of 2,766 acres (1,119 hectares). Based on that number, the USACE conservatively determined that a reasonable minimum size for such proposals was 2,400 acres (971 hectares).

Table 1.0-1
Central Valley New Town Projects

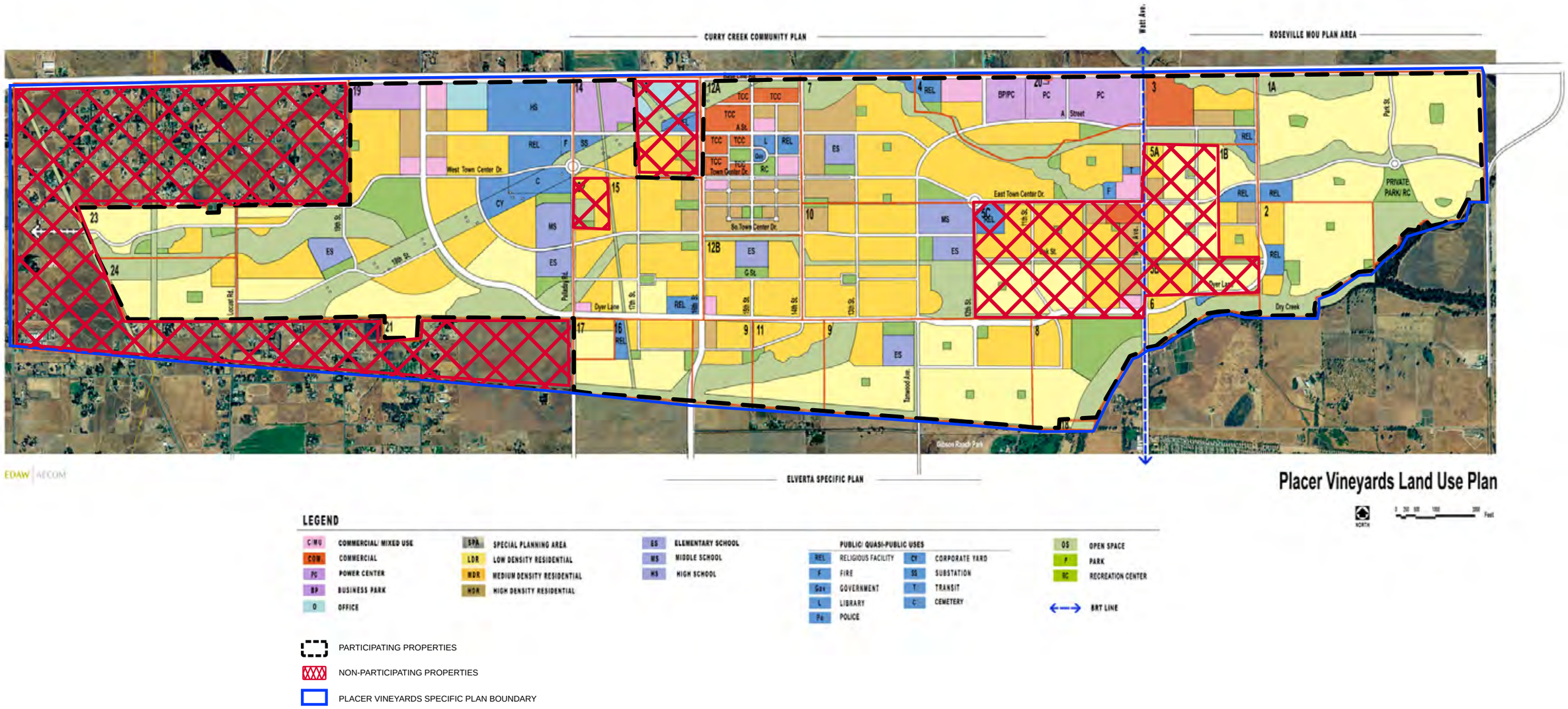
Name	Acreage	Residential Population	Land Uses
Sutter Pointe	7,528	43,000	A new town with a mix of land uses, including employment centers, many different housing types, retail shopping villages, recreation amenities, schools, community services, supporting on-and off-site infrastructure, roadway improvements, open space, and various public uses including a town center.
Mountain House	4,784	46,818	A self-sufficient community with a mixed-use Town Center that provides for civic and community activities, in addition to residential and commercial uses.
University Community	2,766	31,000	A residential community (including a town center, schools, and other amenities) to support UC Merced.

The project is proposed as a mixed-use community with adequate employment-generating non-residential uses in order to provide a balance of jobs, housing, and other amenities. The commercial component of this community is important and necessary so that the County has sufficient tax revenues to provide services to the project. A large-scale residential-only development would not be fiscally sustainable because the tax revenue from property taxes alone would be insufficient to provide the needed County services (Hausrath 2006). This is especially the case for the project site and its vicinity in western Placer County where a high proportion of the property tax revenues go to the local school district and the County share is relatively small. In addition, there are no nearby existing retail centers to serve the Placer Vineyards area, so early development of a commercial center is important from a service standpoint as well as for fiscal reasons.

Placer County identified this area for urban development (PVSP EIR 2007). This was based on a number of important planning factors, including that (1) the cities and areas surrounding the Plan area are experiencing rapid growth in jobs, creating the need for additional housing in southwestern Placer County; (2) the area is contiguous to existing urban development to the south (Sacramento County) and new development to the north (Roseville); and (3) the region is planning improvements to the transportation network that could accommodate the level of growth associated with the Specific Plan; and (4) the Plan area is better suited to concentrated new growth than other locations, as it would create less sprawl. For purposes of this EIS, western Placer County is defined as the portion of Placer County west of Interstate 80 (I-80) and State Route 65.

1.5 NEPA REQUIREMENTS AND PROCESS

This EIS has been prepared in accordance with NEPA (42 USC § 4321), the Council on Environmental Quality's (CEQ's) NEPA Implementing Regulations (40 CFR Parts 1500–1508), and the USACE NEPA Implementation Procedures for the Regulatory Program (33 CFR Part 325, Appendix B).



SOURCE: County of Placer – 2007

FIGURE **1.0-4**

Participating Properties

1090-002•01/12

Under CEQ's NEPA Implementing Regulations, the purpose of an EIS is to provide "full and fair" discussion of a proposed action's significant environmental effects and to inform decision makers and the public of reasonable alternatives that would avoid or minimize the proposed action's adverse effects, or would enhance the quality of the human environment (40 CFR § 1502.1). Although such disclosure is a key aim of CEQ's NEPA Implementing Regulations, agencies are cautioned that an EIS is more than a disclosure document—it is intended to be used in conjunction with other relevant materials as a planning and decision making tool (40 CFR § 1502.1).

The NEPA Implementing Regulations establish the following steps in the EIS process.

- Publication of a Notice of Intent in the *Federal Register*, announcing to interested individuals and agencies that an EIS is in preparation, and briefly describing the action it will analyze, as well as any alternatives that have been identified at that point in the planning process (40 CFR § 1508.22).
- A "scoping" period during which the lead agency gathers input from the public and other agencies regarding the significant environmental issues the EIS will address, alternatives or mitigation approaches to reduce or avoid significant adverse effects, and issues that are not significant and can be excluded from detailed analysis (40 CFR § 1501.7). The scoping period is generally initiated when the lead agency publishes its Notice of Intent.
- Development of the Draft EIS, consistent with content and format requirements of applicable portions of 40 CFR § 1502.
- Circulation of the Draft EIS for review and comment by interested parties, including agency decision makers, other agencies, and the public (40 CFR § 1502.19). Under 40 CFR § 1503.1, the lead agency is required to obtain comments from federal agencies with jurisdiction or special expertise relevant to the identified environmental effects, and must also request comments from state and local agencies, agencies that have requested information on actions of the type analyzed, the applicant, and the general public.
- Preparation and circulation of a Final EIS that includes responses to the comments received on the Draft EIS (40 CFR § 1503.4, 40 CFR § 1502.19[b]).
- Preparation of the Record of Decision (ROD), a public document that announces the agency's decision with regard to the proposed action, including the alternative selected for implementation. The ROD must describe the alternatives evaluated in the decision making process and must identify whether the agency has adopted all practicable means to avoid or minimize the adverse environmental effects of its chosen alternative (or, if not, must explain why not). Where applicable, agencies are required to adopt a monitoring and enforcement program to ensure that mitigation is implemented as identified in the EIS (40 CFR § 1502.2).

With certain exceptions, agencies may not take action to implement an approved action until 30 days after the ROD has been published (40 CFR § 1506.10[b]).

1.6 SCOPE AND FOCUS OF THIS ENVIRONMENTAL IMPACT STATEMENT

The USACE's permit actions under Section 404 of the Clean Water Act comprise the proposed federal action analyzed in this EIS. Although development of a regional mixed use residential community project under the PVSP would not be a federal undertaking, PVSP implementation, including both the active

permit applications and future development proposals, is a reasonably foreseeable outcome of federal permit approval. Accordingly, to provide thorough analysis of the effects of approving the applicants' 404 permit applications, this EIS analyzes the environmental effects of development on the project site, and for ease of reference, the development of the entire project site is referred to as the *Proposed Action* throughout this EIS. This should not be construed as an assumption that permits will be approved; that decision will be made by USACE following the completion of, and in consideration of, NEPA environmental review.

As identified above, at present, 23 DA permit applications are in process: one for the development of infrastructure proposed in the PVSP and one for development on each of the separate 22 properties with DA permit application within the project site. It is possible that the USACE could elect to issue none or only some of the permits. Separate analysis of the individual permits might result in piecemeal analysis or segmentation, which is prohibited under the CEQ NEPA Implementing Regulations (40 CFR § 1502.4[a]) because of the potential to underestimate environmental effects. Even though multiple permits are involved, the permit decisions are treated as a single evaluative process and all of the permits are included in the single federal action evaluated in this EIS.

The USACE has determined that even though there are several properties within the PVSP area for which no permit applications have yet been filed with the USACE, the future development of these properties within the PVSP area is a connected action. This is because the permit application for the backbone infrastructure includes portions of the properties for which DA permit applications have not been submitted, and if approved, the infrastructure would enable future development in those areas. In addition, if the DA permits are issued for the 22 properties, development of the other properties under the PVSP would be a reasonably foreseeable outcome. In addition, the properties with no DA permit applications have received the benefit of actions taken by Placer County amending the general plan designations for their properties and imposing new specific plan land use designations. In order to maintain its desire to evaluate the environmental effects of the Proposed Action "as a whole," and to give due consideration to cumulative impacts from foreseeable development within the overall project area, the USACE, in this EIS, has considered the environmental impacts of developing the entire PVSP area in a manner generally consistent with the County's approved PVSP, even though USACE will not take any federal action (i.e., approval of a DA permit) with respect to the properties not covered by current applications. If and when the owners of these properties file applications with the USACE seeking permission to fill some or all of the wetlands on their property, the USACE will consider each application separately, making whatever use is possible and appropriate of the analysis contained in this EIS.

In summary, this EIS evaluates the environmental effects of developing the entire PVSP area consistent with the footprint of the County-approved PVSP. For ease of reference, the "Proposed Action" in this EIS encompasses the development of the 3,781 acres (1,530 hectares) of land under the PVSP for which DA permit applications have been submitted to the USACE, and the 1,449 acres (586 hectares) of land for which there are no permit applications at this time.

Consistent with Section 1502.1 of the CEQ NEPA Implementing Regulations, the purpose of this EIS is to provide thorough, objective analysis of the Proposed Action's significant environmental effects, along

with mitigation measures and a range of reasonable alternatives that would avoid or minimize those effects. This EIS covers the following environmental resources: aesthetics (visual resources); agricultural resources; air quality; biological resources; climate change; cultural resources; environmental justice and socioeconomics; geology, soils, and mineral resources; hazards and hazardous materials; hydrology and water quality; land use and planning; noise; public services; transportation and traffic; and utilities and service systems. More information on EIS content and structure is provided below in **Subsection 1.11, Organization of this Environmental Impact Statement**.

1.7 LEAD, COOPERATING AGENCIES, AND OTHER AGENCIES WITH JURISDICTION OVER THE PROPOSED ACTION

The USACE is serving as the lead agency for NEPA compliance.

The USEPA is participating as a cooperating agency. The U.S. Fish & Wildlife Service (USFWS) was invited to participate as a cooperating agency but did not accept.

The following agencies and entities also have discretionary authority or legal jurisdiction over part or all of the Proposed Action, or special expertise relevant to the Proposed Action.

- USFWS
- California Department of Transportation
- California Department of Fish and Wildlife
- Central Valley Regional Water Quality Control Board
- Placer County

As state agencies subject to CEQA rather than federal agencies subject to NEPA, the California Department of Transportation, the California Department of Fish and Wildlife, the Central Valley Regional Water Quality Control Board, and Placer County will all rely, in making their respective decisions on the Proposed Action, on the Environmental Impact Report (EIR) certified by Placer County in July 2007 rather than on this EIS.

1.8 EIS SCOPING

As discussed in **Subsection 1.5,** above, scoping is the process through which the lead agency gathers input from the public and other agencies regarding EIS content, including potentially significant environmental issues; alternatives or mitigation approaches to address significant adverse effects; and issues that are not significant and can be excluded from the EIS (40 CFR § 1501.7).

NEPA scoping for the Proposed Action was initiated by publication of the USACE's *Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Placer Vineyards Project, Corps Permit Application Number 199900737* on March 16, 2007, and closed on April 15, 2007. Two public meetings on March 28, 2007, were held jointly by USACE and the County to support scoping under both NEPA and CEQA. A description of the meeting is provided in the document titled *Scoping Summary Report* included in **Appendix 1.0** of this EIS. The scoping summary report also includes the text of all comments received during the scoping period.

1.9 AVAILABILITY OF ENVIRONMENTAL IMPACT STATEMENT

In accordance with the CEQ NEPA regulations (40 CFR Sec. 1506.10), this Draft EIS is being made available to agencies and the public for a 45-day review and comment period.

The Draft EIS can be reviewed at the following location.

Auburn-Placer County Library
350 Nevada Street
Auburn, California 95603

Members of the public can request a printed copy of this Draft EIS or a compact disc (CD) that contains the full text of the Draft EIS by contacting the USACE Sacramento District at 916-557-5250. The Draft EIS is also available on the USACE website at http://www.spk.usace.army.mil/Missions/Regulatory/Permitting/EnvironmentalImpactStatements.aspx.

Please provide your comments at the earliest date possible within 45 days of publication of the Notice of Availability. All comments should reference USACE ID SPK-1999-00737 in the subject line and be sent to the following contact.

U.S. Army Corps of Engineers, Sacramento District
Regulatory Division
Attn: Will Ness
1325 J Street, Room 1350
Sacramento, California 95814-2922

Email: DLL-CESPK-RD-EIS-Comments@usace.army.mil

1.10 INTENDED USE OF THIS DOCUMENT

This document is designed to analyze the projects comprising Placer Vineyards and its infrastructure. Specifically, the USACE intends to use this document to make one or more of the following decisions:

- Issue 22 separate standard permit decisions to each individual applicant and a Regional General Permit establishing a flexible yet efficient permitting mechanism dealing with the uncertain timing of infrastructure needs and construction (see the document titled Draft Regional General Permit in **Appendix 1.0**); and
- To support subsequent DA permit decisions.

1.11 ORGANIZATION OF THIS ENVIRONMENTAL IMPACT STATEMENT

This EIS has been organized in the following manner:

- **Cover Sheet** – provides lead agency and contact information, an abstract of the EIS, and comment submission information.
- **Executive Summary** – presents an overview of the project and alternatives, environmental impacts, mitigation measures, and conclusions about the net effects.
- **Chapter 1.0** – introduces the Proposed Action, presents the purpose and need statement, and provides the background for the preparation of this EIS.

- **Chapter 2.0 – Proposed Action and Alternatives** – describes the development that would occur under the Proposed Action if it is implemented as proposed, as well as potential development under alternatives to the Proposed Action. The chapter also describes the process through which alternatives were developed and the rationale for selecting the alternatives to be analyzed in this EIS, which include several on-site alternatives and a No Action Alternative that would develop the proposed site but avoid the need for DA permits.
- **Chapter 3.0 – Affected Environment and Environmental Consequences** – describes the existing environmental resources and conditions of the project site, and analyzes the effects of the Proposed Action and alternatives on those resources. **Chapter 3.0** begins with a section that defines key terms used in the analysis and identifies the resource topics that would not be significantly affected by the Proposed Action. It then presents information on the following resources: aesthetics; agricultural resources; air quality; biological resources; climate change; cultural resources; environmental justice and socioeconomics; geology, soils, and minerals; hazards and hazardous materials; hydrology and water quality; land use and planning; noise; public services; transportation and traffic; and utilities and service systems. Resource topics are organized alphabetically in **Chapter 3.0**.
- **Chapter 4.0 – Cumulative Impacts** – analyzes the effects of the Proposed Action and alternatives in the context of other past, present, and reasonably foreseeable future projects in the area.
- **Chapter 5.0 – Other Statutory Requirements** – presents other analysis required by NEPA, including assessment of growth-related impacts.
- **Chapter 6.0 – Consultation and Coordination** – identifies the agencies and persons contacted for information during the preparation of this EIS.
- **Chapter 7.0 – List of Preparers** – identifies the USACE and consultant staff involved in the preparation of this EIS.
- **Chapter 8.0 – Index –** provides an index to specific topics within the EIS.

1.12 STANDARD TERMINOLOGY, ACRONYMS, AND ABBREVIATIONS

AADT	Annual Average Daily Traffic
ADWF	average dry weather flow
af	acre-feet
afy	acre-feet per year
AM	weekday morning
APE	Area of Potential Effects
AQAP	Air Quality Attainment Plan
ASPEN	Assessment System for Population Exposure Nationwide
ASTM	American Society for Testing and Materials
BAT	Best Available Technology
BMPs	best management practices
BoR	U.S. Bureau of Reclamation
C	degrees Celsius
CAA	Clean Air Act
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBSC	California Building Standards Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CD	Compact Disk
CDF	California Department of Forestry and Fire Protection

CDFW	California Department of Fish and Wildlife
CDHS	California Department of Health Services
CEC	California Energy Commission
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESA	California Endangered Species Act
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CHP	California Highway Patrol
CIWMB	California Integrated Waste Management Board
CKH	Cortese-Knox Hertzberg Local Government Reorganization
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CNPPA	California Native Plant Protection Act
CO	carbon monoxide
CRHR	California Register of Historical Resources
CRLF	California red-legged frog
CSHP	California Scenic Highway Program
CTS	California tiger salamander
CUPA	Certified Unified Program Agency
CVP	Central Valley Project
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
DA	Department of the Army
Delta	Sacramento Delta
DHS	Department of Health Services
DOC	California Department of Conservation
DOE	U.S. Department of Energy
DOF	Department of Finance
DOT	Department of Transportation
DSOD	Division of Safety of Dams
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EC	electromagnetic conductivity
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMF	electromagnetic field
EMF-RAPID	Electric and Magnetic Fields Research and Public Information Dissemination
ESA	Federal Endangered Species Act
F	degrees Fahrenheit
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
GHG	greenhouse gases
gpm	gallons per minute
GWP	Global Warming Potential
HCP	habitat conservation plan
HRA	Health Risk Assessment
hp	horsepower pump
HWCA	Hazardous Waste Control Act
ILS	instrument landing system
ISAC	Invasive Species Advisory Committee
ISO	Insurance Services Office

kV	kilovolt
kW	Kilowatt
LAFCO	Local Agency Formation Commission
LEDPA	least environmentally damaging practicable alternative
LEED	Leadership in Energy and Environmental Design
LESA	Land Evaluation and Site Assessment
LID	low impact development
LOMR	Letter of Map Revision
LOS	level of service
maf	million acre-feet
MCE	maximum credible earthquake
MCLs	maximum concentration levels
mg/L	milligram per liter
mgd	million gallons per day
MMBtu/hr	million British thermal units per hour
MMRP	Mitigation Monitoring and Reporting Plan
MOU	Memorandum of Understanding
MRZ	mineral resource zone
MS4	Municipal Separate Storm Sewer System
msl	mean sea level
MTP	Metropolitan Transportation Plan
NAHC	Native American Heritage Commission
NCCP	natural community conservation plan
NEMCD	Natomas East Main Drainage Canal
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation
NHTSA	National Highway Traffic Safety Administration
NISC	National Invasive Species Council
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOx	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPPA	California Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OPS	Office of Pipeline Safety
OSHA	Occupational Safety and Health Administration
PCAPCD	Placer County Air Pollution Control District
PCB	polychlorinated biphenyl
PCFCD	Placer County Flood Control and Water Conservation District
PG&E	Pacific Gas & Electric
PGWWTP	Pleasant Grove Wastewater Treatment Plant
PHMSA	Pipeline and Hazardous Materials Safety Administration
PM	weekday evening
PM10	particulate matter 10 microns or less in diameter
PM2.5	particulate matter 2.5 microns or less in diameter
RCRA	Resource Conservation and Recovery Act
RM	River Mile
ROD	Record of Decision
ROG	reactive organic gases
ROW	right of way
RWQCB	Regional Water Quality Control Board

SACOG	Sacramento Area Council of Governments
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCS	Sustainable Communities Strategy
SIP	State Implementation Plan
SLC	State Lands Commission
SMAQMD	Sacramento Metropolitan Air Quality Management District
SOI	Sphere of Influence
SP	Specific Plan
SPCCP	spill prevention, control, and countermeasure program
SSC	Species of Special Concern in California
SUDP	Specific Urban Development Plan
SMUD	Sacramento Municipal Utility District
SWDA	Solid Waste Disposal Act
SWMM	Stormwater Management Manual
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TAC/ALC	Technical Advisory Committee for Agricultural Land Conservation
TC	Town Center
TDM	transportation demand management
TDS	total dissolved solids
TES	thermal energy storage
TMDL	Total Maximum Daily Load
TSCA	Toxic Substances Control Act
TZC	triple zero commitment
ICC	International Code Council 1997
UBC	Uniform Building Code
umhos/cm	microsiemens per centimeter
UNEP	United Nations Environmental Program
U.S.	United States
U.S. DOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USACE	U.S. Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VELB	valley elderberry longhorn beetle
VOC	volatile organic compound
WAPA	Western Area Power Administration
WPCGMP	Western Placer Groundwater Management Plan
WWTP	wastewater treatment plant

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This chapter describes the Proposed Action and alternatives evaluated in this EIS. As noted in **Chapter 1.0**, the U.S. Army Corps of Engineers' (USACE's) decision whether or not to issue permits under Section 404 of the Clean Water Act is the proposed federal action. If the USACE decides to issue one or more permits, such permits would enable development in the Placer Vineyards Specific Plan (PVSP) area. For ease of reference, the entire development project is called the *Proposed Action* in this EIS.

As stated in **Chapter 1.0**, the PVSP includes development of a 5,230-acre (2,116-hectare) site with a mix of land uses, predominantly residential use with some commercial and office uses, public and quasi-public uses, parks, and open space, and the infrastructure improvements to support these uses. The USACE has 22 active permit applications to develop up to 3,746 acres (1,516 hectares) of land within the PVSP area and an application for the development of backbone infrastructure. The owners of the remaining properties (comprising 505 acres [204 hectares] within the PVSP area outside of the Special Planning Area (SPA) and 979 acres [396 hectares] within the SPA) are not applying for DA permits at this time. However, for reasons presented in **Chapter 1.0**, for purposes of this EIS, the Proposed Action encompasses the development of the entire PVSP site consistent with the footprint of the County-approved PVSP.

This chapter presents detailed information about the Proposed Action. It also describes the process through which alternatives to the Proposed Action were developed and screened in order to focus the EIS analysis on a set of alternatives that would allow the USACE to make a reasoned choice. The chapter presents the alternatives analyzed in this EIS, summarizing the rationale for selecting those alternatives for analysis, and also identifies the alternatives that were not carried forward for detailed analysis, along with the reasons for their dismissal.

2.2 PROJECT LOCATION

The 5,230-acre (2,116-hectare) PVSP area is located in the southwest portion of unincorporated Placer County, approximately 15 miles (24 kilometers) north of Sacramento, and southwest of the City of Roseville. The project site is characterized by gently rolling topography and large, open tracts of grazing land with a few stands of native and non-native trees. Elevations range from 35 feet (11 meters) above sea level in the western portion to 115 feet (35 meters) in the eastern portion of the site. The site's natural features include Curry Creek, which traverses the northeasterly portion of the site, Dry Creek, which borders it on the southeast, and several minor drainage swales, intermittent creeks and drainages, and scattered vernal pools.

Features of the human environment present on the site include agricultural lands, dirt roads and fencing, residences, and transmission lines. Three power line easement corridors traverse the project site. These easements and facilities are owned by Pacific Gas & Electric (PG&E), Sacramento Municipal Utility District (SMUD), and the Western Area Power Administration (WAPA). A 375-foot-wide (114-meter-

wide) SMUD and WAPA easement traverses the project site in a northeast to southwest alignment located mostly west of 16th Street. The other two PG&E easements are smaller in area and run generally north to south.

2.3 NEPA REQUIREMENTS FOR EVALUATION OF ALTERNATIVES

Under the National Environmental Policy Act (NEPA) Implementing Regulations adopted by the Council on Environmental Quality (CEQ), comparative analysis of the environmental impacts associated with a proposed action and the identified alternatives serves to define the issues and provide decision makers with a clear basis for a "choice among options" (40 CFR § 1502.14). An EIS is therefore required to consider reasonable alternatives that would meet the project's purpose and need, as discussed in **Chapter 1.0**, and "substantial treatment" or comparable analysis must be devoted to each alternative. Consideration is limited to alternatives that are "reasonable" and meet the purpose and need of the proposed action.

In the document entitled, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations" (March 23, 1981), CEQ states that "[r]easonable alternatives include those that are practical or feasible from the technical or economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant." According to the USACE's NEPA Implementation Procedures for the Regulatory Program (Appendix B to 33 Code of Federal Regulations [CFR]Part 325) "Reasonable alternatives must be those that are feasible and such feasibility must focus on the accomplishment of the underlying purpose and need that would be satisfied by the proposed federal action." The range (the number and nature) of alternatives to be considered is governed by the rule of reason—that is, an EIS is not required to consider all possible alternatives, only those that are necessary to permit a reasoned choice. However, if alternatives have been identified but eliminated from detailed consideration, the EIS must explain the reasons why they were not carried forward (40 CFR § 1502.14[a]).

Among the alternatives that must be considered in an EIS is No Action (40 CFR § 1502.14[d]). In this case "Proposed Action" refers to the multiple permit decisions by the USACE to allow discharge of dredged or fill material for the development of the site under the PVSP. Since some development on the project site could occur without triggering DA permits, that is the scenario considered under the No Action Alternative in this EIS.

2.4 DEVELOPMENT OF ALTERNATIVES TO PROPOSED ACTION

To establish the range of alternatives for this EIS analysis, the USACE first developed the purpose and need statement for the Proposed Action (see **Chapter 1.0**), and then identified a broad range of potential alternatives both on-site as well as off-site that would achieve the Proposed Action's purpose and need. The section presents the alternatives analyzed in this EIS, summarizing the rationale for selecting those alternatives for analysis, and also identifies the alternatives that were not carried forward for detailed analysis, along with the reasons for their dismissal. For a more thorough discussion of the alternatives screening process, please see the document titled Technical Memorandum: Alternatives Development and Screening in **Appendix 2.0.**

2.4.1 Off-site Alternatives

The USACE procedures for implementing NEPA require an EIS to discuss geographic alternatives (such as change in location and other site-specific variables) (Appendix B to 33 CFR Part 325). With respect to off-site alternatives, the USACE focused on identifying alternate sites that could accommodate a project that would meet the identified purpose of the Proposed Action. Alternatives that would be located on a property not presently owned by the Applicants but which could be reasonably obtained, utilized, expanded or managed to fulfill the overall project purpose, were considered.

As a first step, the USACE defined the study area for off-site alternatives. Based on the project purpose, the geographic area examined for alternate sites was limited to western Placer County, which as noted in **Chapter 1.0**, is defined as the area bound by Interstate 80 (I-80) and State Route 65 (SR 65) to the east, Sacramento County line to the south, and Sutter County line to the west and the north. This area was examined to identify all land parcels that were known not to be available for development. The USACE excluded (1) parcels that are either existing or proposed mitigation sites, mitigation banks, preserves, or otherwise protected from development; (2) parcels that are proposed for development by other developers/entities for which there are active proposals either with the USACE or with the cities of Roseville or Lincoln, or with Placer County; and (3) parcels for which information was available to the USACE that those parcels are not available for purchase. Upon exclusion of these parcels, the USACE identified five sites in western Placer County for further evaluation. **Figure 2.0-1** presents the five alternative sites along with the site of the Proposed Action.

The USACE evaluated these potential alternative sites using screening criteria based on aspects of feasibility identified under NEPA as interpreted by CEQ. Feasibility screening was designed for consistency with criteria used to screen for practicability under CWA Section 404, as defined in the Section 404[b][1] guidelines (40 CFR 230.10, USEPA's *Restrictions on Discharge*; see in particular 40 CFR 230.10[a][2] ["[a]n alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes"]). This ensured that sites would only be screened out of detailed analysis if they were both infeasible under NEPA criteria *and* impracticable under CWA Section 404 criteria, thus ensuring that alternatives with the potential to represent the least environmentally damaging practicable alternative (LEDPA) were not eliminated from analysis for reasons exclusive to NEPA. Screening also employed an *environmental* criterion based on the Clean Water Act and the USACE's implementing regulations. Under 40 CFR § 230.10(a) generally, the USACE may not permit the discharge of dredged or fill material into the waters of the United States "if there is a practicable alternative to the proposed discharge *which would have less adverse impact on the aquatic ecosystem*, so long as the alternative does not have other significant adverse environmental consequences." (Italics added.) The use of an environmental criterion is also consistent with CEQ guidance (Forty Most Asked Questions) which state that"[r]easonable alternatives include those that are practical or feasible from the technical or economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant." Even though "environmental factors" are not specifically listed, common sense would suggest that it is reasonable to consider environmental factors in determining the feasibility of an alternative. The biological resources sensitivity screening

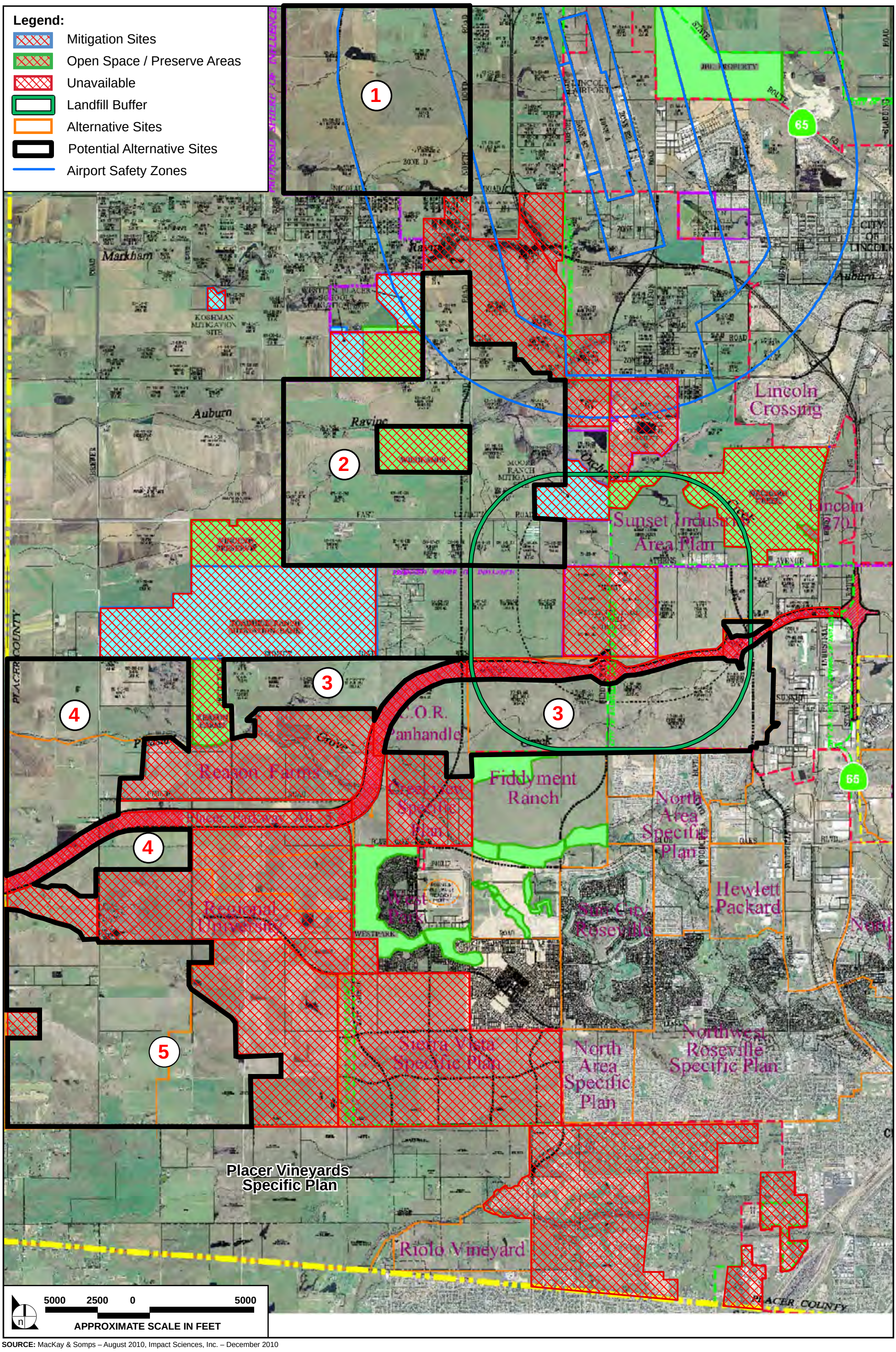
criterion excluded alternative sites if they contained aquatic resources of greater sensitivity and value than those on the project site.

Screening of five alternate sites was completed in two phases. In the first phase, all five sites were evaluated under the following two criteria. For each criterion, sites were evaluated as **Feasible**, **Conditionally Feasible**, or **Not Feasible**. Sites that received a Not Feasible rating for either criterion were eliminated from further consideration.

- **Off-site Alternative Criterion 1 – Biological Resources Sensitivity** evaluated the nature, extent, and quality of biological resources on alternative sites as compared to those of the proposed project site, with a particular focus on aquatic resources and special-status species. Sites with extensive, high-quality aquatic resources were considered Not Feasible for this criterion unless those resources are already protected by conservation easements or other land use management mechanisms. Sites with less extensive or more highly fragmented resources were considered Conditionally Feasible, and sites with resources of lower quality were considered Feasible. Because detailed information (e.g., specific acreage of various sensitive habitat types) was not equally available for all of the potential alternate sites, evaluation under Criterion 1 was conducted in a generalized, non-quantitative manner, based on a reconnaissance-level evaluation of relative sensitivity.

- **Off-site Alternative Criterion 2 – Viability of Commercial Uses at Alternative Site** evaluated the feasibility of developing the regional commercial component of the Proposed Action, or "power center," at the alternative site. A typical power center is defined as a center dominated by several large anchors, including discount department stores, off-price stores, warehouse clubs, or "category killers," i.e., stores that offer tremendous selection in a particular merchandise category at low prices (ICSC 1999). The success of businesses in a power center depends on several factors but the minimum requirements are the availability of a minimum number of dwelling units or a minimum population within a reasonable distance of the power center, availability of good access, and the absence of other competing power centers. Trade area information for big box retail stores that anchor power centers indicates that for a discount department store with 100,000 to 120,000 square feet (9,290 to 11,148 square meters) of space to be successful, there should be a population of at least 100,000 persons within its trade area (defined as a 5-mile [8-kilometer] radius or less of the location of the store) and that there should be no existing competitors currently serving the vast majority of this population. For big box retail stores involving specialty goods such as electronics (i.e., a category killer), the trade area for a 36,000-square-foot (3,345-square-meter) store must contain a population of at least 200,000 persons. The USACE determined that an alternate site that includes a commercial center location with at least 100,000 persons within 5 miles (8 kilometers) by 2040 was Feasible under this criterion and a site with less than 100,000 persons within the 5-mile (8-kilometer) radius of the commercial center location by 2040 was Not Feasible.

Table 2.0-1 shows the evaluation of the five potential sites under Criteria 1 and 2.



SOURCE: MacKay & Somps – August 2010, Impact Sciences, Inc. – December 2010

FIGURE **2.0-1**

Potential Alternative Sites

1090-002•11/11

Table 2.0-1
Screening-Level Comparison of Alternate Sites

Site	Off-site Alternative Criterion 1 *Biological Resources Sensitivity*	Off-site Alternative Criterion 2 *Viability of Commercial Uses at Alternate Site*
Lincoln Village 4 2,598 acres	This site is mostly open pasture with a large number of vernal pools/seasonal wetlands scattered over most of the property. Much of this area is in an existing vernal pool preserve and encumbered by a conservation easement. The wetlands are of high quality and are known to support listed vernal pool crustaceans. Trees are very sparse. The southern portion of the site contains a drainage that supports open water, marsh, and limited riparian habitat. Given the extensiveness and high quality of aquatic resources, as compared to the Proposed Action, the site is not feasible for further consideration. **Conclusion: Not Feasible**	The population data for the area surrounding this site has not been calculated as of June 13, 2011. Conservatively, the site is considered feasible with respect to this criterion. **Conclusion: Feasible**
Lincoln Villages 5-6 3,025 acres	The majority of this site is rice lands but there are substantial areas of vernal pool grasslands. Vernal pool/seasonal wetlands are of moderate quality and listed crustaceans are likely. The wetlands are of moderate quality. Trees are abundant along Auburn Ravine, which flows through the northern portion. The most biologically valuable habitat is already protected within a conservation easement (Wildlands). The site would be feasible because the highest quality aquatic resources are already preserved and much of the remainder is in rice. **Conclusion: Feasible**	The population data for the area surrounding this site has not been calculated as of June 13, 2011. Conservatively, the site is considered feasible with respect to this criterion. **Conclusion: Feasible**
Placer Ranch - Northeast 3,056 acres	The Placer Ranch portion of the site is entirely annual grassland. It is mostly in a fallow state and there are very few structures or current uses. Vernal pools/seasonal wetlands are scattered throughout the site, more commonly associated with drainage ways. These are of moderate quality. Listed crustaceans are likely. There is almost no woody vegetation. A tributary (lacking riparian vegetation) to Pleasant Grove Creek flows through the site. The resources on this portion of the site are generally similar to the Proposed Action. The Brookfield portion of the site is entirely annual grassland. A wetland swale system arcs through the site from east to west, flowing out of an irrigated pasture. It is impounded, forming a narrow stock pond. The swale conveys irrigation runoff during the summer months. The property contains a considerable amount of vernal pools and seasonal wetlands, primarily associated with the drainage in the northern half and the clayey soils near the southern portion. These wetland habitats may support listed crustaceans. The western portion of the site is also primarily	The population of the area within 5 mile radius of Placer Ranch (113,546 persons) is currently adequate to support one power center and two centers by 2040. However, a power center at this site is not considered feasible for a number of reasons. First, the Placer Ranch site is located within 5 miles of two highly developed established commercial areas in the Cities of Lincoln and Roseville where numerous power centers are already developed that would cut into the trade area of the Placer Ranch power center. Second, the Placer Parkway has yet to be developed. In the absence of a major thoroughfare, businesses within the power center(s) at the Placer Ranch -Northeast site would not receive any drive-by trips. Lastly, should a portion of the Placer Parkway be developed as part of the Placer Ranch alternative, power center businesses will choose to locate at its intersection/interchange with Route 65 than on the Placer Ranch-Northeast site because there will be more drive-by traffic and population to serve at that location. For all of these reasons, a power center would not be viable at this site until such time that additional residential uses establish to the west of the site.

Site	Off-site Alternative Criterion 1 *Biological Resources Sensitivity*	Off-site Alternative Criterion 2 *Viability of Commercial Uses at Alternate Site*
	annual grassland with some areas of irrigated pasture. Vernal pools/seasonal wetlands are prevalent and scattered throughout most of the property. Most of the wetlands are of high quality and are relatively undisturbed. Listed crustaceans are known to occur in some areas of this site. Native trees occur along the drainages but are very sparse in the open areas. Pleasant Grove Creek flows through the southern portion of the site and supports an oak riparian woodland. This large grassland unit is less disturbed and the landform and its aquatic resources are of higher quality as compared to the Proposed Action. The site is therefore considered not feasible. **Conclusion: Not Feasible**	**Conclusion: Not Feasible**
Northwest 2,416 acres	This site is approximately half rice lands. The remaining area is mostly dry pasture, including some that has been historically leveled but is currently fallow. The northeast portion of this site was in contour rice farmed but is currently fallow. Wetlands are forming behind the checks. The non-rice areas of this site (about half of the site) contain a high percentage of vernal pools/seasonal wetlands and wetland swales. Listed crustaceans are likely. Trees are confined to a few residences and the Pleasant Grove riparian corridor. The site would be feasible because aquatic resources are limited due to extensive agricultural land conversion and lack of a large natural resource component as compared to the Proposed Action site. **Conclusion: Conditionally Feasible**	The population within a 5-mile radius of the Northwest site was approximately 4,576 in 2009. This population is expected to increase to approximately 39,776 persons by 2025 and 41,327 persons by 2040, including the population associated with the Proposed Action. This population would at best support two grocery stores. It would not be large enough to support a power center within the Proposed Action's timeframe. **Conclusion: Not Feasible**
Southwest 2,400 acres	This site contains a high diversity of habitats and land uses. Rice lands, row crops, and various disking practices account for a variable landscape. There are numerous residences, including one with two water-ski lakes, which fragment the landscape. Fallow areas support a substantial amount of moderate quality vernal pool/seasonal wetlands. Listed crustaceans are likely. Trees are confined to residential areas and drainage ways. Curry Creek flows through the fallow and active contour rice in the northern area. The site would be feasible because the property is quite fragmented with variable land uses. The aquatic resources and watersheds are compromised compared to the Proposed Action site. **Conclusion: Conditionally Feasible**	The population within a 5-mile radius of the Southwest site was approximately 39,409 in 2009. This population is expected to increase to approximately 92,881 persons by 2025 and 106,236 persons by 2040, including the population associated with the Proposed Action. This population would be adequate to support a power center. **Conclusion: Feasible**

Upon completion of Phase 1 screening, the USACE carried two of the five sites (Lincoln Villages 5-6 and the Southwest sites) forward for Phase 2 screening. These sites were then evaluated under a third criterion, which was defined as follows:

- **Off-site Alternative Criterion 3 – Feasibility of Acquiring Sufficient Acreage** evaluated the feasibility of acquiring title to the property through purchase, land exchange, or another mechanism. This was explored by the Applicants through direct landowner inquiries and independently verified by the USACE. Sites where sufficient contiguous acreage (approximately 2,400 acres (971 hectares), the minimum size to support a project like the PVSP) could not be acquired by the Applicants were eliminated from further consideration.

Based on inquires made by the Applicants (subject to USACE verification), there are approximately 1,676 acres (678 hectares) of land available for purchase on the Lincoln Villages 5-6 site. This acreage is less than 2,400 acres (971 hectares) which is the minimum acreage needed to develop a regional residential community similar to the Proposed Action. Furthermore, the land that is available on the site is fragmented such that the development of a large-scale regional residential community would not be feasible, and the commercial component of the PVSP would also not be viable at this site. Similarly, with respect to the Southwest site, inquires made by the Applicants revealed that there are about 1,470 acres (595 hectares) of land available for purchase on the Southwest site. This acreage is less than the minimum acreage (2,400 acres or 971 hectares) necessary to develop a regional residential community. Furthermore, a large-scale mixed-use residential development would not be feasible at this site for a number of reasons, including fragmentation and infeasibility of the commercial component of the Proposed Action. The USACE found that neither of the two alternative sites was feasible and no off-site alternatives were carried forth for detailed evaluation in this EIS (see Technical Memorandum: Alternatives Development and Screening in **Appendix 2.0**).

2.4.2 On-Site Alternatives

As a first step, the USACE considered on-site alternatives that were developed by Placer County for the PVSP EIR. The PVSP EIR evaluated a total of six on-site alternatives, including five alternate development plans and a No Project (no development) alternative (County of Placer 2007). The USACE determined that with the exception of the Blueprint alternative, none of the EIR alternatives were feasible alternatives for inclusion in the EIS because they would not meet the Proposed Action's basic purpose and need or they have been superseded by alternatives proposed by the USACE that avoid or preserve higher-value wetland resources (see Technical Memorandum: Alternatives Development and Screening in **Appendix 2.0**). Although the USACE is not evaluating a separate Blueprint alternative in this EIS, the land uses and densities reflected in the County's Blueprint alternative are evaluated as the upper end of the density range incorporated into the Proposed Action.

The USACE also reviewed the on-site alternatives put forth by the Applicants in their Section 404(b)(1) alternatives submittal for the proposed project. Seven alternatives were identified by the Applicants in consultation with the USACE and other federal agencies, including two alternatives that were identified based on Notice of Intent (NOI) comments from the United States Environmental Protection Agency (USEPA). The seven alternatives include:

- **Alternative A**, which would preserve listed aquatic invertebrate habitat with a 250-foot buffer;
- **Alternative B,** which would preserve aquatic invertebrate habitat predominantly in western and northeastern portions of project site;
- **Alternative C,** which would avoid 85 percent of vernal pool resources;
- **Alternative D**, which would avoid all development activities in jurisdictional waters of the U.S. (same as No Action Alternative in this Draft EIS);
- **Alternative E,** which would involve no development of the project site;
- **Alternative F,** which would focus avoidance of impacts to aquatic resources located predominantly in the western and northeastern portions of the site; and
- **Alternative G,** which consists of avoidance of aquatic resources located predominantly in the southern and northeastern portions of the project site.

Based on a review of these alternatives, the USACE eliminated Alternative E, the No Development alternative, because a "no-development" alternative would not meet the Proposed Action's basic purpose and need. In addition, because NEPA mandates the evaluation of a No Action alternative, the No Action alternative that was identified in the Section 404(b)(1) alternatives analysis will be carried forward into the EIS and therefore was not put through the screening process.

Alternatives F and G, above, which were put forth by the Applicants in response to USEPA comments, substantially reduce the acreage available for development on the site and do not consider the variable condition of wetland resources on the site. The USACE, in consultation with USEPA, replaced Alternatives F and G with the focused avoidance alternatives (Alternatives 1 through 5). These alternatives, like Alternatives F and G, reduce the project footprint, and increase the preserve area, but unlike Alternatives F and G, these alternatives focus preservation on locations with higher densities of aquatic resources, and on aquatic resources of greater quality relative to the aquatic resources on the site as whole, as measured by the California Rapid Assessment Method (see California Rapid Assessment Method for Placer Vineyards in **Appendix 2.0**). These alternatives are an improvement over Alternatives F and G because they were developed based on consideration of the value of specific wetland complexes. This information was not available when Alternatives F and G were first proposed by the Applicants (see Technical Memorandum: Alternatives Development and Screening in **Appendix 2.0**).

Three of the seven alternatives put forth in Applicants' 404(b)(1) alternatives submittal were carried forward for screening. The three alternatives included: Alternative A, which would preserve listed aquatic invertebrate habitat with a 250-foot (76-meter) buffer; Alternative B, which would preserve aquatic invertebrate habitat predominantly in western and northeastern portions of the project site; and Alternative C, which would avoid 85 percent of vernal pool resources.

The USACE screened these three potential alternatives based on criteria derived from the project purpose and need and the ability of an alternative to avoid or reduce the impacts of the Proposed Action on wetland resources (feasibility). For each criterion used in screening, the three on-site alternatives were evaluated as **Feasible, Conditionally Feasible,** or **Not Feasible**. Alternatives that received a Not Feasible rating for any criterion were eliminated from further consideration. The following criteria were developed to screen on-site alternatives:

- **On-site Alternatives Criterion 1 – Functionally-Integrated Mixed-Use Residential Project** evaluated the ability for an alternative to develop a functionally integrated, large-scale, regional mixed-use residential community. This means that the alternative would need to meet basic planning principles for developing residential uses that are supported by and accessible to neighborhood retail, commercial, and public/quasi-public land uses, and that these uses are reasonably contiguous to provide a sense of community. In order to meet the basic project purpose which is to develop a "regional" residential community, the alternative would need to provide sites for developing viable commercial uses, including a power center and a town center for specialty retailers. In addition, the residential community would need to be of a sufficient size to support a town center and other public/quasi-public uses. For reasons presented in **Chapter 1.0**, the minimum size of the developed area would need to be approximately 2,400 acres (971 hectares).

- **On-site Alternatives Criterion 2 – Aquatic Resources** evaluated whether impacts on on-site wetlands would be greater or less than the wetland impacts of the Proposed Action. Alternatives that would result in fewer direct and indirect impacts on aquatic resources when compared to the Proposed Action and would preserve contiguous areas of habitat were considered Feasible. Alternatives that would have greater direct and indirect effects on aquatic resources than the Proposed Action or would result in a fragmented pattern of preservation were rated as Not Feasible.

Alternative A is not feasible under Criterion 1. The configuration of Alternative A would preclude development on many of the parcels because the developable areas on each of the parcels would be substantially reduced and fragmented. Consequently, the residential community would consist of disconnected and fragmented pockets of development, and Alternative A would not result in a large-scale, mixed-use functionally integrated community. Alternative A is not feasible under Criterion 2 because it would preserve aquatic resources in fragmented, non-contiguous patches throughout the site.

Alternatives B and C are not feasible under Criterion 1. Under Alternatives B and C, the total development area would be substantially reduced (about 1,736 acres [702 hectares]) which is much below the minimum area of 2,400 acres (971 hectares) required for a large-scale regional community, and there would be only a limited amount of developable land available along Baseline Road which would be occupied by commercial uses (one or more power centers), forcing the Town Center to be located at a site further in the interior of the project site and distant from arterials. This would reduce the economic viability of the Town Center. Therefore, all three alternatives were eliminated from further consideration.

The USACE in consultation with USEPA determined that additional on-site alternatives should be developed that would avoid impacts to aquatic resources in those portions of the project site where the resource is most valuable. In addition, the USACE determined that additional alternatives should be identified that may be considered practicable in accordance with Section 404(b)(1).

The USACE conducted a California Rapid Assessment Method (CRAM) analysis of the wetland resources on the project site to identify areas where avoidance of wetlands would be most beneficial. Based on the results of the CRAM analysis, the USACE in consultation with USEPA identified five areas on the project site where the potential for further avoidance of wetlands should be further evaluated. From these areas, five focused avoidance alternatives were defined which included the development of the rest of the project site per the PVSP and additional avoidance of wetland resources in each of the five avoidance areas.

In summary, upon completion of the alternatives screening process, the USACE identified six alternatives for further evaluation in this EIS: five focused avoidance alternatives (Alternatives 1 through 5), and the No Action Alternative. The following sections describe the Proposed Action and the six alternatives carried forward for analysis in this EIS.

2.5 PROPOSED ACTION

This section presents details of the Proposed Action, which is the development of the 5,230-acre (2,117-hectare) site under the PVSP footprint, which could accommodate a range of land use densities. The site includes 3,781 acres (1,530 hectares) of property for which DA permit applications have been submitted, and 1,449 acres of property for which there are no permit applications.

This section presents two scenarios for the Proposed Action that represent the potential low-end and high-end of the range of densities that could be developed: the "Base Plan" and "Blueprint." The Proposed Action – Base Plan scenario, which is the specific plan that was approved by Placer County, would allow for the development of approximately 14,132 residential units. The Proposed Action – Blueprint scenario, which was also considered by the County but was not eventually adopted, would develop the project site at a higher density consistent with the Sacramento Area Council of Governments (SACOG) Blueprint and provide for up to 21,631 residential units (**Table 2.0-2, Proposed Action Components**). The development footprint within these scenarios would be the same, though the land use designations and acreages would differ. This EIS evaluates the environmental effects from development under both scenarios in order to provide the range of impacts within the same footprint. The actual development ultimately achieved within the plan area could be anywhere between these two bookends, and any development within the bookends would be considered consistent with this EIS and any permits issued by the USACE for the Proposed Action. Land use decision-making within these bookends would be under the County's jurisdiction over the life of the plan. Under both scenarios, 979 acres (396 hectares) of land in the western portion of the PVSP site are designated as a Special Planning Area (SPA) and would continue to be used for large lot rural residential development under the PVSP. For purposes of this analysis, under both Proposed Action scenarios, the SPA has been allocated 411 dwelling units, including 150 existing dwelling units.

Table 2.0-2
Proposed Action Components

	Acres	Residential Units Base Plan	Residential Units Blueprint
Development of Properties with Active DA permit applications	3,781	11,585	17,916
Development of Properties with no Active DA permit applications*	1,449	2,547	3,715
Total	**5,230**	**14,132**	**21,631**

**Includes the 979-acre Special Planning Area and 411 units that are allocated to this area.*

Including a range of densities in the Proposed Action allows for thorough NEPA review of potential impacts of the Proposed Action while also respecting that land use regulation—including the ultimate determination of the density at which the Plan area should be developed—is a local government function.

2.5.1 Placer Vineyards Development Plan - Base Plan and Blueprint Scenarios

Under the Proposed Action - Base Plan scenario, the community would include about 3,361 acres (1,360 hectares) of residential uses, 309 acres (125 hectares) of commercial and office uses, 309 acres (125 hectares) of public/quasi-public uses (such as schools), 211 acres (85 hectares) of parks, 709 acres (287 hectares) of open space, and 331.5 acres (134 hectares) of major roadways (see **Table 2.0-3, Proposed Action – Proposed Range of Land Uses**). **Figure 2.0-2** shows the proposed land use plan under the Proposed Action Base Plan scenario.

Under the Proposed Action - Blueprint scenario, the community would include about 3,220 acres (1,303 hectares) of residential uses, 342 acres (138 hectares) of commercial and office uses, 366 acres (148 hectares) of public/quasi-public uses (such as schools), 273 acres (110 hectares) of parks, 709 acres (287 hectares) of open space, and 321 acres (130 hectares) of major roadways (see **Table 2.0-3**). The land use plan of the Proposed Action under the Blueprint scenario is shown in **Figure 2.0-3.** As shown, the development footprint would be substantially the same for the densities ranging between the Base Plan and Blueprint scenarios. However, within the area to be developed, some of the land uses could differ.

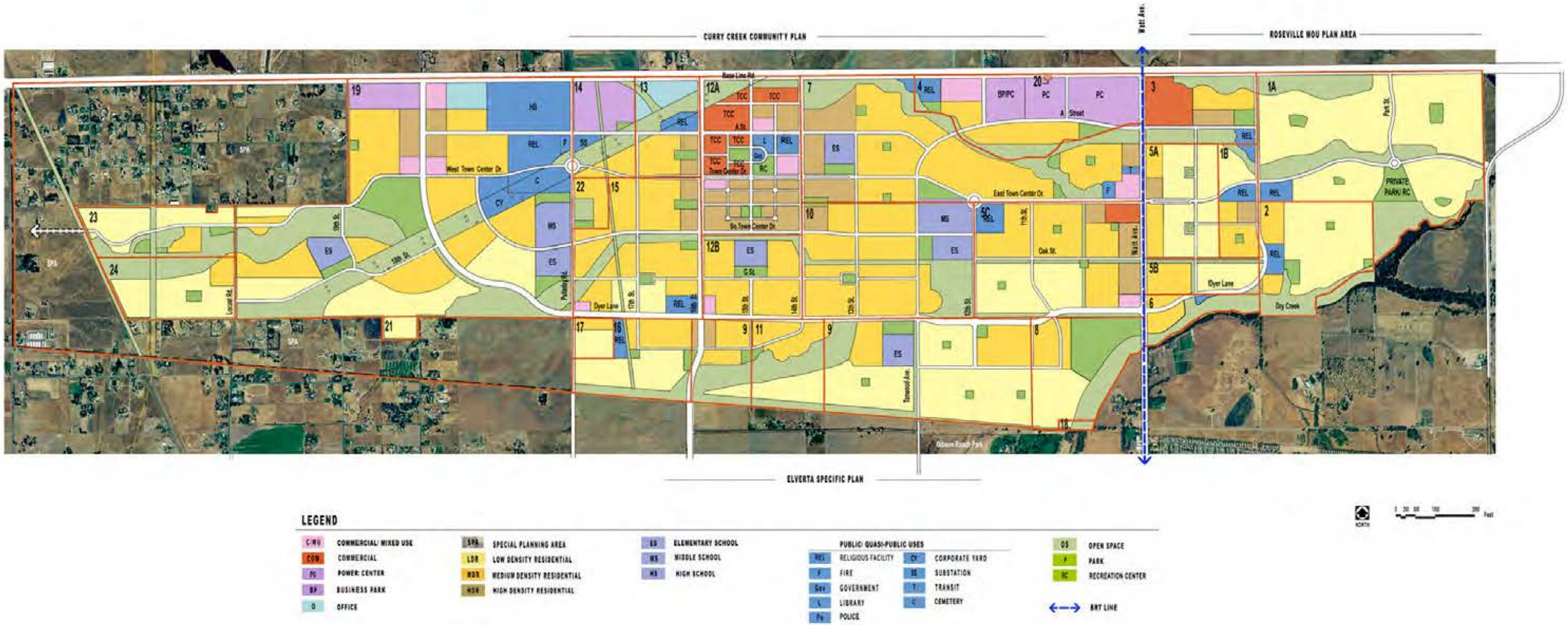
Table 2.0-3
Proposed Action – Proposed Range of Land Uses

Land Use	Base Plan*		Blueprint**	
	Acres	Units	Acres	Units
Low Density Residential	1,001	3,519	729	3,647
Medium Density Residential	1,176	6,474	1,170	9,873
High Density Residential	205	3,092	342	6,244
Special Planning Area	979	411	979	411
Residential Subtotal	*3,361*	*13,496*	*3,220*	*20,175*
Commercial Mixed Use	51	636	95	1,456
Commercial	34	--	34	--
Town Center Commercial	43	--	43	--
Business Park/Power Center	150	--	142	--
Office	33	--	29	--
Commercial Subtotal	*309*	*636*	*342*	*1,456*
Public Uses	51	--	51	--
Schools	167	--	199	--
Religious Facilities	91	--	116	--
Public Uses Subtotal	*309*	*0*	*366*	*0*
Open Space	709	--	709	--
Park	211	--	273	--
Roads	332	--	321	--
Park, Roads and Open Space Subtotal	*1,252*	--	*1,303*	--
Total	**5,230**	**14,132**	**5,230**	**21,631**

Source: Placer Vineyards Specific Plan – July 2007; Placer Vineyards Specific Plan – Blueprint – July 2—7
* *Based on Table 3-3, Land Use Property Summary, from the Placer Vineyards Specific Plan – Errata to the Placer Vineyards "Base Plan" Specific Plan - July 16, 2007*
** *Based on Table 3-3, Land Use Property Summary, from the Placer Vineyards Blueprint Specific Plan - July 2007*

Residential Development

Under the Proposed Action – Base Plan scenario, the Proposed Action would provide a total of 14,132 single- and multi-family residential units. Under the Proposed Action – Blueprint scenario, the Proposed Action would provide a total of 21,631 single- and multi-family residential units. The residential component of the PVSP would include low-, medium-, and high-density neighborhoods accommodating a wide range of housing types. **Table 2.0-3** shows residential acres and units within the range of the Proposed Action scenarios.



SOURCE: County of Placer – 2007

FIGURE **2.0-2**

Proposed Action – Base Plan Scenario Land Use Plan

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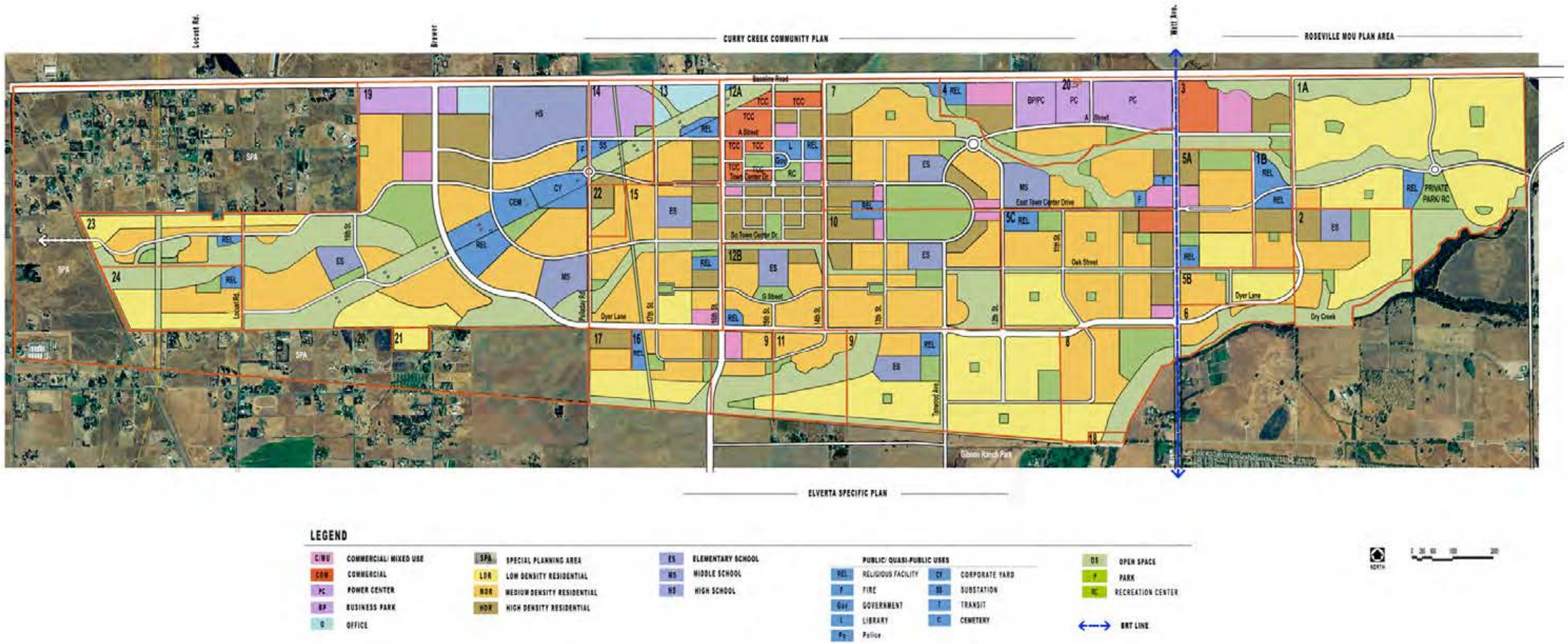


SOURCE: County of Placer – 2007

FIGURE **2.0-3**

Proposed Action – Blueprint Scenario Land Use Plan

1090-002•01/12

Commercial Development

At buildout, the Proposed Action - Base Plan scenario would provide approximately 309 acres (125 hectares) and 3.6 million square feet (334,450 square meters) of commercial and retail uses. Under the Proposed Action - Blueprint scenario, the Proposed Action would develop 342 acres (138 hectares) and 3.55 million square feet (329, 806 square meters) of commercial and employment uses.

Most commercial and employment uses—including conventional commercial, commercial mixed-use, business professional mixed-use, and community commercial —would be concentrated along Baseline Road, Watt Avenue, and other arterial roadways to take advantage of the exposure to high-volume traffic along these principal commute corridors. Some of the commercial uses would be concentrated in a Town Center, to encourage a variety of office, retail stores, and entertainment uses. Smaller commercial centers would serve adjacent residential neighborhoods and are planned to include at least some mixed-use areas offering retail goods and services in conjunction with higher-density housing.

Public and Quasi Public Uses

The Proposed Action would develop a broad range of public and quasi-public uses, including schools, fire stations, government offices, a library, police station, fire station, a corporation yard, a substation, a transit center, a cemetery, and religious facilities. Acres assigned to these uses under both scenarios are reported in **Table 2.0-4, Proposed Action – Public and Quasi-Public Uses.**

Table 2.0-4
Proposed Action – Public and Quasi-Public Uses

Land Use	Proposed Action – Base Plan (Acres)	Proposed Action – Blueprint (Acres)
Public Facilities and Services[1]	51	51
Religious Facilities	91	116
Schools		
Elementary Schools (6 schools)	72	84
Middle Schools (2 schools)	45	45
High Schools (1 school)	50	70
Total	***309***	***366***

Source: Placer Vineyards Specific Plan – July 2007 and Placer Vineyards Blueprint Specific Plan – July 2007

[1] *Includes Fire – F, Government Offices – Gov, Substation – SS, Library – L, Utility Substation – SS, Corporate Yard – CY, Transit – T, Cemetery – C*

Government Offices and Facilities

General County services and facilities provided to residents of Placer County include County administration, the court system, health and welfare services, clerk/recorder, elections, assessor, tax

collector, public works and engineering, planning, and building inspection. In order to adequately serve the proposed residential community with general services, several satellite County facilities would need to be located within the project site. An administration services office building and a corporation/maintenance yard and a community building associated with recreation services would be located within the Town Center. The corporation yard would be located on property designated "CY" with adequate separation from adjacent residential property. In addition, a small parks equipment and maintenance facility would be located in each of the two proposed community parks.

Fire Protection

A total of two Placer County Fire Department stations and an administrative center would be located on the project site. One station would serve the eastern portion of the site, located adjacent to the intersection of Watt Avenue and Town Center Drive. The other would serve the western portion of the site, and would be located off of Palladay Road and A Street. In addition, a fire administrative center would be co-located with other County administrative offices within the Town Center south of Baseline Road and east of 16th Street.

Law Enforcement

Under the Proposed Action, a Placer County Sheriff's Department substation would be co-located with other County administrative offices within the Town Center south of Baseline Road and east of 16th Street.

Libraries

Under the Proposed Action, a new community library, approximately 13,905 square feet (1,292 square meters) in size, would be constructed in or near the Town Center.

Utility Substation

Utility substations, including electrical substations, pumping stations, pressure regulation stations, or similar facilities would be located throughout the project site.

Transit Station

A multi-modal transit station/terminal would be located off of Watt Avenue. The station would serve to distribute information on local transit options and serve as a passenger terminal and transfer station for public mass transit systems including future, potential Bus Rapid Transit (BRT) services along Watt Avenue.

Cemetery

Land designated Cemetery would be used for cemeteries, full service funeral parlors, and animal cemeteries.

Schools

The project site is within three school districts: Center Unified School District in the eastern portion, and the Elverta Joint Elementary School District and Grant Joint Union High School District in the western portion. The Proposed Action would shift the boundary line between the districts to provide what is

characterized as a more logical boundary between neighborhoods, prevent adjacent neighbors from attending different schools, and equitably divide the land area and projected number of units between the districts. The boundary line would be shifted to align with the centerline of 16th Street up to the intersection with Dyer Lane, then turn west and follow the centerline of West Dyer Lane to where it connects with Brewer Road.

The Proposed Action provides for six elementary schools, two middle schools, and one high school that would comprise 167 acres (68 hectares) under the Base Plan scenario and 199 acres (81 hectares) under the Blueprint scenario. According to the Proposed Action, schools would be sized and located according to Center Unified School District and state standards, and are proposed to be located within the residential communities so that no home is farther than a mile from a school. Schools would be located near open space corridors to allow for off-street pedestrian and bicycle access, and parks are proposed to be located in conjunction with most schools to allow for joint use.

Religious Facilities

Religious sites would comprise 91 acres (37 hectares) in 12 sites under the Proposed Action – Base Plan scenario and 116 acres (47 hectares) in 16 sites under the Proposed Action – Blueprint scenario. Religious sites are designated for houses of worship, defined as religious organization facilities operated for worship or promotion of religious activities, including churches, synagogues, temples, and also includes religious accessory uses on the same site, including, but not limited to, living quarters for staff, child daycare facilities where authorized by the same type of land use permit required for the house of worship itself.

Parks

Multiple sites are proposed for improved parks and recreation facilities, including neighborhood parks, community parks, mini parks (or "pocket" parks), and a recreation center. Development under the Proposed Action – Base Plan scenario would provide 211 acres (85 hectares) of parkland; development under the Proposed Action – Blueprint scenario would provide 284 acres (115 hectares) of park.

Open Space

The Proposed Action would preserve approximately 709 acres (287 hectares) of open space in perpetuity as open space under both the Base Plan and Blueprint scenarios. Open spaces would include flood control and drainage channels, properties within power line easements and special setback areas, such as setbacks along the Placer County line. Some open space areas may have compatible uses, including trails, landscape nurseries and storage, and other active and passive recreational uses and their associated parking lots.

Roads

The Proposed Action – Base Plan scenario includes approximately 332 acres (134 hectares) under roads, and the Proposed Action – Blueprint scenario includes approximately 321 acres (130 hectares) under roads.

2.5.2 Circulation System

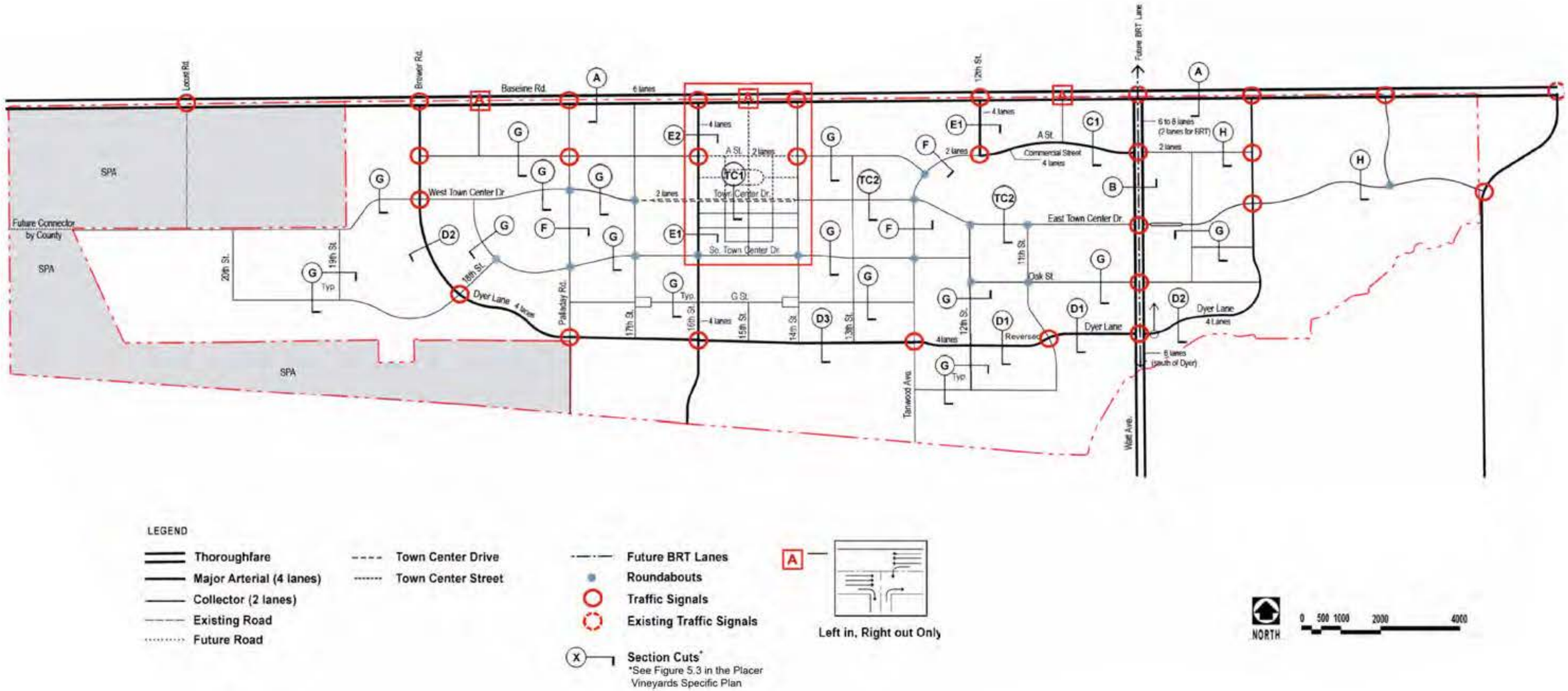
The Proposed Action provides for a circulation system to serve all transportation modes. The proposed circulation system is presented in **Figure 2.0-4, Circulation Diagram**. The project site would be served by a network of public streets organized in a hierarchy of functional classifications. The Proposed Action would also include a system and facilities to promote public transportation use consisting of one transit center, bus turnouts, and incentives to use public transit. A lane for a future streetcar route is reserved along Town Center Drive. It is anticipated that a Transportation System Management (TSM) plan would be prepared and adopted for each group of developments under the Proposed Action at the time of building permit issuance. A TSM plan may include ridesharing/carpooling/vanpooling, preferred parking for carpooling, preferred transit access, transit use incentives, and telecommuting/satellite work centers. The Proposed Action would also provide a system of on-street bikeways, off-street bicycle/pedestrian trails, equestrian linkages, and street side pedestrian walkways.

In addition, the following off-site roadways improvements are also planned as part of the Proposed Action.

- **Baseline Road**, the existing arterial roadway that forms the northern boundary of the project site, would be improved in phases, with an ultimate buildout of six travel lanes (typically equivalent to a 100-foot-wide (30-meter) ROW). Baseline Road improvements would include roadway widening on the south side of the existing roadway, east of the Sutter County line and west of Walerga/Fiddyment Road. Five intersections along Baseline/Riego Road would also be improved.
- **Watt Avenue**, the existing north-south arterial roadway that crosses through the central-eastern portion of the project site, would be improved in phases. Watt Avenue would be widened to six lanes from Baseline Road on the north to approximately 1,000 feet (300 meters) south of the Sacramento County line. In some areas, the road would be widened to eight lanes with two lanes dedicated for bus transit right-of-way. The right-of-way for widening Watt Avenue would be acquired on both sides of the existing roadway.

2.5.3 Utility Infrastructure

Utility infrastructure required for the proposed development includes sewer, water, storm drainage, electricity, natural gas, telephone, and cable television service. In general the utility infrastructure would be designed and phased to meet the anticipated growth within the entire PVSP site. **Table 2.0-5, Proposed Action – Utility Providers,** lists the entities that would provide utilities to the Proposed Action.



SOURCE: County of Placer – 2007

FIGURE **2.0-4**

Circulation Diagram

1090-002•11/11

Table 2.0-5
Proposed Action – Utility Providers

Service	Provider
Potable and irrigation water supply	Placer County Water Agency (PCWA)
Wastewater treatment	Placer County (South Placer Wastewater Authority)
Storm water management	Placer County Flood Control and Water Conservation District
Electricity	Pacific Gas and Electric Company and Sacramento Municipal Utility District
Natural Gas	Pacific Gas and Electric Company
Communications[1]	SureWest Communications and AT&T Inc.

[1] *Provider subject to change since deregulation has eliminated franchise area boundaries.*

The following utility and public facility improvements would be constructed to serve the Proposed Action.

Water Supply and Distribution Facilities

The project site is within the service area of the Placer County Water Agency (PCWA). The project site is proposed to receive water service from various sources on an initial and long-term basis. PCWA has determined that it has sufficient water rights to meet the projected demand of projects likely to develop in western Placer County through 2030, including the Proposed Action. PCWA contracts with PG&E for water from the Yuba and Bear rivers to serve its Zones 1 and 3 areas, has water rights through its Middle Fork Project (MFP), and also has a contract with the U.S. Bureau of Reclamation (BoR) for Central Valley Project (CVP) water. However, PCWA currently has constructed only a portion of the peak season treated surface water delivery infrastructure capable of serving the southwestern portion of Placer County, where the project site is located. To use these water supplies, development of new infrastructure by PCWA will be necessary. All of the water supply infrastructure improvements that are described below would be proposed by PCWA and constructed upon completion of appropriate environmental review by that agency. As they would not be constructed by the Applicants, these improvements are not part of the Proposed Action. However, because these are required in order to develop the PVSP, the environmental effects from these water supply improvements are analyzed and reported in the Draft EIS as potential indirect effects of the Proposed Action (and alternatives).

Long-term Surface Water Supply Improvements

The long-term surface water supply is proposed to be drawn from the Sacramento River at a new multi-party pump station, treatment plant, and transmission pipeline. As shown in **Figure 2.0-5a, Water Connections**, the long-term transmission pipeline would extend from the Sacramento River to the project site along Elverta Road, Pleasant Grove Road, and Baseline Road.

Initial Surface Water Supply Improvements

Because significant capital costs and long lead times for permit processing and construction[1] are involved to implement the long-term surface water supply from the Sacramento River, PCWA proposes to develop an initial surface water supply from the American River to serve the first phases of PVSP development. Water from the American River Middle Fork Project would be diverted at PCWA's American River Pump Station (ARPS), conveyed to and treated at the Foothill Water Treatment Plant, and delivered through existing transmission pipelines to the vicinity of Industrial Avenue. An existing booster pump and storage tank would allow PCWA to introduce this water into the City of Roseville pipeline system. Under an existing agreement with the City of Roseville, PCWA can convey 10 million gallons per day (mgd) (38 million liters per day [mld]) through the City's pipeline system to a location near Baseline Road and Fiddyment Road. Extension of a proposed 24-inch (61-centimeter) diameter pipeline westerly in Baseline Road would deliver the initial surface water supply to the project site, as shown in **Figure 2.0-5a**.

An additional, complementary scenario for conveying PCWA's ARPS water that would avoid the 10 mgd (38 mld) limitation on the Roseville-owned pipeline would deliver the water via a pipeline from the future Ophir Water Treatment Plant (**Figure 2.0-5b, Alternate Water Supply Infrastructure**). The water pipelines would be installed generally from the Ophir Water Treatment Plant along Ophir Road, which becomes Taylor Road, connecting to the transmission main from the Foothill Water Treatment Plant at Penryn Road. The proposed transmission system includes a water pipeline branching to the northwest before the Penryn connection, and running through the Bickford Ranch planned development. After Bickford Ranch, the water pipelines would connect to the existing PCWA Zone 1 system just north of the Sunset Water Treatment Plant in Rocklin. The proposed water pipelines would then be constructed through the existing Whitney Ranch development within existing road right-of-ways. Beyond Whitney Ranch, the water pipelines would cross under SR 65, and extend westerly through a mixture of industrial and open space, crossing Industrial Avenue. From that point, a water pipeline would be constructed through agricultural land, continuing to the south and connecting to the Regional University planned development project. The water pipeline would be constructed further south through agricultural land, eventually ending at the intersection of Baseline Road and Watt Avenue, abutting the project site.[2]

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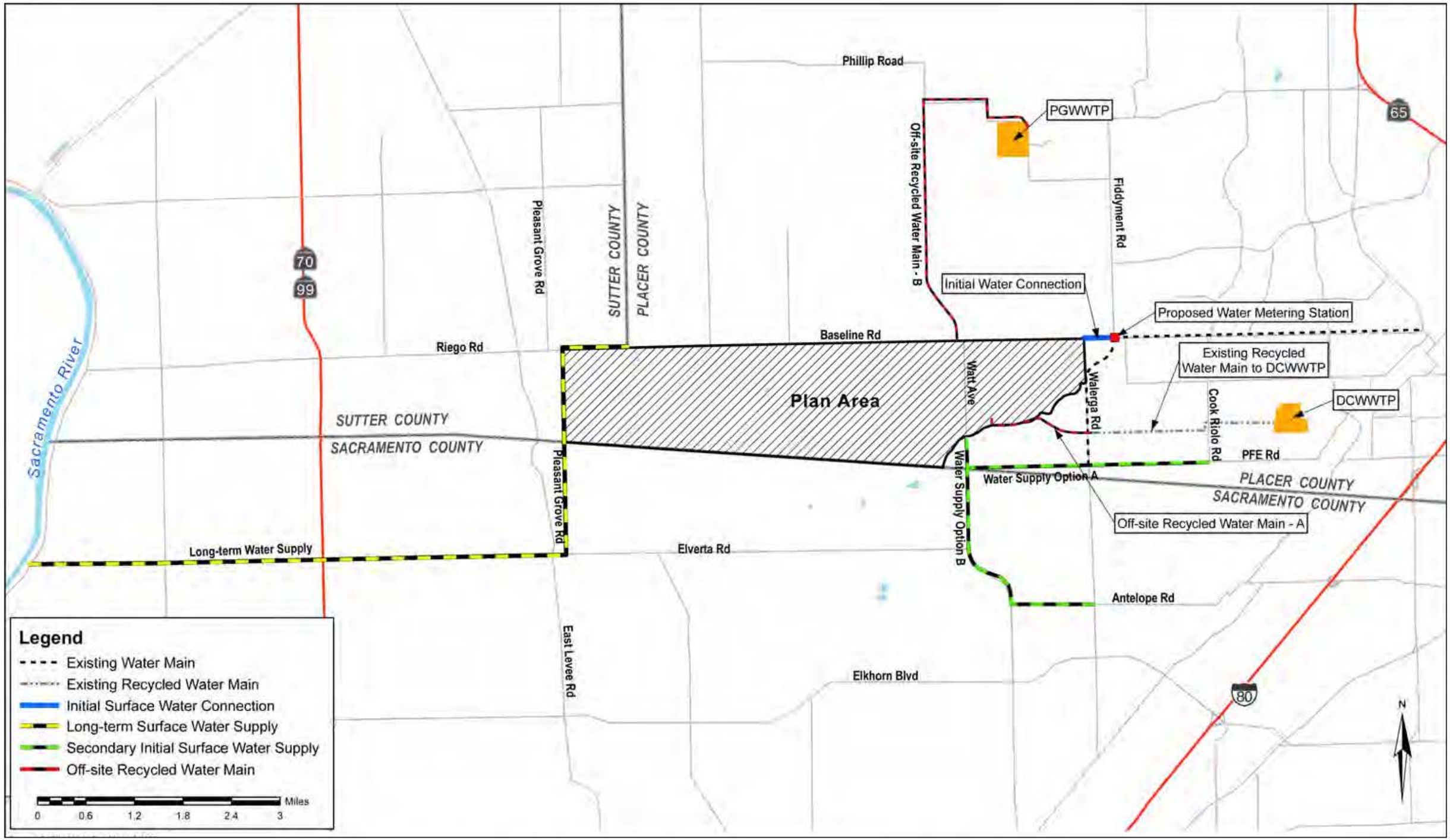
1 For more information on the current status of all of the water supply improvement projects described here, please see the document titled Status of Water Supply Improvement Projects in **Appendix 2.0**.

2 These improvements are not part of the Proposed Action for which DA permits are being sought, but are described in this document for disclosure purposes.



SOURCE: County of Placer – 2007

FIGURE **2.0-5a**

Water Connections

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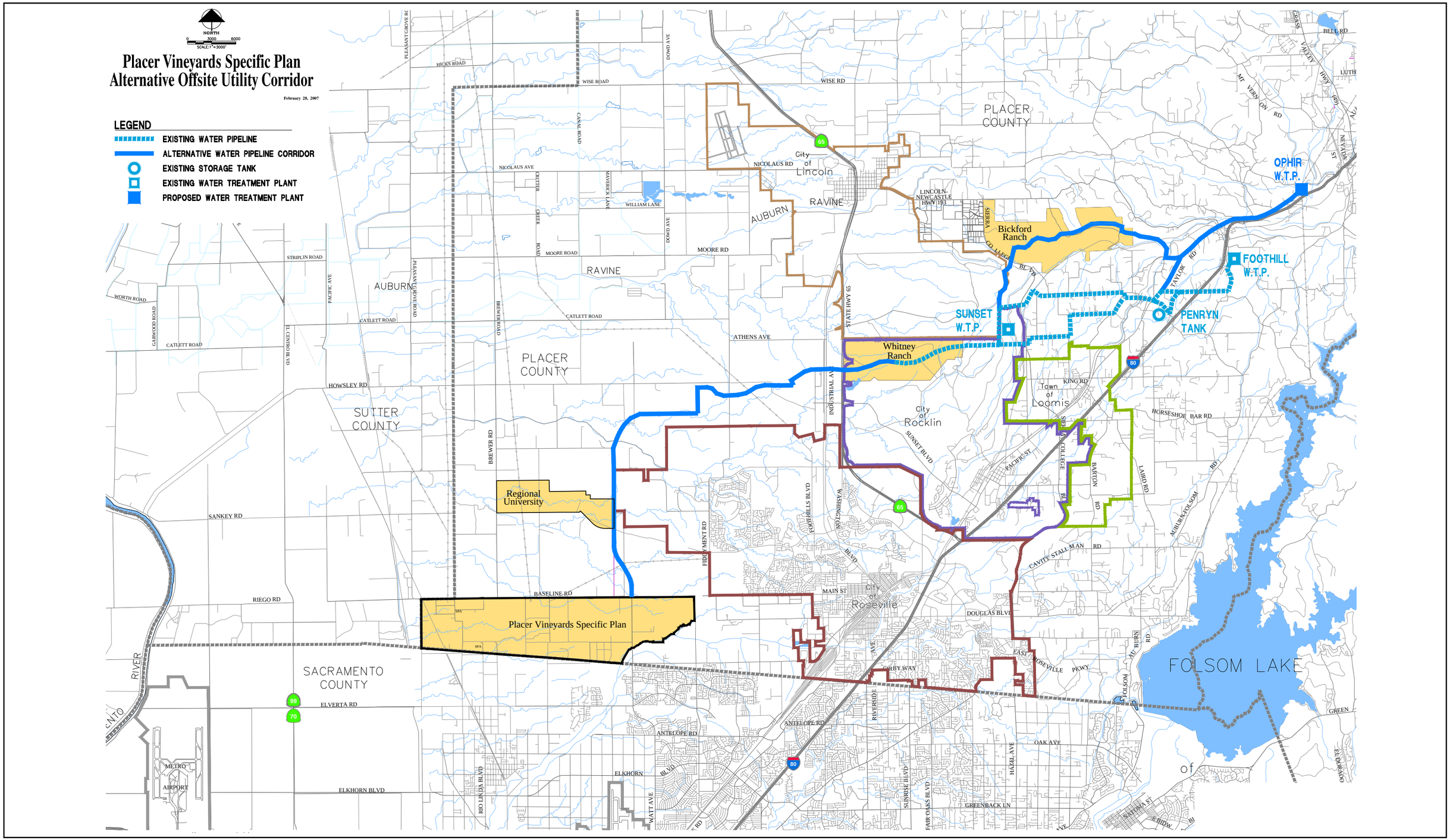

SOURCE: County of Placer – 2007

FIGURE **2.0-5b**

Alternate Water Supply Infrastructure

1090-002•01/12

Secondary Initial Water Supply Improvements

In the event that the long-term water supply facilities are not in place when the initial ARPS supply from the two points of delivery has been fully used, a second initial surface water supply project would be constructed. It would consist of use of Middle Fork American River water currently contracted by PCWA to Sacramento Suburban Water District (SSWD). The supply would be diverted from Folsom Lake, treated at Sidney N. Peterson Water Treatment Plant (owned and operated by the San Juan Water District), and conveyed to the project site via a new pipeline extending from the Cooperative Transmission Pipeline that currently ends near Antelope and Walerga Roads, as shown on **Figure 2.0-5a**. This pipeline would be extended westerly along Antelope Road to Watt Avenue and then north to the project site. Alternatively, this supply could be conveyed in a proposed 16-inch diameter pipeline constructed in PFE Road from Cook Riolo Road to Watt Avenue and northerly to the project site.[3]

On-site Water Supply System Improvements

The on-site water supply system would be made up of a transmission main located in Baseline Road which would provide water to the entire project site. A grid of 12-inch (30-centimeter) and 16-inch (41-centimeter) mains located alongside the arterial and collector road system would be connected to the transmission main in Baseline Road and would distribute water to the proposed developments. A total of 15 million gallons (57 million liters) of storage is proposed to be provided by five water storage reservoirs and booster pump station sites, located throughout the project site.

Recycled Water

Development under the Proposed Action would have recycled water provisions for use in parks, schools, publicly landscaped areas, and the landscaping associated with commercial, business professional, light industrial, and multi-family uses. It is anticipated that recycled water would be delivered from the Dry Creek Wastewater Treatment Plant (DCWWTP), and ultimately the Pleasant Grove Wastewater Treatment Plant (PGWWTP). Recycled water would only be available to the project if the wastewater from the project site is treated at the DCWWTP and PGWWTP. Use of recycled water is not anticipated under the second option for wastewater treatment at the Sacramento Regional County Sanitation District (SRCSD) (see **Wastewater**, below) because it would not be feasible.

Initially, a connection would be made to an existing 24-inch (61-centimeter) gravity recycled water line that currently terminates south of Dry Creek on the east side of Walerga Road. The pipeline would be extended from the south of Dry Creek, in a northerly direction along Walerga Road to Baseline Road where it would turn west to the project site (see **Figure 2.0-5a**).

In the future, as the west Placer County area builds out, it is anticipated a recycled water line would be constructed from the PGWWTP to serve the project site and surrounding areas. The future recycled water line would extend westward from PGWWTP along Phillip Road to the alignment of Watt Avenue, and

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3 These improvements are not part of the Proposed Action for which DA permits are being sought, but are described in this document for disclosure purposes.

then south to Baseline Road where it would tie into other recycled water infrastructure. The PGWWTP supply will supplement and/or ultimately replace the DCWWTP supply (see **Figure 2.0-5a**).

Storage and pumping facilities would also be required within the project site, along with a backbone of dedicated recycled water lines within street rights-of-way ranging in size from 6 to 24 inches (15 to 61 centimeters) in diameter. A proposed 3 million gallon (11 million liter) recycled water storage tank would be located near the intersection of 16th Street and Dyer Lane. The tank would be similar to those for potable water supply and would be circular and either 130 feet (40 meters) in diameter and 30 feet (9 meters) in height, or 150 feet (46 meters) in diameter and 24 feet (7 meters) in height.

Wastewater

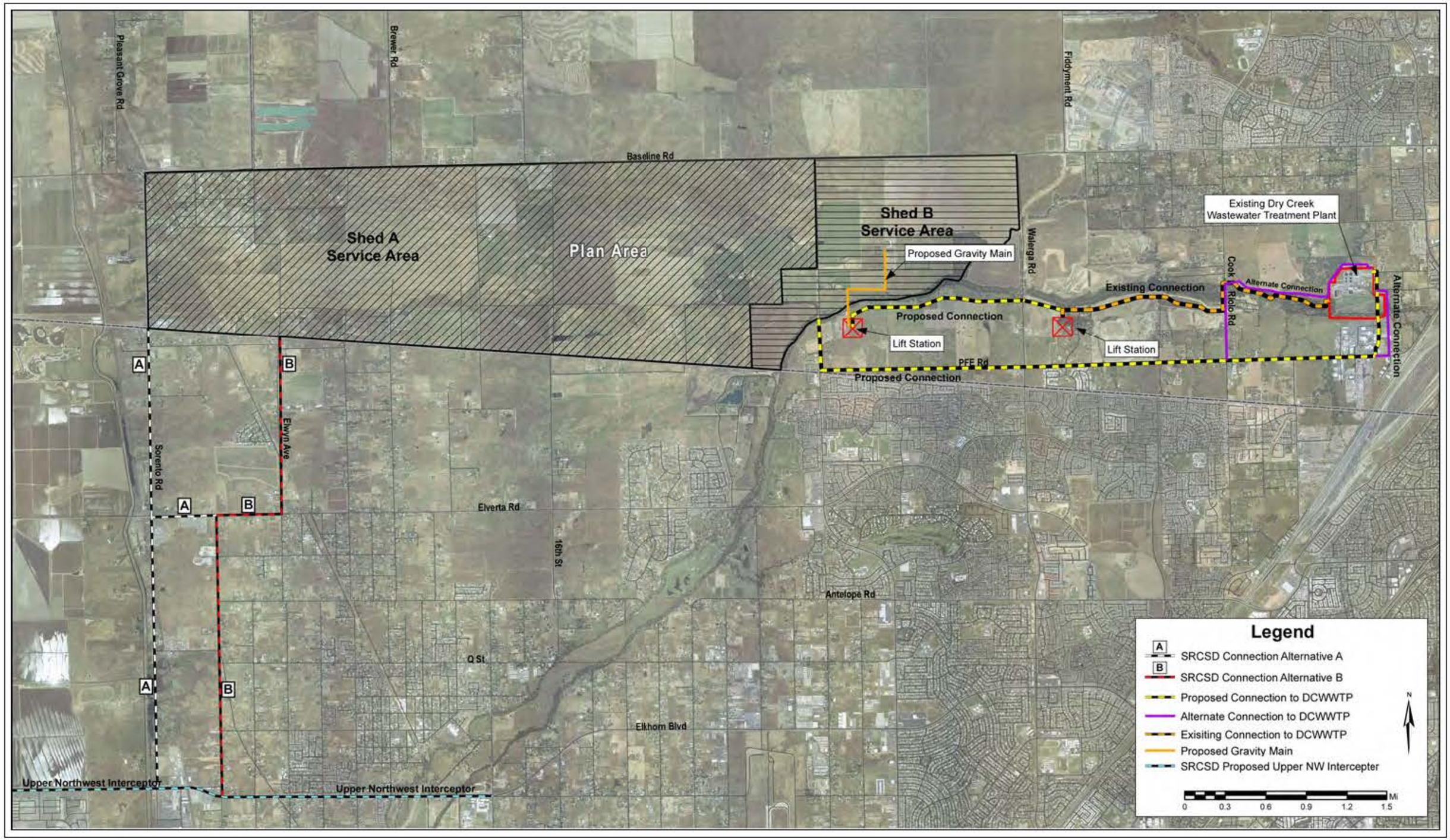
The Proposed Action includes two options for the provision of long-term wastewater service to the project site. The first option would direct wastewater for the entire project site to the Dry Creek Wastewater Treatment Plant (DCWWTP) for treatment and disposal. Under the second option, wastewater from the western 4,340 acres (1,756 hectares) of the project site would be treated at the Sacramento Regional Wastewater Treatment Plant (SRWWTP), operated by the SRCSD.

DCWWTP Option

Under this option, wastewater from the western 4,340 acres (1,756 hectares) (Shed A) of the site would be directed to DCWWTP by way of two 16 to 20 inch (41 to 51 centimeter) diameter force main pipelines located in the same utility corridor. This corridor would extend from the project site southerly along the alignment of Watt Avenue, then easterly along the alignment of PFE Road and northerly to the plant by way of one of two proposed alignments. The first alignment would proceed northerly on the easterly segment of Hilltop Circle through the Roseville Corporation Yard, or just east of it. The second alternative alignment would leave PFE Road at Cook Riolo Road, turning easterly to the DCWWTP just north of Dry Creek (see **Figure 2.0-6, Sewer Connections**).

On-site improvements to handle the wastewater from Shed A would include construction of a gravity system delivering wastewater to the western end of the project site, a lift station with adequate emergency storage, and a force main to pump wastewater easterly to the DCWWTP.

The majority of flows from the easterly 890 acres (360 hectares) (Shed B) would discharge to an off-site trunk sewer line connection point at the project site's southerly boundary, and then cross Dry Creek (using jack and bore construction methods) and be carried by a gravity sewer trunk line to a lift station. From the lift station, wastewater flows would be carried in a 12-inch (30-centimeter) diameter force main, to be installed along the south side of Dry Creek, to an existing force main located approximately 1,400 feet (427 meters) east of Walerga Road (see **Figure 2.0-6**). Because this corridor does not follow existing public right-of-ways, it would be necessary to acquire a right-of-way as a condition of other future project entitlements, or through use of eminent domain.



SOURCE: County of Placer – 2007

FIGURE **2.0-6**

Sewer Connections

1090-002•11/11

Conveyance facilities to the DCWWTP for Shed B were constructed in part with the first phase of the Dry Creek/Western Placer Community Facilities District #1 (CFD) project. A pump station and force main 1,400 feet (427 meters) east of Walerga Road and north of PFE Road have been designed to accept flows from a portion of the project site for conveyance to the DCWWTP. A force main (12 to 16 inches [30 to 41 centimeters] in diameter) would be constructed from the existing lift station west to a proposed lift station where gravity flows would be received from Shed B. An existing gravity sewer pipeline in Walerga Road was designed to provide capacity to serve approximately 315 of the Shed B dwelling units that are adjacent to Walerga Road.

SRCSD Option

As a second option, flows from Shed A could be discharged to the SRWWTP, operated by SRCSD. In this event, the utility corridor would extend from the project site to the south, following the alignment of Sorrento Road to the SRCSD Upper Northwest Interceptor at a point in Elkhorn Boulevard (see **Figure 2.0-6**). An alternative corridor has also been identified for the proposed connection to SRCSD. This alternative corridor would extend south from the Specific Plan area following the alignment of Elwyn Avenue, west along Elverta Road and finally south along the alignment of West 6th Street to the SRCSD Upper Northwest Interceptor at a point in Elkhorn Boulevard (see **Figure 2.0-6**).

An on-site wastewater storage tank would be installed if SRCSD becomes the wastewater treatment provider for Shed A. The tank would be located at the same location where the sewer lift station is proposed under the DCWWTP Option.

Drainage and Flood Control

The drainage system for the Proposed Action has been designed to accommodate peak flow rates resulting from additional impervious surfaces and proposed drainage modifications. Development of the Proposed Action would require additional attenuation at several locations, including within the existing floodplain and flood control channels upstream of proposed culvert facilities. Detention and water quality treatment basins would be provided to meet water quality maintenance objectives. In addition to providing detention storage to mitigate the increased rate of runoff, an additional storage component would be added in the detention areas to provide retention of flow volumes for a period of time to allow downstream volumes to drain from the shed. The Proposed Action includes open space corridors to convey stormwater flows, and all development is proposed to occur outside of these and outside of the 100-year floodplain.

Electrical Service

The project site is located within the service areas of both the Sacramento Municipal Utility District (SMUD) and Pacific Gas & Electric Company (PG&E). Both SMUD and PG&E own existing facilities within their respective service areas that could be extended to serve the proposed development. At such time as development exceeds existing load capacity, new 12 kV or 21 kV lines would be extended along existing roadways from existing, expanded, or new substations, including a new substation to be constructed on the project site.

Natural Gas Service

PG&E would provide natural gas service to the proposed development, as shown in **Figure 2.0-7**. Service would be obtained by constructing off-site gas transmission facilities to serve the project site. A 12-inch (30-centimeter) high-pressure transmission main is located east of the intersection of Cook Riolo Road and Baseline Road, approximately 2 miles (3 kilometers) east of the project site. Initial service to 3,000+ dwelling units would be provided by extending a 6-inch (15-centimeter) distribution main along Baseline Road and a 4-inch (10-centimeter) transmission main along PFE Road. This would require construction of a pressure regulation station at the point of connection. A smaller main would then be extended to the project site. Extension of 2-inch (5-centimeter) and 6-inch (15-centimeter) gas mains to individual project sites would then be required.

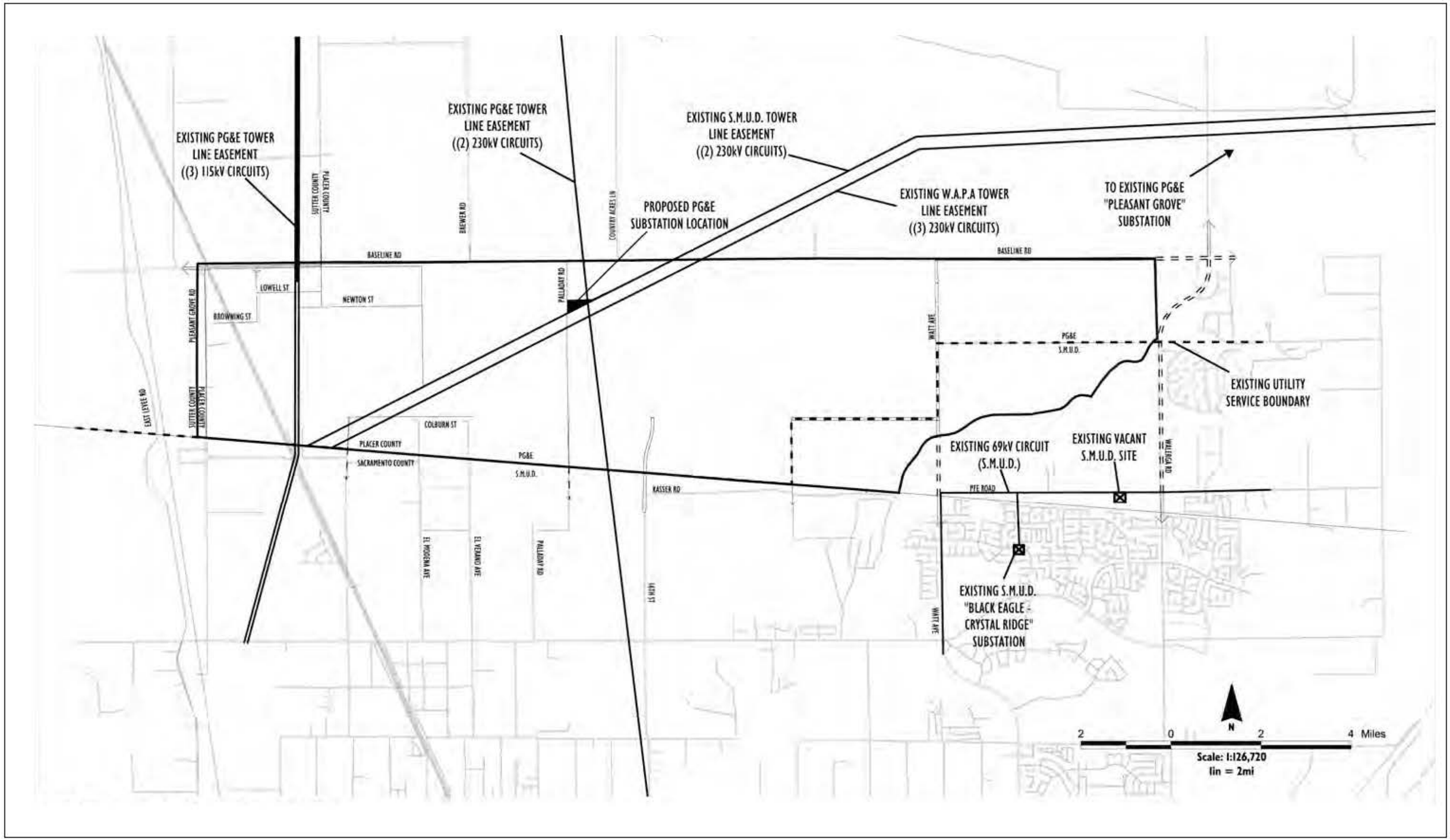
2.5.4 Public Services

Specific services required by the proposed development include solid waste disposal, library, parks, fire protection, law enforcement, schools, and general County services. **Table 2.0-6, Proposed Action – Service Providers,** lists the entities that would provide public services to the Proposed Action.

Table 2.0-6
Proposed Action – Service Providers

Service	Provider
Solid waste services	Auburn-Placer Disposal Service
Police services	Placer County Sherriff's Department
Fire protection services	Placer County Fire Department and Sacramento Metropolitan Fire District
Schools	Roseville City School District (K–8), Center Joint Unified School District (K-12), Roseville Joint Union High School District (9–12)
Library	Auburn-Placer County Library Department
Transit	Roseville Transit, Placer County Transit

[1] *Provider subject to change since deregulation has eliminated franchise area boundaries*



SOURCE: County of Placer – 2003

FIGURE **2.0-7**

Transmission and Distribution Line Easements and Substations

1090-002•04/12

2.5.5 Project Implementation

Project Phasing

If DA permits are issued, development under the Proposed Action could begin in 2013. Development would proceed in accordance with a phasing plan that coordinates the provision of backbone roadways, infrastructure, and utilities to ensure that County standards are met at all stages.

Initial development would be accompanied by a significant amount of infrastructure, including construction of major roadways as well as construction of water supply, sewer, and recycled water facilities. Infrastructure and utilities improvements would be phased over time in a pattern to be authorized under the DA permit. Because some infrastructure would serve more than one portion of the Proposed Action area, once development begins, infrastructure needs for subsequent phases could be reduced if improvements have been provided in an earlier developed phase. Conversely, any parcel could potentially move ahead with development as long as the infrastructure needed to serve it consistent with County standards is in place. Thus, there may be some potential for flexibility in development phasing.

Construction Activities

The following paragraphs summarize the activities required to construct the proposed development. To reduce haulage and disposal needs, grading is proposed to balance within each landowner's holdings and within the project site as a whole. In general, grading for building pads, recreational facilities, roads, and infrastructure would require average cuts and fills over the site of approximately 1 to 2 feet (0.3 to 0.6 meter). Limited portions of the site would have cuts and fills up to approximately 6 or more feet (2 meters). Backbone utilities within the roads would have trenches that range in depth from 3 to 25 feet (1 to 8 meters) from future finished grades.

Construction activities for residential and commercial uses would be similar to those required for any large, long-term development project. They would include site preparation (vegetation removal), grading (excavation and fill placement to create building pads), foundation construction, construction of structures, roofing, finishing, paving, and landscaping. A variety of heavy equipment—such as excavators, graders, scrapers, concrete trucks, and forklifts—would be required, as well as power and hand tools.

The construction of the Proposed Action would depend on market conditions. Given the size of the proposed development, it is anticipated that buildout would occur by 2025 under a fast growth scenario and by 2040 under a slow growth scenario.

2.5.6 Mitigation Measures adopted by Placer County

Mitigation measures were originally identified in the PVSP EIR as environmentally proactive measures that would be incorporated into development of the PVSP. These measures were approved by the County and will be monitored as part of the Mitigation Monitoring and Reporting Program adopted by Placer County. Therefore, these measures – as they apply to the impacts of the federal action – are incorporated

into and a part of the Proposed Action. However, for clarity, the impacts are presented as they would result without the benefit of these measures and the mitigation measures adopted by the Placer County are reiterated in this EIS. For most of the impact categories addressed in this EIS, the USACE lacks regulatory jurisdiction to impose its own mitigation measures to address the topics already subject to County-imposed mitigation. The full text of the PVSP EIR mitigation measures is presented in **Appendix 3.0**.

2.5.7 Placer Vineyards Mitigation Strategy

The Applicants have proposed a mitigation plan to mitigate for a variety of impacts, including wetland impacts, species habitat impacts, and impacts to agricultural lands. The Applicants state that the plan was developed in consultation with Placer County, SACOG, the Sierra Club, and the Audubon Society to mitigate for the impacts of the development of individual properties within the Plan Area in a manner that will be cumulatively effective and supportive of long-term conservation planning goals. The goal of the plan is to contribute to a regionally important expanse of contiguous private and public land that will continue to support important aquatic functions, meet species needs in the long term and aid recovery objectives for a broad variety of species. This approach to mitigation is holistic and is intended by the Applicants to address regulatory no-net-loss requirements while also valuing affected resources as an ecosystem, rather than as isolated features. The Applicants suggest that this approach is also consistent with the watershed approach to compensatory mitigation set forth in the USACE compensatory mitigation requirements, 33 CFR Part 332. The watershed approach uses a "landscape perspective… to identify the types and locations of compensatory mitigation projects that will benefit the watershed and offset losses of aquatic resource functions and services caused by activities authorized by [USACE] permits." 33 CFR § 332.2. The watershed approach is designed to encourage mitigation that "support[s] the improvement of aquatic resources in a watershed."

The Applicants assert that their mitigation plan is based on the best available scientific information regarding mitigation of wetland impacts in southwest Placer County, including biological information and conservation strategies developed in conjunction with the proposed Placer County Conservation Plan (PCCP). The mitigation obligations in the plan are intended to meet all regulatory requirements while also advancing effective long-term conservation planning, and the approach used in the plan, according to the Applicants, is strongly encouraged by the responsible local planning agencies and environmental stakeholders. This plan titled Placer Vineyards Mitigation Strategy includes three key elements: Site-Specific Avoidance and Minimization, Land Cover Mitigation, and Wetland Mitigation (see the Placer Vineyards Mitigation Strategy in **Appendix 2.0** for the complete text). Each of these elements is summarized below.

Site Specific Avoidance and Minimization

The PVSP incorporates measures for preserving and enhancing aquatic resources on the project site. The Specific Plan Area designates about 709 acres of open space areas along drainages with the intent of preserving aquatic habitat present within the designated open space, providing for historic habitat linkages, and maintaining the connectivity and integrity of drainage corridors from east to west through

the Specific Plan Area. Through this component of the Mitigation Strategy, the Applicants propose, that large contiguous areas that provide quality habitat will be preserved with adequate buffers to protect aquatic functions, and areas with degraded habitat value will be enhanced. The Specific Plan also incorporates minimization and low impact development strategies to minimize long-term habitat degradation within avoided open space areas.

Land Cover Mitigation

Most of the natural communities represented in the PVSP site require large, continuous, and intact habitat to retain maximum biological function. For this reason, the Applicants' Mitigation Strategy proposes to mitigate for irreversible land conversion through permanent conservation of large tracts of land with similar land cover, habitat, and agricultural value located off-site in the "Reserve Acquisition Area" (RAA) which is targeted for conservation by Placer County in the Draft PCCP. The Mitigation Strategy provides that for each acre converted to urban use by development, 1.35 acres of land would be conserved, consistent with the regional planning goals. Impacts to annual grassland, vernal pool grassland, and pasturelands would be mitigated on existing or restorable grassland. For the purpose of establishing mitigation for PVSP, this will include those dry-framed, fallow and irrigated pasture lands designated as agriculture. All of the land cover impacts would be mitigated on existing or restorable grassland. Vernal pool grassland will be mitigated by conservation of any (restorable) grassland, without regard to existing wetted area density, and including wetted acres. Mitigation sites for vernal pool grasslands will be a minimum of 200 acres in size, unless located adjacent to other conservation properties (thereby increasing the effective size of the regional preserve system) or the "Stream System," or unless otherwise specifically approved by the County due to especially high resource value or strategic value to the County's overall conservation strategy. In some cases, this may include mitigation sites outside of Placer County.

As the vast majority of land targeted for conservation in the RAA is suitable for agriculture and continued agricultural use would be encouraged by the conservation easements proposed pursuant to this mitigation, no additional agricultural mitigation is proposed beyond the 1.0 to 1.35 proposed for land cover. The Applicants assert that the land cover mitigation would also provide suitable foraging habitat mitigation for Swainson's hawk. No additional land mitigation is proposed by the Applicants beyond the 1.0 to 1.35 proposed for land cover.

Wetland Mitigation

Mitigation for wetlands would be accounted for separately in the Mitigation Strategy through mitigation ratios requiring preservation and/or restoration of a set number of wetlands calculated as a proportion of wetland loss. These acres of wetland mitigation, along with any upland area that is conserved in association with the wetlands, would be fully credited towards the required land cover mitigation. The Applicants propose that all of the wetland mitigation count towards land cover mitigation requirements, and all wetted acres contained within land cover mitigation count towards wetland mitigation.

Restored, enhanced, and created wetland habitat can help expand and link existing high quality vernal pool complexes that have become fragmented across the landscape, and have therefore lost some of their

natural community value. As a result, the Mitigation Strategy includes not only a wetlands preservation requirement, but also emphasizes wetland restoration, creation, and enhancement. The Applicants' Mitigation Strategy proposes that the "take/conversion" of each acre of wetted vernal pool habitat will be mitigated by the preservation of an acre of vernal pool. For each acre of vernal pool take/conversion, 1.25 acres of compensatory wetlands will be restored, enhanced, or created, including a minimum of 0.75 acre of vernal pool and no more than 0.50 acre of other wetlands. For take/conversion of each wetted acre of other wetland types, 1 acre of wetland (of any type) would be preserved, along with the restoration, enhancement, or creation of 1.25 acre of any wetland type, without regard for "in-kind" mitigation. The Applicants suggest that certain wetland types are not easily distinguished in the field and may intergrade. They propose to minimize the effect of field interpretation on the value and effectiveness of wetland mitigation, by applying the same mitigation ratios for all wetland types and allowing broad latitude for out-of-kind mitigation. In addition, in some circumstances, enhancement of existing wetland habitat may add greater wetland function and value to the aquatic system and conserved natural communities than restoration of previously existing or degraded features or creation of new wetland habitat. Similarly, take/conversion of each acre of open water would require the preservation of an acre of open water or any type of wetland; along with the restoration, enhancement, or creation of 1.25 acre of open water or any type of wetland.

2.5.8 Required Permits and Approvals

Permits and approvals required to construct and operate the Proposed Action are summarized below. The text below also identifies the sections of the EIS where additional information regarding these permits and approvals can be found.

Federal Approvals

- Clean Water Act Section 404 permits, including 22 individual permits and a Regional General Permit for the infrastructure improvements, from the USACE (see **Section 3.4, Biological Resources** and **3.10, Hydrology and Water Quality**).
- Endangered Species Act, Section 7 consultation and authorization from the U.S. Fish and Wildlife Service (USFWS) (see **Section 3.4, Biological Resources**).
- National Historic Preservation Act, Section 106 compliance and concurrence by the State Historic Preservation Office (SHPO) (see **Section 3.6, Cultural Resources**).

State Approvals

- Clean Water Act, Section 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board (CVRWQCB) (see **Section 3.10, Hydrology and Water Quality**).
- A Clean Water Act, Section 402 National Pollutant Discharge Elimination System (NPDES) permit from CVRWQCB (see **Section 3.10, Hydrology and Water Quality**).
- A Master Reclamation permit for recycled water delivery and use from CVRWQCB (see **Section 3.13, Public Services**, and **Section 3.15, Utilities and Service Systems**).
- A California Endangered Species Act/California Fish and Game Code Section 2081 take authorization from the California Department of Fish and Wildlife (CDFW) (see **Section 3.4, Biological Resources**).

- A California Fish and Game Code Section 1602 Streambed Alteration Agreement from CDFW (see **Section 3.4, Biological Resources**, and **Section 3.10, Hydrology and Water Quality**).

Local Approvals

- Reorganization (Annexation/Detachments) for service area boundary adjustments and/or service contracts by Placer County Local Agency Formation Commission (LAFCO) and Placer County Sewer Maintenance District (see **Section 3.15, Utilities and Service Systems** and **Section 3.11, Land Use and Planning**).
- Approval of school district boundary changes by Grant Joint High School District, Center Unified School District, Elverta Joint School District, and Placer County Board of Education (see **Section 3.13, Public Services**).

2.6 ALTERNATIVES ANALYZED IN THE EIS

As discussed earlier in the section, based on their ability to meet the purpose and need of the Proposed Action and their feasibility as determined by the application of screening criteria, five on-site "focused avoidance" alternatives were determined to be reasonable alternatives to the Proposed Action and were carried forward in the EIS for detailed evaluation along with the No Action Alternative. The location of each of the avoidance alternative is shown in **Figure 2.0-8, Location of Alternatives 1 through 5.** Since the USACE is reviewing permits for individual properties, each alternative focuses avoidance within an individual property. The alternatives are briefly described below.

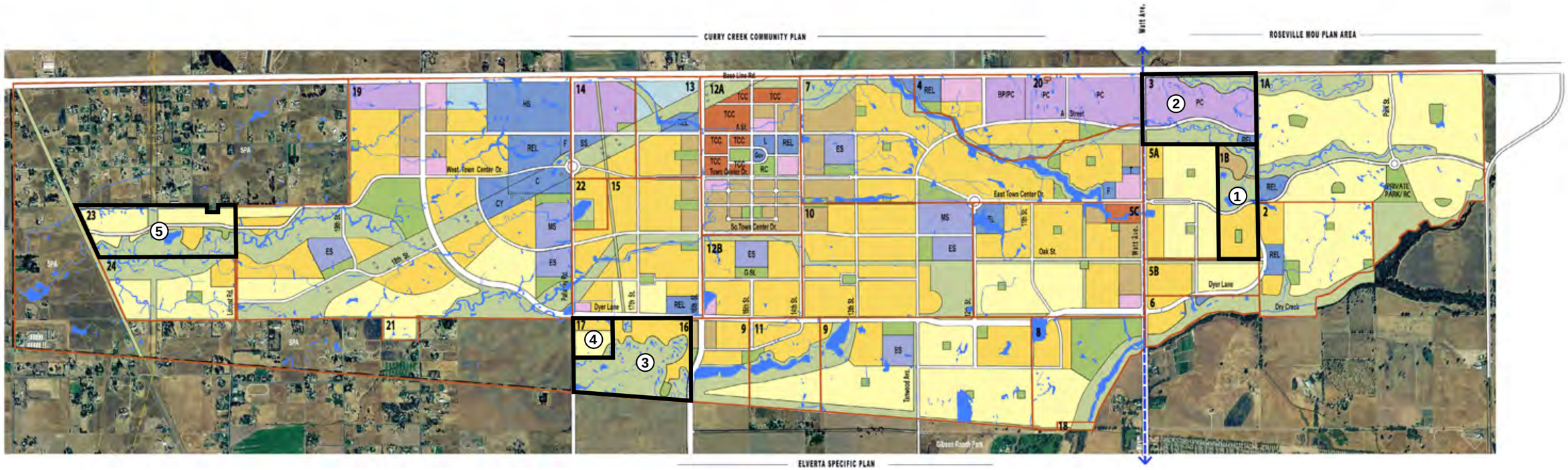
2.6.1 No Action Alternative

Under the No Action Alternative, the project site would be developed in a manner that avoids activities in jurisdictional waters of the United States, including wetlands, thereby avoiding the need for the USACE approvals under Section 404 of the Clean Water Act. However, local approvals from the County and the state would still be required. The No Action Alternative may require authorization from the USFWS under the federal Endangered Species Act because avoidance of jurisdictional waters may not completely avoid impacts to federally listed species.

The No Action Alternative would involve development of portions of the approximately 5,230-acre (2,117-hectare) project site, resulting in a reduced extent of residential and commercial uses. Avoidance of Section 404 triggers would reduce the total development footprint to approximately 3,297 acres (1,334 hectares), comprising approximately 2,410 acres (975 hectares) of residential uses (with an estimated 8,030 units at buildout), 221 acres (89 hectares) of commercial and office uses, 211 acres (85 hectares) of public and quasi-public uses, 124 acres (50 hectares) of parks, and 332 acres (134 hectares) of roads. About 1,933 acres (782 hectares) would be preserved as open space. The proposed land uses under the No Action Alternative are shown in **Figure 2.0-9** and **Table 2.0-7**, below. Even though, compared to the Proposed Action, the demand for water, sewer, and other utilities would be reduced under the No Action Alternative, all of the off-site infrastructure improvements would still be required.

Table 2.0-7
No Action Alternative – Land Use Summary (in acres and units)

Land Use	Proposed Action – Base Plan Scenario		Proposed Action – Blueprint Scenario		No Action Alternative	
	Acres	Units	Acres	Units	Acres	Units
Low Density Residential	1,001	3,519	729	3,647	590	2,064
Medium Density Residential	1,176	6,474	1,170	9,873	721	3,819
High Density Residential	205	3,092	342	6,244	121	1,814
Special Planning Area	979	411	979	411	979	411
Residential Subtotal	*3,361*	*13,496*	*3,220*	*20,175*	2,410	8,108
Commercial Mixed Use	51	636	95	1,456	27	333
Commercial	34	--	34	--	56	--
Town Center Commercial	43	--	43	--	--	--
Business Park/Power Center	150	--	142	--	109	--
Office	33	--	29	--	31	--
Commercial Subtotal	*309*	*636*	*342*	*1,456*	*221*	*333*
Public Uses	51	--	51	--	42	--
Schools	167	--	199	--	118	--
Religious Facilities	91	--	116	--	52	--
Public Uses Subtotal	*309*	*0*	*366*	*0*	211	0
Open Space	709	--	709	--	1,933	--
Park	211	--	273	--	124	--
Roads	332	--	321	--	332	--
Park, Roads and Open Space Subtotal	*1,252*	*0*	*1,303*	*0*	*2,388*	*0*
Total	**5,230**	**14,132**	**5,230**	**21,631**	**5,230**	**8,441**



NOTE: THIS EXHIBIT SHOWS THE APPROVED PLACER VINEYARDS SPECIFIC PLAN LAND USE PLAN WITH ALTERNATIVE LAND USE STUDY PLANS ON PROPERTIES 1B, 3, 16, 17, & 23.

LEGEND

C/MU	COMMERCIAL/ MIXED USE	SPA	SPECIAL PLANNING AREA	ES	ELEMENTARY SCHOOL		PUBLIC/ QUASI-PUBLIC USES	OS	OPEN SPACE
COM	COMMERCIAL	LDR	LOW DENSITY RESIDENTIAL	MS	MIDDLE SCHOOL	REL	RELIGIOUS FACILITY	P	PARK
PC	POWER CENTER	MDR	MEDIUM DENSITY RESIDENTIAL	HS	HIGH SCHOOL	F	FIRE	RC	RECREATION CENTER
BP	BUSINESS PARK	HDR	HIGH DENSITY RESIDENTIAL			Gov	GOVERNMENT		
O	OFFICE					L	LIBRARY		
						Po	POLICE		
						CY	CORPORATE YARD		
						SS	SUBSTATION		
						T	TRANSIT		
						C	CEMETERY		

BRT LINE

1 ALTERNATIVE

NORTH

0 250 500 1000 2000 Feet

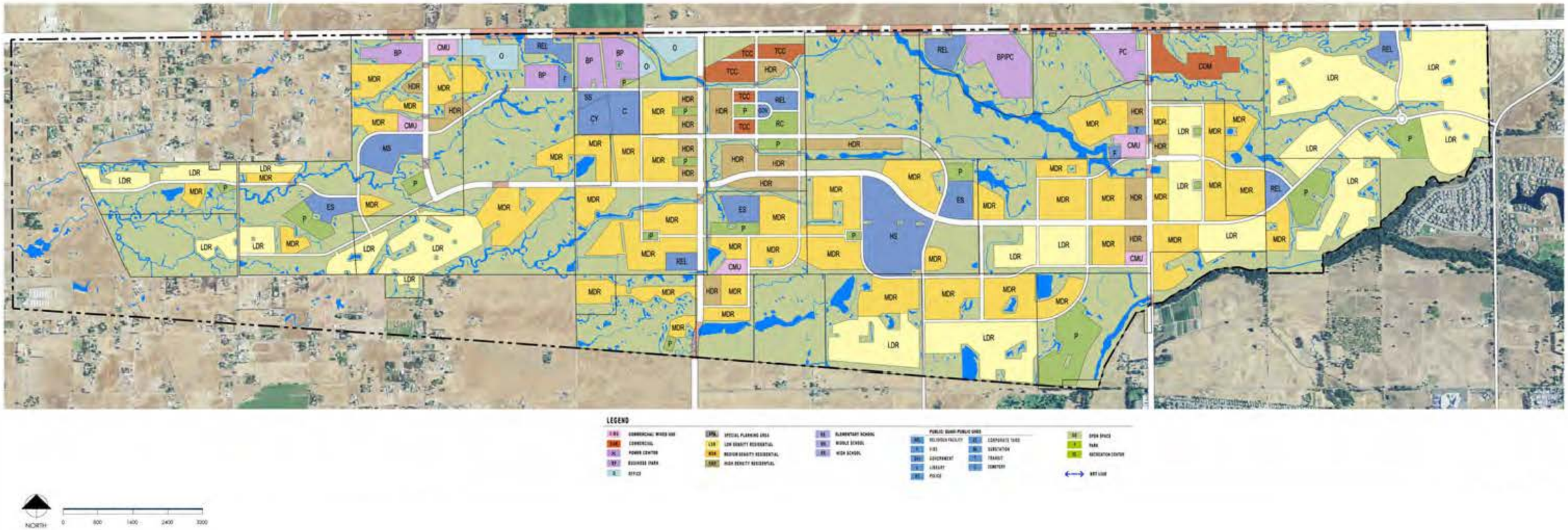
APRIL 2012

SOURCE: MacKay & Somps – April 2012

FIGURE **2.0-8**

Locations of Alternatives 1 through 5

1090-002•11/12



SOURCE: MacKay & Somps – November 2011

FIGURE **2.0-9**

No Action Alternative

1090-002•01/12

2.6.2 Alternative 1

Alternative 1 involves an alternative land use plan that would avoid wetlands on Property 1B, a 56-acre (23-hectare) property located in the eastern portion of the project site. The alternate land use plan for this property would avoid a group of three large vernal pools (totaling approximately 2 acres [0.8 hectare] of jurisdictional wetlands) and the drainage swale that crosses the northeast corner of the site. The alternate site plan designates the area around the three pools, including a 100-foot (30-meter) buffer, as open space. The alternative also shifts the proposed East Town Center Drive to the south in order to avoid bisecting the group of vernal pools. As a result, approximately 21 acres (8 hectares) of the property would remain in open space compared to 4 acres (2 hectares) under the Proposed Action (both scenarios). The acreage assigned to religious facilities would decrease from between 9 and 17 acres (4 and 7 hectares) under the Proposed Action scenarios to just 1 acre (0.4 hectare) under this alternative and the acreage for residential development would decrease from 34 acres (14 hectares) under the Proposed Action to 30 acres (12 hectares) under this alternative. The total number of housing units that would be constructed on the property under the alternate land use plan would however remain the same as the Proposed Action. This would be achieved by developing other portions of the project site at a higher density. The land uses for Property 1B under Alternative 1 are shown in **Figure 2.0-10** and **Table 2.0-8**, below.

Table 2.0-8
Alternative 1 – Property 1B Site Land Use Summary (in acres)

Land Use	Proposed Action-Base Plan	Proposed Action - Blueprint	Alternative 1
Low Density Residential	10	0	0
Medium Density Residential	18	14	22
High Density Residential	6	11	8
Residential Subtotal	*34*	*25*	*30*
Commercial	0	0	0
Religious Facilities	9	17	1
Public Uses Subtotal	*9*	*17*	*1*
Open Space	4	4	21
Park	2	4	1
Roads	7	7	4
Park, Roads and Open Space Subtotal	13	14	26
Total	**56**	**56**	**56**

2.6.3 Alternative 2

Alternative 2 involves an alternative land use plan that would modify the proposed land uses and provide additional avoidance of wetlands on the 101-acre (41-hectare) Property 3 which is located in the northeastern portion of the project site.

The land use plan for Property 3 under the Proposed Action (both scenarios) would avoid the complex of wetlands in the northeastern portion of the property but would make alterations to a swale complex located along the property's southern boundary. This swale complex involves approximately 2 acres (0.8 hectare) of wetlands. Alternative 2 would shift the proposed A Street to the north in order to provide a 100-foot (30-meter) buffer between the southerly swales and adjacent development.

Compared to the Proposed Action, Alternative 2 designates over half the parcel for commercial uses and eliminates all residential uses from the property. The proposed land uses for Property 3 under Alternative 2 are shown in **Figure 2.0-11** and **Table 2.0-9**, below.

Table 2.0-9
Alternative 2 – Property 3 Site Land Use Summary (in acres)

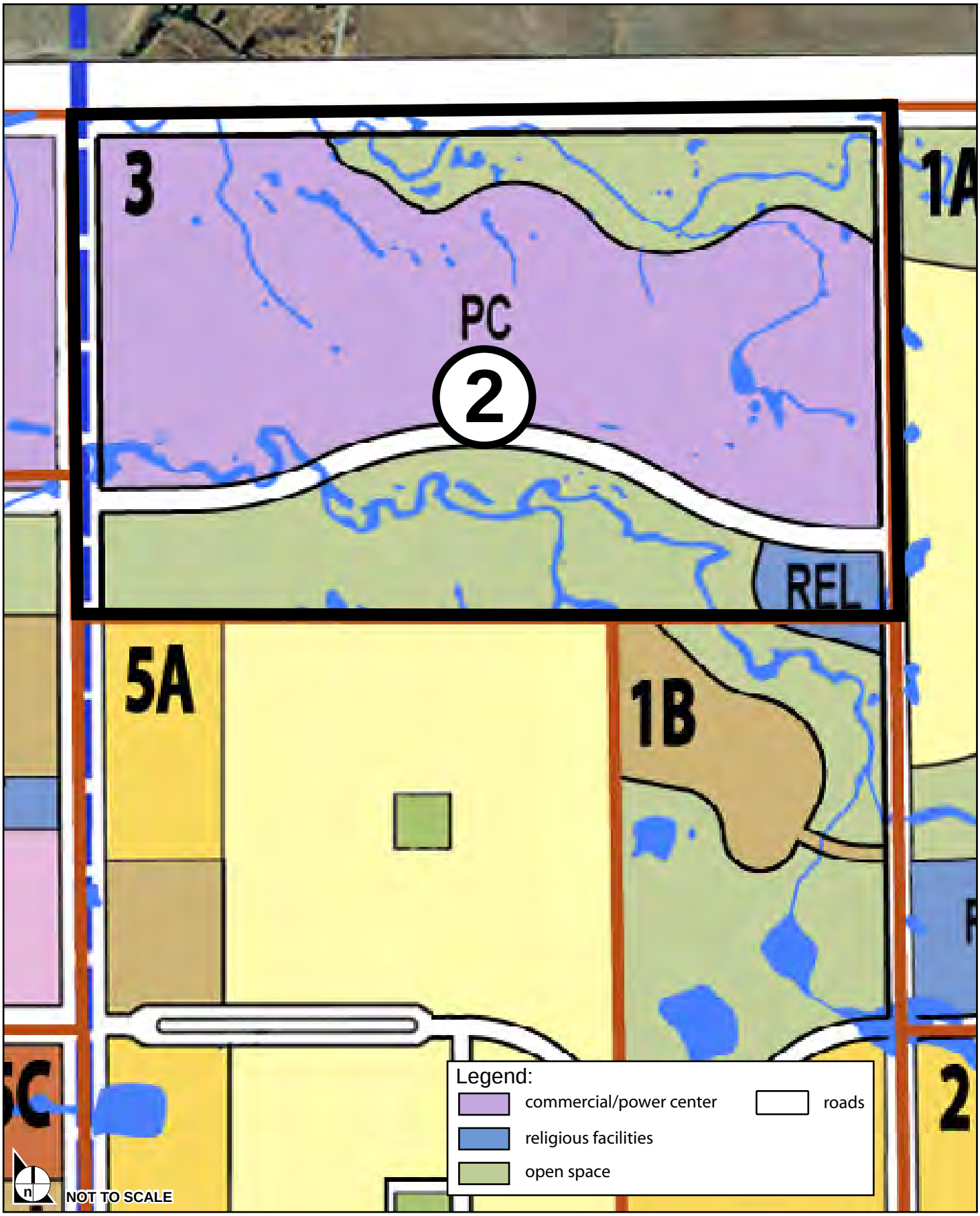
Land Use	Proposed Action - Base Plan	Proposed Action - Blueprint	Alternative 2
Medium Density Residential	27	0	0
High Density Residential	7	17	0
Residential Subtotal	*34*	*17*	*0*
Commercial Mixed Use	0	18	0
Commercial	25	25	56
Commercial Subtotal	*25*	*43*	*56*
Religious Facilities	4	0	2
Public Uses Subtotal	*4*	*0*	*2*
Open Space	26	27	31
Park	4	6	0
Roads	8	8	11
Park, Roads and Open Space Subtotal	*38*	*41*	*42*
Total	**101**	**101**	**101**

SOURCE: MacKay & Somps – April 2012

FIGURE **2.0-10**

Alternative 1

1090-002•11/12



SOURCE: MacKay & Somps – April 2012

FIGURE **2.0-11**

Alternative 2

1090-002•11/12

2.6.4 Alternative 3

Alternative 3 involves an alternative land use plan that would avoid a large cluster of wetlands (totaling approximately 4 acres [2 hectares] of jurisdictional wetlands) on Property 16, a 94-acre (38-hectare) property located in the southwestern portion of the project site. The alternate land use plan for this property would increase the acres of open space to 63 acres (25 hectares) and would provide a 100-foot (30-meter) buffer between the development area and the wetlands to be avoided. The residential acreage under the alternative would be reduced by about 40 acres (16 hectares) and acreage for religious facilities would be eliminated. Even though the acreage for residential uses would be substantially reduced under Alternative 3, this EIS assumes that the total number of residential units would be the same as the Proposed Action Base Plan scenario. This would be achieved by building the residential units at a higher density in other portions of the project site. The proposed land uses for Property 16 under Alternative 3 are shown in **Figure 2.0-12** and **Table 2.0-10**, below.

Table 2.0-10
Alternative 3 – Property 16 Site Land Use Summary (in acres)

Land Use	Proposed Action - Base Plan	Proposed Action - Blueprint	Alternative 3
Low Density Residential	43	26.5	0
Medium Density Residential	20	32.5	23.6
High Density Residential	0	4.5	0
Residential Subtotal	*63*	*63.5*	*23.6*
Commercial Subtotal	*0*	*0*	*0*
Religious Facilities	5.5	5.5	0
Public Uses Subtotal	*5.5*	*5.5*	*0*
Open Space	16	16	63.4
Park	4	4.5	1.5
Roads	5.5	4.5	5.5
Park, Roads and Open Space Subtotal	*25.5*	*25*	*70.4*
Total	**94**	**94**	**94**

2.6.5 Alternative 4

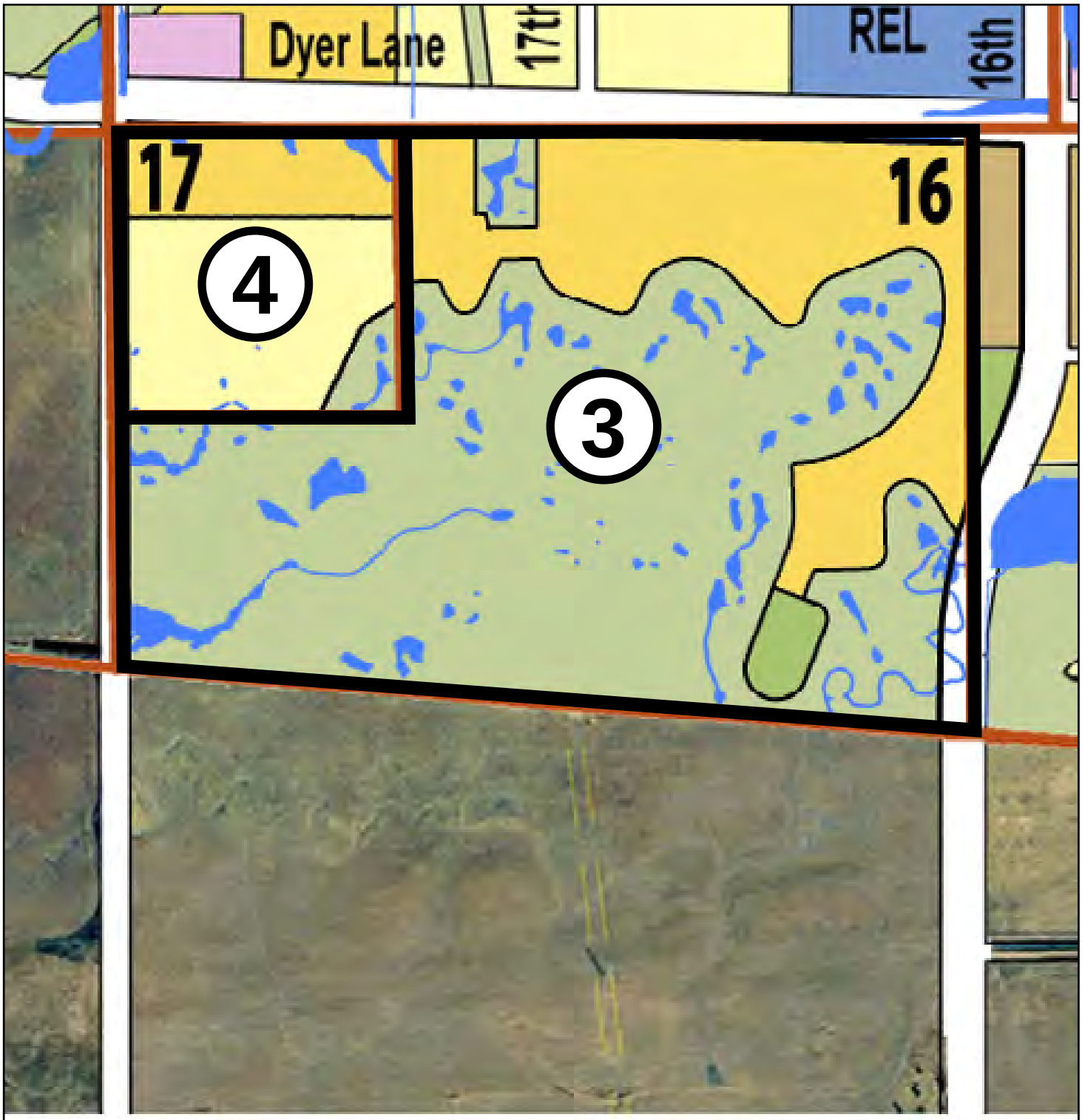
Alternative 4 would modify the land use plan to provide additional wetland avoidance (totaling 0.13 acre [0.05 hectare] of jurisdictional wetlands) on Property 17, a 20-acre (8-hectare) property in the southwestern portion of the project site. The wetlands avoided under Alternative 4 would be a continuation of the avoidance area under Alternative 3, and therefore it is anticipated that Alternative 4 would not be implemented in the event that Alternative 3 is not approved for implementation. The proposed land uses for Property 17 under Alternative 4 are shown in **Figure 2.0-12** and **Table 2.0-11**, below.

Table 2.0-11
Alternative 4 – Property 17 Site Land Use Summary (in acres)

Land Use	Proposed Action-Base Plan	Proposed Action - Blueprint	Alternative 4
Low Density Residential	12		10.7
Medium Density Residential	7.5	11.5	7.5
High Density Residential	0	8	0
Residential Subtotal	*19.5*	*19.5*	*18.2*
Open Space	0	0	1.3
Park	0	0	0
Roads	0	0	0
Park, Roads and Open Space Subtotal	*0*	*0*	*1.3*
Total	**19.5**	**19.5**	**19.5**

2.6.6 Alternative 5

Alternative 5 involves an alternative land use plan that would avoid a large cluster of wetlands totaling approximately 4.5 acres (1.8 hectares) on Property 23, a 93-acre (38-acre) property located in the western portion of the project site. The alternate land use plan for this property would increase the acres of open space from about 35 acres (14 hectares) to 50 acres (20 hectares) in order to avoid additional wetlands and provide adequate buffer between development and avoidance areas. The residential area under the alternative would be reduced to 43 acres (17 hectares), although the number of residential units would remain the same as the Proposed Action. The proposed land uses for Property 23 under Alternative 5 are shown in **Figure 2.0-13** and **Table 2.0-12**, below.



Legend:

- low density residential
- medium density residential
- open space
- park
- roads

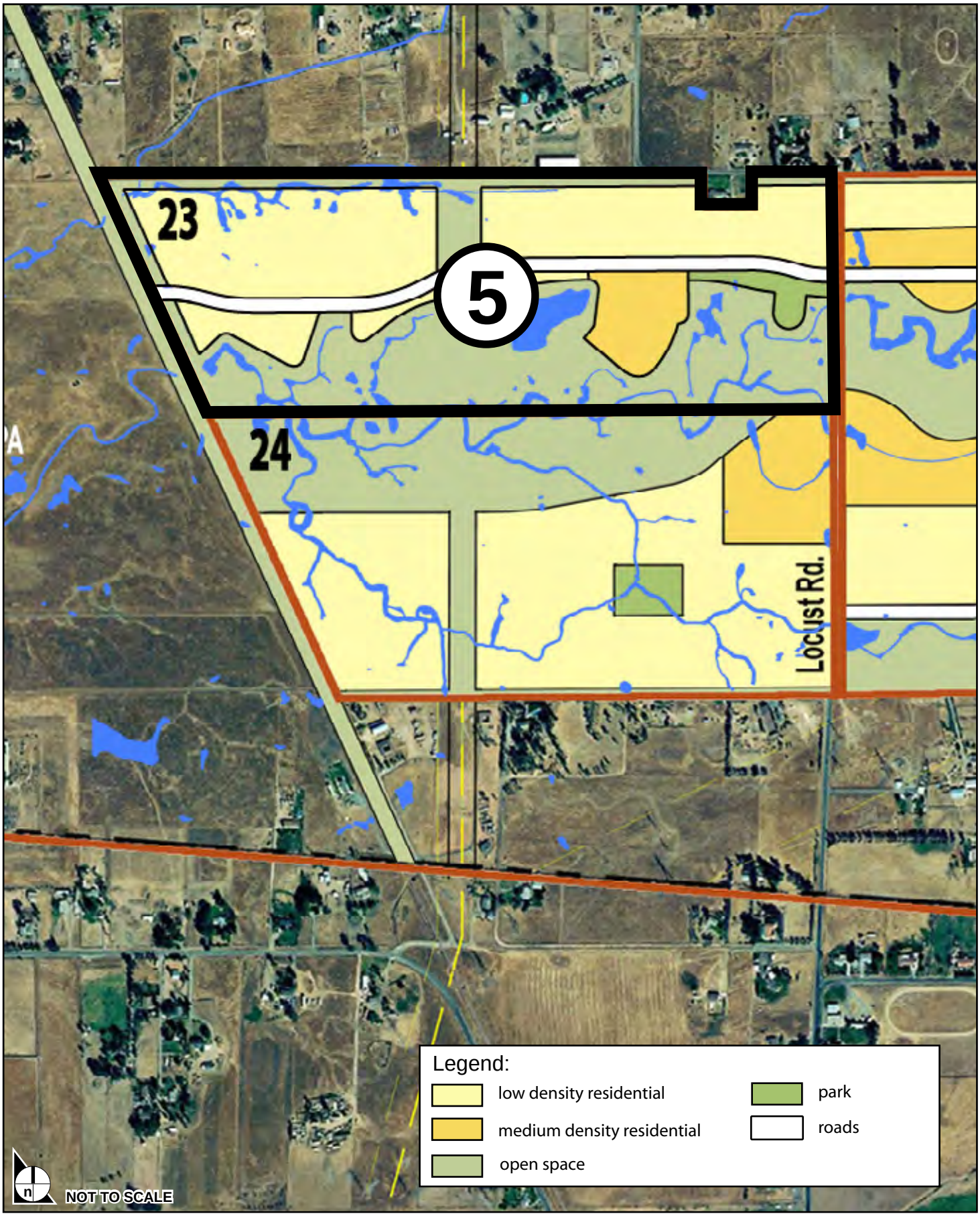
NOT TO SCALE

SOURCE: MacKay & Somps – November 2011

FIGURE **2.0-12**

Alternatives 3 and 4

1090-002•11/11



SOURCE: MacKay & Somps – April 2012

FIGURE **2.0-13**

Alternative 5

1090-002•11/12

Table 2.0-12
Alternative 5 – Property 23 Site Land Use Summary (in acres)

Land Use	Proposed Action-Base Plan	Proposed Action - Blueprint	Alternative 5
Low Density Residential	49.5	23.5	37.6
Medium Density Residential	8.5	31.5	4.9
High Density Residential	0	0	0
Residential Subtotal	*58*	*55*	*42.5*
Public Uses	0	0	0
Schools	0	0	0
Religious Facilities	0	4	0
Public Uses Subtotal	*0*	*4*	*0*
Open Space	22.5	22.5	41.9
Park	5	4.5	1.9
Roads	7	6.5	6.2
Park, Roads and Open Space Subtotal	34.5	33.5	*50*
Total	92.5	92.5	92.5

2.6.7 Combined Alternatives 1 through 5

Combined Alternatives 1 through 5 would involve a land use plan that would be the same as the Proposed Action for all properties that make up the site except Properties 1B, 3, 16, 17, and 23 where the land use plans presented under Alternatives 1 through 5 would be implemented. As a result filling of an additional 9.2 acres (3.7 hectares) of wetlands on Properties 1B, 3, 16, 17, and 23 would be avoided.

2.7 SUMMARY COMPARISON OF PROPOSED ACTION AND ALTERNATIVES

Table 2.0-13 compares key features of the Proposed Action, the five on-site alternatives (including Alternatives 1 through 5 combined), and the No Action Alternative.

Table 2.0-13
Proposed Action and Alternatives – Acreages by Land Use

Alternative	Development Footprint (in acres)	Residential Developme nt (in acres)	Residential Units at Buildout	Other Development (in acres)	Open Space (in acres)	Potential Direct Impacts on Aquatic Resources[1]
Proposed Action – Base Plan	4,522	3,361	14,132	Commercial – 309	709	119.3
				Public Uses – 309		
				Parks – 211		
				Roads – 332		
Proposed Action - Blueprint	4,522	3,220	21,634	Commercial – 342	709	119.3
				Public Uses – 366		
				Parks – 273		
				Roads – 321		
No Action Alternative	3,297	2,410	8,441	Commercial – 221	1,933	0
				Public Uses – 211		
				Parks – 124		
				Roads – 332		
Combined Alternatives 1 through 5	4,431	3,267	14,132***	Commercial – 340	799	106.4
				Public Uses – 293		
				Parks – 200		
				Roads – 330		
Alternative 1	4,504	3,357	14,132***	Commercial – 310	726	115.1
				Public Uses – 301		
				Parks – 210		
				Roads – 329		
Alternative 2	4,516	3,328	14,132***	Commercial – 340	714	116.4
				Public Uses – 307		
				Parks – 207		
				Roads – 335		
Alternative 3	4,473	3,322	14,132***	Commercial – 309	757	114.3
				Public Uses – 304		
				Parks – 208		
				Roads – 332		
Alternative 4**	4,520	3,361	14,132***	Commercial – 309	711	119.1
				Public Uses – 309		
				Parks – 211		
				Roads – 332		

Alternative	Development Footprint (in acres)	Residential Developme nt (in acres)	Residential Units at Buildout	Other Development (in acres)	Open Space (in acres)	Potential Direct Impacts on Aquatic Resources[1]
Alternative 5	4,502	3,345	14,132***	Commercial – 309	728	117.2
				Public Uses – 309		
				Parks – 208		
				Roads – 331		

* *Direct impacts from all development on properties with active DA permit applications and within the Special Planning Area. An estimated 4.12 acres of direct impact expected to result from off-site infrastructure development is included in the reported values.*

** *Implementation of Alternative 4 would be contingent upon implementation of Alternative 3. Therefore, impact value reported for Alternative 4 is inclusive of impact value reported for Alternative 3, above.*

*** *The number of units that would be built under Alternatives 1 through 5 would be the same as the Proposed Action. This is because to the extent that the number of units to be built on a property is reduced due to the revised footprint, the same number of units would be built on another property by increasing the density, so that the total number of units for the PVSP as a whole would still remain 14,132 (or 21,634 units if Alternatives 1 through 5 are combined with the Blueprint scenario).*

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.0.1 INTRODUCTION

This chapter presents an analysis of each resource topic that was identified through preliminary environmental analysis and the public scoping process as likely to be affected by the Proposed Action. Each section describes the affected environment as it relates to that specific resource topic; the direct and indirect effects that could result from implementation of the Proposed Action or its alternatives; and mitigation measures that would avoid, reduce, or compensate for the significant adverse effects of the Proposed Action or an alternative (cumulative effects are addressed in **Chapter 4.0**). The subsections below summarize the approach to the impact analysis, including key assumptions and data used in the analysis, to assist the reader in better understanding the analyses contained in this Draft Environmental Impact Statement (Draft EIS).

3.0.2 SCOPE OF THE EIS

In accordance with the National Environmental Policy Act (NEPA), this Draft EIS provides an evaluation of potential effects on the human environment, which includes an analysis of the natural and physical environment and the relationship of people with that environment (40 CFR § 1508.14). Council on Environmental Quality (CEQ) regulations (40 CFR § 1508.27) provide guidance with respect to the NEPA requirements to evaluate a Proposed Action's effects on the following: public health and safety; historical and cultural resources; parklands; prime farmlands; wetlands; wild and scenic rivers; ecologically critical areas; and endangered or threatened species or their habitat.

Based on the input received during the EIS scoping process, as described in **Chapter 1.0, Introduction and Statement of Purpose and Need**, this EIS addresses the following resource topics or categories of effects in detail:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Climate Change
- Cultural Resources
- Environmental Justice, Population, and Housing
- Geology, Soils, and Minerals
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Public Services
- Transportation and Traffic
- Utilities and Service Systems

3.0.3 SECTION CONTENTS AND DEFINITION OF TERMS

Each resource topic considered in this section of the EIS is addressed under six primary subsections: **Introduction**; **Affected Environment**; **Regulatory Framework – Applicable Laws, Regulations, Plans,**

and Policies; **Significance Thresholds and Analysis Methodology**; **Environmental Consequences and Mitigation Measures**; and **Residual Significant Impacts**. An overview of the information included in these subsections is provided below.

3.0.3.1 Introduction

The introduction section describes the topic analyzed and the contents of the analysis. It also provides a list of the sources used to prepare the section.

3.0.3.2 Affected Environment

This section describes the existing conditions in the area of the Proposed Action and the alternatives for each resource topic. The section provides a description of the applicable physical setting of the project site and its surroundings (e.g., existing land uses, existing soil conditions, existing traffic conditions). As stated in **Chapter 2.0, Proposed Action and Alternatives**, if DA permits are issued, development under the Proposed Action is expected to begin in 2013 and full buildout is anticipated between 2025 and 2040, depending on the market conditions. For certain resource topics, such as traffic, the EIS also presents future No Project[1] conditions in 2025 as the affected environment or the baseline conditions relative to which the effects of the Proposed Action and its alternatives are evaluated.

3.0.3.3 Regulatory Framework – Applicable Laws, Regulations, Plans, and Policies

This section presents relevant federal, state, and local laws, regulations, plans, and policies. Only those laws, regulations, and policies that are pertinent to the impact analysis are included.

3.0.3.4 Significance Thresholds and Analysis Methodology

Significance Thresholds

For each resource topic included in this section, the Draft EIS identifies significance criteria used by the U.S. Army Corps of Engineers (USACE) to evaluate the significance of the effects. Although CEQ regulations (40 CFR § 1508.27) provide guidance as to the requirement to evaluate impacts in an EIS, CEQ guidance generally does not specify the significance criteria to be used to evaluate the significance of the specific effects of the proposed action.

In evaluating the significance of a project's effects, NEPA requires a consideration of both context and intensity (40 CFR § 1508.27). "Context" means that the significance must be analyzed in several contexts, such as the human environment, affected region, affected interests, and the local setting. "Intensity" refers to the severity of the impact. Impacts must be evaluated that may be both beneficial and adverse.

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1 No Project conditions refers to no development at all on the project site as opposed to the No Action alternative which involves the development of the project site with a large-scale community without triggering the need for a DA permit from the USACE.

Analysis Methodology

This section summarizes the methodology used to evaluate direct and indirect effects. Impacts are evaluated quantitatively where possible and qualitatively where quantification is not feasible. Depending on the resource topic, some impacts are evaluated relative to future No Project conditions that would exist at the time of project buildout, whereas others are evaluated relative to existing conditions.

3.0.3.5 Environmental Consequences and Mitigation Measures

This section presents the environmental effects from the construction and operation of the Proposed Action and its alternatives. All impacts are numbered (for instance, Impact AES-1 refers to the first impact under **Aesthetics**) and shown in bold type. Mitigation measures are numbered to correspond to the impact. Impacts and mitigation measures are numbered consecutively within each topic.

The following terms, as defined below, are used in this Draft EIS to describe the types of effects that could result from the implementation of the Proposed Action or an alternative.

- **Direct Effect.** An effect that is caused by the action and occurs at the same time and place.
- **Indirect Effect.** An effect that is caused by the action and occurs later in time or in a different location than the action, but is still reasonably foreseeable.
- **Less than Significant Effect.** An effect that is adverse but that does not exceed any significance thresholds, as defined for each resource topic.
- **Significant Effect.** An effect that is adverse and would result in an exceedance of a significance threshold.
- **Residual Effect.** The effect that is expected to remain even after feasible mitigation measures have been implemented to reduce a significant effect.
- **Cumulative Effect.** An effect resulting from the incremental impact of the action when added to the effects from other past, present, and reasonably foreseeable future actions.
- **No Effect.** No change in conditions as a result of the implementation of the action.

3.0.3.6 Residual Significant Impacts

This section discusses any potentially significant impacts that cannot be fully mitigated and would remain significant even after mitigation.

3.1 AESTHETICS

3.1.1 INTRODUCTION

This section describes the visual character of the project site and views from surrounding public areas. This section also evaluates the change to visual resources in the area, including change in visual character, view obstruction, and night lighting, as a result of implementation of the Proposed Action and alternatives.

Sources of information used in this analysis include:

- California Department of Transportation, California Scenic Highway Program;
- Placer Vineyards Specific Plan prepared by Placer County;
- Placer Vineyards Specific Plan EIR prepared by Placer County;
- Placer County General Plan prepared by Placer County;
- Placer County Design Guidelines Manual prepared by Placer County;
- Placer County Landscape Design Guidelines Manual prepared by Placer County;
- Placer County Sign Ordinance; and
- Light standards prepared by the International Dark Sky Association.

3.1.2 AFFECTED ENVIRONMENT

3.1.2.1 Regional and Local Setting

Placer County is located in the Sacramento Valley and Sierra Nevada regions of Northern California. The project site is located in southwestern portion of Placer County near the City of Roseville, and borders Sacramento County on the south and Sutter County on the west. The western portion of Placer County is a transitional zone between the flat, open terrain of the Sacramento Valley to the west and the foothills of the Sierra Nevada Mountains to the east.

As indicated in **Figure 3.1-1**, areas to the north and west of the project site are generally characterized by open land containing grazing, field crops, and other agricultural uses. The land adjacent to the project site on the west is located within the South Sutter County Commercial/Industrial Reserve, a portion of which is currently planned for development. To the east is the City of Roseville, land that is undergoing conversion to urban uses, and scattered rural residential uses. To the south is the Sacramento urbanized area; however, considerable open land remains in this area, including Sacramento County's Gibson Ranch Park and open space areas along Dry Creek. Southeast of the project site in Sacramento County is the unincorporated community of Antelope, which includes a mix of single-family and multiple-family residential, retail commercial and industrial uses. West of Watt Avenue to the south, the project site is bordered by the unincorporated community of Elverta, which contains primarily rural residential uses similar in character to those located within portions of the project site. A significant amount of open land remains in the Elverta area, a portion of which is included within the proposed Elverta Specific Plan, which would permit densities ranging from rural residential at its northern extremity adjacent to the project site to urban densities in the south along Elverta Road (Placer County 2006).

Long-range views of the Sierra Nevada, Sutter Buttes, and the Coast Range are available throughout western Placer County. No prominent natural features are located in the vicinity of the project site. Prominent manmade features on and in the vicinity of the project site include power lines owned and operated by Pacific Gas & Electric (PG&E), Sacramento Municipal Utility District (SMUD) and the Western Area Power Authority (WAPA).

No state or locally designated scenic highways or corridors are located in the vicinity of the project site (CSHP 2010).

3.1.2.2 Project Site – Existing Conditions

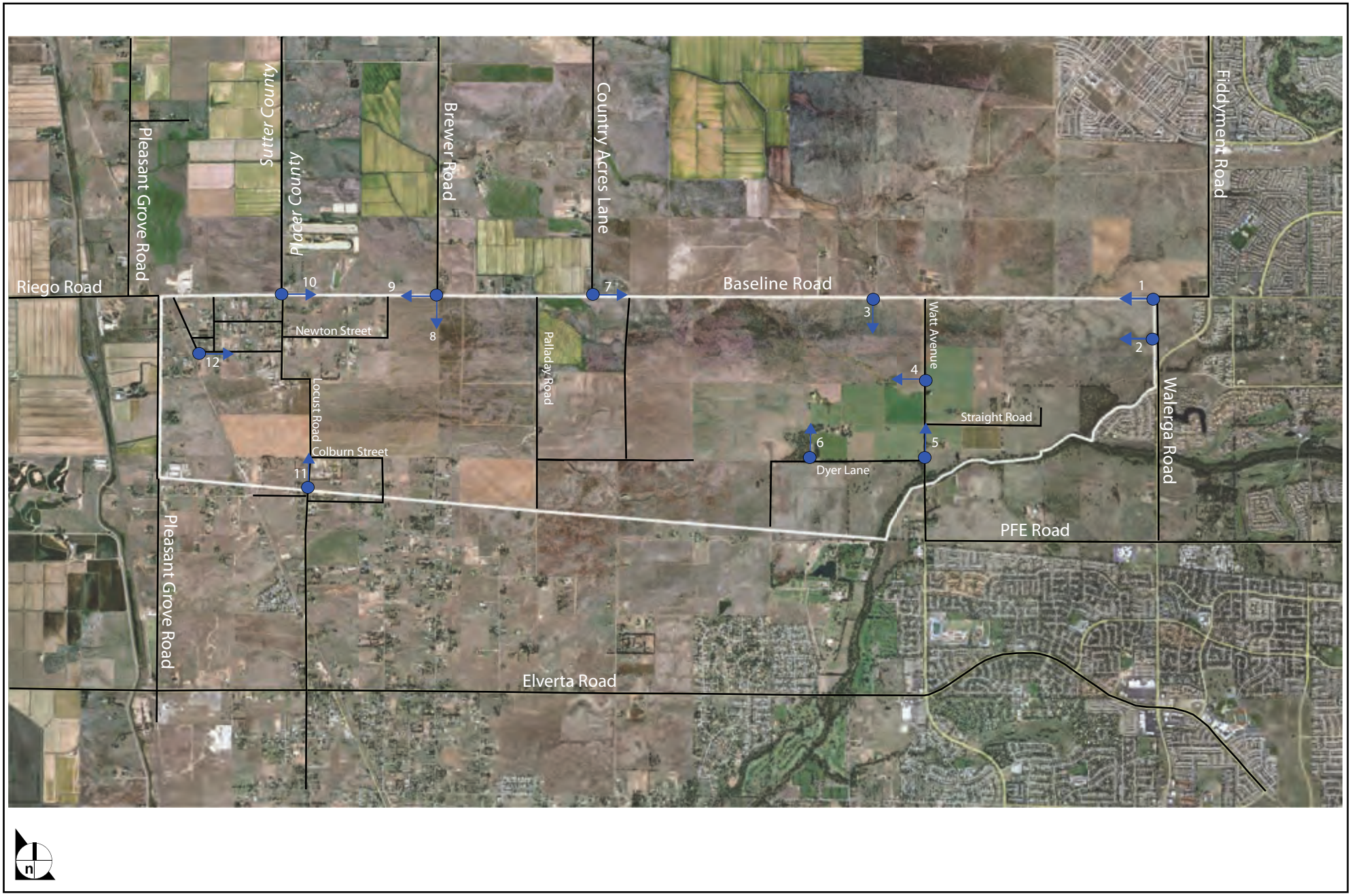
Site Characteristics

The project site is generally flat and is primarily composed of open land containing a mixture of grazing land and other agricultural uses. Curry Creek traverses a portion of the project site to the northeast while Dry Creek abuts the project site to the southeast. Approximately 150 rural residences are located within the project site, mostly in the northwest corner in the area known as Riego. An extensive riparian forest abuts the southeast boundary of the project site with Dry Creek. Other watercourses on the project site are seasonal and generally have few trees. Dyer Lane west of Watt Avenue is bordered on both sides by Valley oaks, remnants of a much greater riparian forest that existed prior to the clearance of trees for firewood and agriculture. Another remnant stand of oaks is present near the western end of Dyer Lane (Placer County 2006).

The project site is traversed by three major utility line corridors. The most westerly corridor runs in a north-south direction west of Locust Road. It contains two lines of lattice towers, some in excess of 150 feet (46 meters) in height. A second corridor diagonally bisects the project site, entering the site near its midpoint on Baseline Road and exiting near the site's southwestern corner, where it enters Sacramento County. This corridor contains three lines of towers similar in height to the first set. A third corridor runs in a generally north-south direction near the center of the project site east of Palladay Road and contains a single row of towers similar to the others described above (Placer County 2006).

Lands surrounding the project site are mostly undeveloped and the topography of the surrounding area is similar to that of the project site. Land to the north of the project site is undeveloped dry pastureland with some rural residential uses. Single-family residential uses are located to the east and undeveloped grazing and irrigated cropland (field crops and orchard) to the southeast. Lands to the south, located in Sacramento County, can be characterized (moving west to east) as rural residential, agriculture (undeveloped grazing), open space (Gibson Ranch Park), and low-density residential (community of Antelope). Lands to the west, located in Sutter County are predominantly rural residential (Placer County 2006).

The off-site utility corridors traverse open space areas, including Dry Creek, agricultural areas, and areas adjacent to and within existing roadways such as Watt Avenue, Elverta Road, Pleasant Grove Road, and PFE Road (Placer County 2006).



SOURCE: Quad Knopf – February 2005

FIGURE **3.1-1**

Location of Photos

1090-002•02/12

Viewsheds

Off-site views from the project site and on-site views of the project site are limited given the flat nature of the terrain in this portion of western Placer County. Views from the project site to the north consist of rangeland and rural residences within the proposed Sierra Vista Specific Plan area. Views from the project site to the east include residential development while views to the southeast include rangeland and some cropland and orchards. On clear days, long distance views of the Sierra Foothills and the Sierra Mountain Range are also available to the east. Views to the south into Sacramento County consist of rural residential development, rangeland, and open space. Views to the west into Sutter County consist of rural residences.

Views of the project site are available from the roadways that border and bisect the site. Major roadways that carry a considerable amount of traffic that border the project site include Baseline Road to the north and Walerga Road to the east. Watt Avenue, a roadway that carries a substantial amount of traffic, bisects the site in the middle. The views from Baseline Road are typical of most roadways and properties in western Placer County and surrounding rural areas. A perception of generally featureless open space predominates, with an occasional view of a distant tree or group of trees. As the western portion of the project site is approached from Baseline Road, a number of rural residences and outbuildings form the dominant view. Watt Avenue crosses Dry Creek at the project site's southern perimeter, passing through an area of roadside blue oak and willows. The view from Walerga Road also includes the crossing of Dry Creek, which provides topographic relief and a close-up view of the riparian oak woodland. During the wetter portion of the year, temporary ponding of water may be visible from the roadways (Placer County 2006). **Figures 3.1-1** through **3.1-5** illustrate views throughout the project site.

Besides the existing open space, the most significant feature with the on-site as well as off-site viewshed is the presence of utility transmission towers as described above. The three corridors tend to be very visible during daylight hours. A second vertical element that is quite visible from the eastern portion of the project site is a telecommunications tower located east of the project site south of Baseline Road. The tower is approximately 300 feet (91 meters) in height and is visible for several miles (Placer County 2006).

Nighttime views (light sources) include a red blinking light and a steady red light on the communications tower described above, and more distant lighted towers to the southwest of the project site in Sacramento County. Other distant sources of light include homes and street lighting in the residential areas east of Fiddyment Road and along the northern end of Walerga Road in the City of Roseville and the Antelope area of Sacramento County. Views to the north and west from the project site are generally dark, with the exception of traffic on Baseline Road. The nighttime view of the site is generally dark, with the exception of lights from occasional residences (Placer County 2006).

3.1.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

This section summarizes relevant policies contained in the Placer County General Plan, Placer County Design Guidelines Manual, and Placer County Landscape Design Guidelines Manual.

3.1.3.1 Placer County General Plan

The following is a list of goals and policies found in the Land Use Chapter of the Placer County General Plan relating to aesthetics.

Visual and Scenic Resources:

Goal 1.K. To protect the visual and scenic resources of Placer County as important quality-of life amenities for county residents and a principal asset in the promotion of recreation and tourism.

Policy 1.K.3. The County shall require that new development in rural areas incorporates landscaping that provides a transition between the vegetation in developed areas and adjacent open space or undeveloped areas.

Policy 1.K.4. The County shall require that new development incorporates sound soil conservation practices and minimizes land alterations. Land alterations should comply with the following guidelines:

a. Limit cuts and fills;

b. Limit grading to the smallest practical area of land;

c. Limit land exposure to the shortest practical amount of time;

d. Create grading contours that blend with the natural contours on-site or with contours on property immediately adjacent to the area of development.

Policy 1.K.5. The County shall require that new roads, parking, and utilities be designed to minimize visual impacts. Unless limited by geological or engineering constraints, utilities should be installed underground and roadways and parking areas should be designed to fit the natural terrain.

Development Form and Design:

Goal 1.O. To promote and enhance the quality and aesthetics of development in Placer County.

Policy 1.O.1. Except as otherwise provided in the Design Guidelines of an approved Specific Plan, the County shall require all new development to be designed in compliance with applicable provisions of the Placer County Design Guidelines Manual.

1 Baseline Road Looking West from Walerga Road Intersection

Project Site Looking West from Walerga Road 2

3 Project Site from Baseline Road at Curry Creek

SOURCE: Placer County – 2006

FIGURE **3.1-2**

Existing Views of the Project Site and Vicinity

1090-002•02/12

4 Project Site Looking West from Watt Avenue

Looking North on Watt Avenue at Dyer Lane Intersection 5

6 Looking North from Dyer Lane at Oak Woodland Cluster

SOURCE: Placer County – 2006

FIGURE **3.1-3**

Existing Views of the Project Site and Vicinity

1090-002•02/12

7 Looking East on Baseline Road from Country Acres Lane Intersection

Looking South at Project Site from Baseline Road / Brewer Road Intersection 8

9 Looking West Along Baseline Road from Brewer Road

SOURCE: Placer County – 2006

FIGURE **3.1-4**

Existing Views of the Project Site and Vicinity

1090-002•02/12

10 Looking East along Baseline Road at Placer County / Sutter County Line

Looking North on Locust Road at Placer County / Sacramento County Line 11

12 Looking East on Browning Street in Riego

SOURCE: Placer County – 2006

FIGURE **3.1-5**

Existing Views of the Project Site and Vicinity

1090-002•02/12

Policy 1.O.2. The County shall require that specific plans include design guidelines for all types of development within the area covered by the plan.

Policy 1.O.3. The County shall require that all new development be designed to be compatible with the scale and character of the area. Structures, especially those outside of village, urban and commercial centers, should be designed and located so that:

a. They do not silhouette against the sky above ridgelines or hilltops;

b. Rooflines and vertical architectural features blend with and do not detract from the natural background or ridge outline;

c. They fit the natural terrain; and

d. They utilize building materials, colors, and textures that blend with the natural landscape (e.g., avoid high contrasts).

Policy 1.O.4. The County shall require that new rural and suburban development be designed to preserve and maintain the rural character and quality of the county.

Policy 1.O.6. Historically or architecturally significant buildings should be preserved and not be substantially changed in exterior appearance in ways that diminish their historical character, unless doing so is necessary to avoid or mitigate hazards, and other means of mitigation are infeasible. Such structures should be preserved and used as focal points of community design.

Policy 1.O.7. The County shall require that mixed-use areas include community focal points to serve as gathering and/or destination points. Examples of focal points include civic centers, parks, fountains, monuments, and street vistas. On-site natural features, such as wetlands and streams, can also function as focal points.

Policy 1.O.8. The County shall, where appropriate, require new development to provide activity pockets along public sidewalks as pedestrian amenities, including such features as benches, sitting ledges and mini parks.

Policy 1.O.9. The County shall discourage the use of outdoor lighting that shines unnecessarily onto adjacent properties or into the night sky.

Policy 1.O.10. The County shall require that in downtowns/Village Centers the tallest buildings be clustered in the core area and that building heights transition down to the scale of buildings in the surrounding area.

3.1.3.2 Placer Vineyards Specific Plan Design Guidelines

The Placer Vineyards Specific Plan contains design guidelines that supersede the County's Design Guidelines, and are intended to provide design guidance for the physical form and visual character of the Proposed Action. These guidelines address general community-wide design elements such as landscape design, streetscapes, community gateways, signage systems, and lighting. In addition, the guidelines address the design of the town center, village centers, commercial centers, Baseline Road Regional Commercial Corridor, neighborhood commercial centers, and residential neighborhoods.

3.1.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.1.4.1 Significance Thresholds

Council on Environmental Quality (CEQ) guidance requires an evaluation of a proposed action's effect on the human environment. The U.S. Army Corps of Engineers (USACE) has determined that the Proposed Action or its alternatives would result in significant adverse effects related to aesthetics if the Proposed Action or an alternative would:

- substantially alter a scenic vista;
- substantially affect a scenic resource;
- substantially degrade the visual character of the site and its surroundings; or
- create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.1.4.2 Analysis Methodology

The USACE evaluated project conditions against the existing visual character of the project site in the context of topography, vegetation, existing uses, and visual character. The USACE evaluated the potential impacts to the visual character of the site and surroundings in terms of massing, size, or scale of development, and type of land use. The USACE also evaluated the potential for each alternative to introduce substantial new lighting and/or create new sources of glare that could affect nearby existing uses in order to determine potential impacts to visual resources.

3.1.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact AES-1 Effect on Scenic Vistas

No Action Alt. Implementation of the No Action Alternative would result in a **significant** effect on scenic vistas. As explained below, views of open rangeland and the foothills and Sierra Nevada would no longer be available from Baseline Road, Walerga Road, and Watt Avenue with implementation of the No Action Alternative. Implementation of the No Action Alternative would adversely affect the human environment by altering these views that may be considered valuable by some.

A scenic vista is generally defined as an expansive view of a highly valued landscape as observable from a publicly accessible vantage point. Key publicly accessible areas in the project vicinity include Baseline Road, Walerga Road, and Watt Avenue. Other lands in the project vicinity are privately owned and not publicly accessible. Descriptions of the scenic vistas as available from these three roadways are presented below along with the changes in the views from these roadways as a result of the implementation of the No Action Alternative.

For viewers traveling eastbound, Baseline Road provides views of open space with the occasional view of a distant tree or group of trees in the fore and middle ground, and the foothills and Sierra Nevada range in the distant background. In addition, views of transmission corridors that pass through the project site are also available from this vantage point. For viewers traveling northbound, Walerga Road and Watt Avenue provide similar views of the project site as those obtained on Baseline Road. In addition, viewers traveling northbound on Walerga Road are also provided a view of Dry Creek and riparian oak woodland while viewers traveling northbound on Watt Avenue are also provided views of blue oak and willows alongside the roadway where the roadway enters the southern portion of the project site.

Implementation of the No Action Alternative would result in the development of the project site that would interrupt these views by placing buildings within these view corridors. Although a total of 1,937 acres (784 hectares) of open space would be retained under the No Action Alternative and some of this open space would be visible from Baseline Road, Walerga Road and Watt Avenue thus preserving some short-range viewsheds, this retained open space would exist in an altered condition within an urban setting. Therefore, scenic vistas would no longer be available. Furthermore, while views would be available along the open space corridors, these views would no longer appear expansive.

Development under the No Action Alternative, if approved by Placer County, would be required to comply with General Plan policies and the County's Design and Landscape Design Guidelines, all of which are intended to reduce aesthetic impacts. However, views of open rangeland and the foothills and Sierra Nevada would no longer be available from

Baseline Road, Walerga Road, and Watt Avenue, which would be a **significant** effect. No feasible mitigation is available to address this effect.

Concerning off-site infrastructure, off-site roadway widening and construction of several off-site utility lines will be required for the No Action Alternative. Most of the infrastructure would be placed underground, and the infrastructure that is left above ground would not be of substantial height to interrupt views of surrounding scenic vistas. Therefore, the effect from the construction of off-site infrastructure would be **less than significant**. Mitigation is not required.

Proposed Action (Base Plan and Blueprint Scenarios)

The Proposed Action would construct a larger mixed-use development on the project site as the development footprint would be increased from 3,294 acres (1,588 hectares) under the No Action Alternative to 4,522 acres (1,830 hectares) under both the Proposed Action-Base Plan scenario and the Proposed Action-Blueprint scenario, an increase of approximately 37 percent. The effect on scenic vistas from Baseline Road, Walerga Road, and Watt Avenue would greater as less open space would be visible, especially along Baseline Road. While PVSP Design Guidelines would help reduce this adverse effect, based on the significance criteria listed above and for the same reasons presented for the No Action Alternative, the effect on scenic vistas under the Proposed Action would be **significant**. As with the No Action Alternative, no feasible mitigation is available to address this effect.

For the same reasons presented above for the No Action Alternative, effects to scenic vistas from the construction of off-site infrastructure would be **less than significant**. Mitigation is not required.

Alts. 1 through 5

Alternatives 1 through 5 change the proposed land uses and increase the amount of open space on five parcels within the project site compared to the Proposed Action. However, these alternatives combined would still decrease the amount of open space on the project site by approximately 59 percent compared to the No Action Alternative. The effect on scenic vistas from Baseline Road, Walerga Road, and Watt Avenue would still result under these alternatives as less open space would be visible, especially along Baseline Road. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative and the Proposed Action, the effect on scenic vistas under these alternatives would be **significant**. No feasible mitigation is available to address this effect.

For the same reasons presented above for the No Action Alternative, effects to scenic vistas from the construction of off-site infrastructure would be **less than significant**. Mitigation is not required.

Impact AES-2 Effect on Scenic Resources

No Action Alt. The project site does not contain any scenic natural resources, such as rock outcroppings and/or distinctive trees. In addition, no historic structures are located within the project site and the project site is not located within the view corridor of a scenic highway. The same holds true for the alignment and sites of off-site infrastructure improvements. Therefore, implementation of the No Action Alternative will not damage scenic resources. The effect would be **less than significant**. Mitigation is not required.

Proposed Action (Base Plan and Blueprint Scenarios) Compared to the No Action Alternative, the Proposed Action would construct a larger mixed-use community on the project site. Because the project site does not contain any scenic resources, development of the site and off-site infrastructure improvements would result in a **less than significant** effect on scenic resources. Mitigation is not required.

Alts. 1 through 5 Development of Alternatives 1 through 5 individually or combined along with off-site infrastructure improvements would result in a **less than significant** effect on scenic resources as scenic resources are not present on the site or in the area of off-site improvements. Mitigation is not required.

Impact AES-3 Degradation of Visual Character

No Action Alt. The conversion of undeveloped rangeland and limited areas of active agriculture (pasturelands and farmlands) and rural residences to urban development under the No Action Alternative would result in a **significant** effect on the visual character of the project site. **PVSP EIR Mitigation Measures 4.2-6a** and **4.2-6b** would be implemented but even with mitigation, the effect would remain **significant.**

The project site is primarily undeveloped open rangeland with some farmlands concentrated in the eastern portion of the site along Watt Avenue and some present south of Baseline Road and east of Palladay Road. Development of the project site under the No Action Alternative would convert 3,294 acres (1,333 hectares) of undeveloped land to urban uses and maintain 1,937 acres as open space. The introduction of residences, commercial uses, and infrastructure in an area that is presently undeveloped would change the existing visual character of the project site. The area to the east of the site has been developed with residential uses while the areas to the north, south, and west are planned for development. Development of the No Action Alternative would extend this urban edge.

Development of the No Action Alternative would be subject to Placer County approval. Policies addressing development form and design in the Placer County General Plan are intended to promote the visual compatibility of developments with adjacent uses. Specifically, General Plan Policy 1.O.3 requires that all new development be designed to be compatible with the scale and character of the area. Implementation of General Plan

policies would help reduce the severity of effects associated with new development. However, the conversion of undeveloped rangeland to urban development would represent a substantial change in the visual character of the project site, which would be a **significant** direct effect.

Concerning off-site infrastructure, off-site roadway widening and construction of several off-site utility lines would be required for the No Action Alternative. Because utilities would be placed underground, visual impacts will be related to the period of construction and revegetation, with the potential exception of utility line access sites, pump stations, and similar facilities where some portion of the facility may remain above ground. Roadway widening would occur adjacent to existing roadways and will not introduce a new visual element. While visual impacts during construction are temporary in nature and are minor, visual change related to the removal of vegetation and permanent aboveground structures could result in a potentially **significant** effect.

PVSP EIR Mitigation Measures 4.2-6a and **4.2-6b** would address this effect. The USACE assumes that Placer County would impose these mitigation measures on the No Action Alternative to address this effect. These measures require that all areas containing natural vegetation that are disturbed during utility line and roadway construction be revegetated upon completion of work and that all permanent utility line-related structures extending above ground be screened where feasible using a combination of berms, mounds, landscape material, decorative fencing/walls, or other screening features, consistent with applicable design guidelines of the local jurisdiction. In the Placer Vineyards Specific Plan EIR, Placer County found that it cannot compel other jurisdictions, such as in Sutter County, Sacramento County, and/or the City of Roseville, to implement these mitigation measures on the infrastructure improvements located in other jurisdictions. For these reasons the effect would remain **significant and unavoidable**. The USACE has reviewed the analysis and also finds that this effect would remain **significant** after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios)

The Proposed Action would develop 4,522 acres (1,830 hectares) on the project site with urban uses and maintain 709 acres (287 hectares) as open space. As a result, less open space, especially in the central and western portions of the site, would be maintained and the effect of the Proposed Action (under either scenario) on the visual character of the project site would be greater than under the No Action Alternative. While adherence to PVSP Design Guidelines and compliance with General Plan policies would reduce this adverse effect, based on the significance criteria listed above and for the same reasons presented for the No Action Alternative, the effect on visual character would be **significant.** In addition, the off-site infrastructure improvements under the Proposed Action would result in similar effects as described above for the No Action Alternative. **PVSP EIR Mitigation Measures 4.2-6a** and **4.2-6b** would address this effect**.**

These mitigation measures were adopted by Placer County at the time of project approval and will be enforced by the County. As explained in the Placer Vineyards Specific Plan EIR,

these mitigation measures would be required by Placer County and applied to Specific Plan related utilities and roadway improvements within Placer County. However, as noted above, Placer County cannot compel other jurisdictions, such as in Sutter County, Sacramento County, and/or the City of Roseville, to implement these mitigation measures. For these reasons, the County concluded that the effect would remain **significant and unavoidable**. The USACE has reviewed the analysis and also finds that this effect would remain **significant** after mitigation.

Alts. 1 through 5

Alternatives 1 through 5 combined would develop 4,431 acres (1,793 hectares) on the project site with urban uses and maintain 799 acres (323 hectares) as open space. In comparison, the No Action Alternative would convert 3,294 acres (1,333 hectares) of undeveloped land to urban uses and maintain 1,937 acres (784 hectares) as open space. Development of Alternatives 1 through 5 combined or individually would increase the amount of urban development on the project site and change its character substantially. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative and the Proposed Action, the effect on visual character would be **significant.** The off-site infrastructure improvements required under Alternatives 1 through 5 individually or combined would result in similar effects as described above for the No Action Alternative.

PVSP EIR Mitigation Measures 4.2-6a and **4.2-6b** would address this effect. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 5 (individually or combined) to address this effect. For the same reasons presented above, the USACE finds that this impact would remain **significant** after mitigation.

PVSP EIR Mitigation Measure 4.2-6a: Revegetation
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.2-6a *requires that all areas containing natural vegetation that are disturbed during utility line and roadway construction be revegetated upon completion of work. The full mitigation measure text is available in* ***Appendix 3.0****.*

PVSP EIR Mitigation Measure 4.2-6b: Screening and Lighting
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.2-6b *requires that all permanent utility line-related structures extending above ground be screened where feasible using a combination of berms, mounds, landscape material, decorative fencing/walls, or other screening features, consistent with applicable design guidelines of the local jurisdiction. The full mitigation measure text is available in* ***Appendix 3.0****.*

Impact AES-4 Effects from New Sources of Light and Glare

No Action Alt. The No Action Alternative would result in **less than significant** direct and indirect effects from new sources of light and glare.

The project site is primarily undeveloped open rangeland with very few sources of light and glare present in the area. The No Action Alternative would result in the development of the project site with a wide variety of urban land uses, including residential, commercial, and business uses, although the pattern of development would be discontinuous. This urban development will result in the introduction of significant additional sources of light and glare. These include automobile headlights, structure lighting, streetlights, signs, park and athletic field lighting, and lighting at the proposed County-owned corporation yard. Because much of the project site is essentially devoid of light sources at the present time, this change will be substantial. Additionally, daytime glare would result from light reflecting off pavement, vehicles, and buildings.

Development of the site under the No Action Alternative would require approval from Placer County. Given the size of the project site and the scale of development, it is reasonable for the USACE to assume that a specific plan similar to the specific plan adopted for the Proposed Action would be adopted for the No Action Alternative, and that the design standards and policies outlined in the specific plan for the No Action Alternative would be similar to the design standards and policies contained in the Placer Vineyards Specific Plan that are discussed below. As the new development would be required to comply with the design standards and policies, including those focused on minimize light and glare, the effect related to new sources of light and glare would be **less than significant**. Mitigation is not required.

Concerning off-site infrastructure improvements, some of the pump stations and similar facilities required for the No Action Alternative would be illuminated. These sources of light and glare are minimal and the effect would be **less than significant. PVSP EIR Mitigation Measure 4.2-6b** would further reduce any light and glare impacts from off-site improvements.

Proposed Action (Base Plan and Blueprint Scenarios) The Proposed Action would result in **less than significant** direct and indirect effects from new sources of light and glare.

The Proposed Action would construct a larger mixed-use development on the project site than the No Action Alternative. Similar to the No Action Alternative, the Prosed Action under either scenario would also result in the introduction of significant additional sources of light and glare to the project site.

The Specific Plan contains significant detail concerning project lighting design, including street lighting, pedestrian pathway lighting, recreation areas and athletic facilities lighting, parking lot lighting, landscape lighting, service areas and security lighting, and building

identification and street number lighting. Additionally, the Specific Plan contains numerous policies concerning control of light and glare associated with these lighting features in the proximity of residential and other areas. The Specific Plan also contains a number of design guidelines and standards controlling the use of building materials and painted surfaces, which are intended to control glare from sources such as unpainted metal, or other reflective surfaces (Placer County 2006). All design standards and policies listed in the Specific Plan would apply under either scenario.

Illumination of signs is addressed in the Placer County Zoning Ordinance in Section 17.54.170F. The Placer County General Plan Policy 1.O.9 also discourages lighting that shines unnecessarily onto adjacent properties or into the night sky (Placer County 2006). A common source of technical information on the effects and mitigation of light and glare is the International Dark Sky Association. The International Dark Sky Association recognizes the necessity for night lighting to maintain security, safety, utility and an attractive environment and has identified a number of impacts from poor night lighting, including urban sky glow, glare, light trespass, a trashy appearing environment, and energy waste. The Association recommends use of quality lighting designs, shining lights down, use of timing controls, the use of the correct amount of light, and the use of energy efficient light sources (Placer County 2006). The lighting standards and guidelines in the proposed Specific Plan under both scenarios were reviewed by the County against adopted County policy and the standards maintained by the International Dark Sky Association, and were found by the County to be in substantial conformity.

As the Specific Plan contains policies and design guidelines designed to minimize light and glare impacts and the Proposed Action would adhere to Placer County General Plan Policy 1.O.9 which discourages lighting that shines unnecessarily onto adjacent properties or into the night sky and conforms to standards maintained by the International Dark Sky Association, the effect related to new sources of light and glare on the project site would be **less than significant**. Mitigation is not required. **PVSP EIR Mitigation Measure 4.2-6b** would further reduce any light and glare impacts from off-site infrastructure improvements.

Alts. 1 through 5

Alternatives 1 through 5 would place additional acreage in open space and alter the types of land uses proposed on five parcels on the project site compared to the Proposed Action. If only one on-site alternative is considered, the amount of open space that would be preserved would range from a minimum of 1 additional acre (0.4 hectare), under Alternative 4, to a maximum of 47 acres (19 hectares) under Alternative 3. However, Alternatives 1 through 5 would still result in the introduction of significant additional sources of light and glare to the project site.

Development under these alternatives would also be guided by the same lighting standards and guidelines as the No Action and the Proposed Action. Based on the significance criteria listed above and for the same reasons presented for the No Action

Alternative and the Proposed Action, the effects of new, on and off-site light and glare sources would be **less than significant. PVSP EIR Mitigation Measure 4.2-6b** would further reduce any light and glare impacts from off-site improvements.

Impact AES-5 Indirect Effects on Aesthetics from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5

The construction and operation of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which may be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5, would result in **less than significant** effects to aesthetics with implementation of mitigation.

As construction at night would be restricted, there would be temporary light and glare effects from construction. Therefore, effects due to light and glare would be less than significant.

The corridors where the water infrastructure would be constructed are primarily along existing roadways and utility corridors. The infrastructure would mostly be underground and not visible, except at utility line access points. Once constructed, the corridor would be revegetated as necessary. The temporary disturbance of pipeline corridors in addition to aboveground permanent water pipeline structure would degrade the visual character in the area. The effects from permanent above ground pipeline infrastructure and revegetation would be potentially significant.

Placer County identified **PVSP EIR Mitigation Measures 4.2-6a** and **4.2-6b** to reduce these effects to less than significant. However, in the California Environmental Quality Act (CEQA) Findings of Fact and Statement of Overriding Considerations for the PVSP EIR, the County acknowledged that it did not have the authority to impose these mitigation measures on PCWA's project and the impact would remain significant. USACE concurs with the County that if the PCWA imposes these or similar mitigation measures on the infrastructure project, the effects to aesthetics would be less than significant. However, USACE also does not have the authority to impose mitigation measures on a project that would be built by the PCWA and finds that the effects would remain **significant**.

3.1.6 RESIDUAL SIGNIFICANT IMPACTS

There are no mitigation measures available to reduce adverse effects related to loss of scenic vistas, resulting in a significant and unavoidable effect.

PVSP EIR Mitigation Measures 4.2-6a and **4.2-6b** would reduce degradation of visual character for facilities that are built in areas under Placer County jurisdiction. However, the impact would remain **significant and unavoidable** because neither Placer County nor the USACE can compel other jurisdictions to implement the mitigation measures.

3.1.7 REFERENCES

California Department of Transportation. 2011. "California Scenic Highway Program." http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm. Accessed November 23, 2011.

County of Placer. 1994a. "Placer County General Plan."

County of Placer. 1994b. "Placer County Landscape Design Guidelines Manual."

County of Placer. 1995. "Placer County Sign Ordinance, Section 17.54.170."

County of Placer. 1996. "Placer County Design Guidelines Manual."

County of Placer. 2006. "Final Environmental Impact Report for the Placer Vineyards Specific Plan." Quad Knopf.

County of Placer. 2007. "Placer Vineyards Specific Plan."

International Dark Sky Association. 2011. http://www.darksky.org/.

3.2 AGRICULTURAL RESOURCES

3.2.1 INTRODUCTION

This section evaluates direct impacts associated with converting existing agricultural and vacant land located within the project site to urban uses under the Proposed Action and alternatives. Potential indirect impacts from the development of the Proposed Action and alternatives on nearby agricultural areas are also addressed. The following sources were used to prepare this section:

- Placer County Agricultural Crop Report (Placer County 2010);
- Farmland conversion reports prepared by the State Department of Conservation Farmland Mapping and Monitoring Program;
- Important Farmland Map for Placer County prepared by the State Department of Conservation Farmland Mapping and Monitoring Program (FMMP 2008);
- Natural Resources Conservation Service Web Soil survey;
- Agricultural preservation policies maintained by the Placer County Local Agency Formation Commission (Placer County LAFCO 2010);
- Agricultural policies listed in the Placer County General Plan (Placer County 1994);
- Placer County Right-to-Farm Ordinance (Placer County 1999); and
- Placer Vineyards Specific Plan EIR prepared by Placer County (Placer County 2006).

3.2.2 AFFECTED ENVIRONMENT

3.2.2.1 Regional Setting

The project site is located in western Placer County. Compared to other Central Valley counties where agriculture is a major sector of the economy, agricultural income and employment form a smaller portion of the economy of Placer County. Agricultural production largely occurs in the western portion of the County (Placer County General Plan 1994).

As indicated in **Table 3.2-1, Monetary Value of Placer County Agricultural Commodities by Industry 2010**, the majority of agricultural activities in the County, based on the monetary value of the product, are related to field crops (52 percent), and livestock and poultry production and the products associated with them (22 percent). Nursery products comprise about 8 percent of the monetary value of Placer County's agricultural products. Fruit and nut crops comprise about 10 percent while timber products comprise about 7 percent. Overall, gross revenues from the sales of agricultural commodities (including timber) in the County were approximately $65.7 million in 2010 (Placer County 2010).

As shown in **Table 3.2-2, Top Crops in Placer County 2010**, the top five crops in the County based on monetary value are rice, cattle and calves, nursery stock, timber production, and walnuts (Placer County 2010).

Table 3.2-1
Monetary Value of Placer County Agricultural Commodities by Industry 2010

Industry	Total Value
Fruit & Nut Crops	$6,419,206
Field Crops	$34,213,673
Vegetable Crops	$800,000
Livestock/Poultry	$12,908,482
Livestock/Poultry Products	$1,600,000
Nursery Products	$5,048,712
Apiary Products	$39,601
Subtotal	$61,029,674
Gross Timber Harvest	$4,659,958
Grand Total	**$65,689,632**

Source: Placer County Agricultural Crop Report, 2010

Table 3.2-2
Top Crops in Placer County 2010

Crop	Total Value
Rice	$27,354,363
Cattle and Calves	$8,015,225
Nursery Stock	$5,048,712
Timber Production	$4,659,958
Walnuts	$2,675,195

Source: Placer County Agricultural Crop Report, 2010

3.2.2.2 Storie Index

The Natural Resource Conservation Service (NRCS) has rated the suitability of soils in California for agriculture using the Storie Index. This index consists of six grades ranging from excellent (1) to unsuitable (6). The numerical rating system expresses the relative degree to which soil can support general agriculture. The rating is based on soil characteristics and is obtained by evaluating soil depth, surface texture, subsoil characteristics, drainage, salts and alkali, and relief.

3.2.2.3 Classification of Farmland in California

The California Department of Conservation (DOC) and the California Association of Resource Conservation Districts translate soil survey data from the NRCS into maps of "Important Farmland Series" for the state's agricultural counties. The purpose of the DOC's Farmland Mapping and

Monitoring Program (FMMP), which updates the maps biennially, is to provide land use conversion information to decision makers to use in the planning for the present and future of California's agricultural land resources. Thus, these classifications focus only on those lands that have been recently farmed. Land not recently farmed does not show up on the FMMP maps. The DOC waits two mapping cycles (four years) before removing unfarmed land from the maps.

The Important Farmland maps and the advisory guidelines for the FMMP identify five agriculture-related categories: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land. The mapping also includes "Other Land," which designates land that does not fall in any of the above categories. Each FMMP category is described below.

Prime Farmland

Prime Farmland is farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance

Farmland of Statewide Importance is similar to Prime Farmland but has minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Unique Farmland

Unique Farmland is farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

Farmland of Local Importance

Farmland of Local Importance is land of importance to the local agricultural economy, as determined by each County's Board of Supervisors and a local advisory committee. Also, it includes farmlands that produce crops that are not listed under Unique Farmland but are important to the economy of the County or City.

Grazing Land

Grazing land is land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for this category is 40 acres (16 hectares).

Other Land

This is land not included in any of the other mapping categories listed above, for example, low density rural development, brush and timber, wetlands and riparian areas not suitable for livestock grazing,

confined livestock, poultry or aquaculture facilities, strip mines and borrow pits, and water bodies smaller than 40 acres (16 hectares). Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres (16 hectares) is mapped as Other Land.

3.2.2.4 Conversion of Farmland in Placer County

The amount of agricultural land converted to other uses has been monitored in California since 1984 by the DOC based on information reported by the County Agricultural Commissioners. Placer County has typically not been among the highest-ranking counties for conversion of agricultural land to urban uses. However, increased urban growth is anticipated to occur in the Sacramento Valley, among other areas of the state. FMMP data from 1992 through the most recent DOC farmland report is presented below in **Table 3.2-3, 1992–2008 Placer County Land Use Summary (in acres)**.

Based on FMMP data, the total amount of agricultural land within Placer County declined approximately 1 percent during the 16-year period from 1992 to 2008. During this time, about 2,625 acres (1,062 hectares) of Prime Farmland, about 725 acres (293 hectares) of Farmland of Statewide Importance, about 3,800 acres (1,538 hectares) of Unique Farmland and about 12,450 acres (5,038 hectares) of Farmland of Local Importance were converted to other uses. Overall, approximately 31,450 acres (12,727 hectares) of farmland were converted, with about one third of this acreage involving grazing lands. The annual rate of farmland conversion during this period was about 1,975 acres (799 hectares) each year (California Department of Conservation 1998 through 2008).

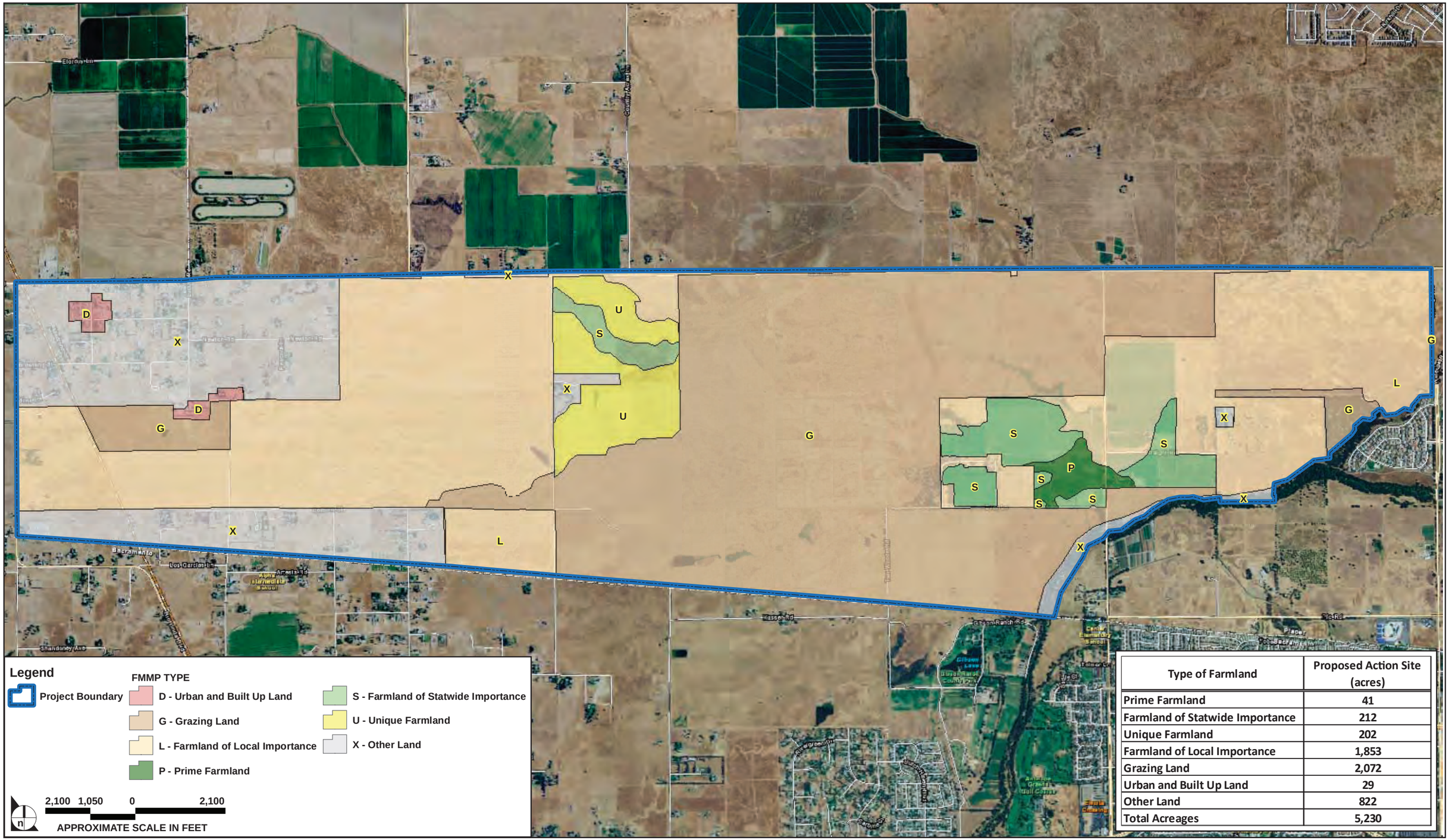
3.2.2.5 Existing Agricultural Uses on the Project Site and in its Vicinity

The DOC classifies a majority of the project site as Grazing Land and Farmland of Local Importance, with some parcels of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland (FMMP 2008). **Figure 3.2-1, Project Site Important Farmland** shows the distribution of Important Farmland on the project site.

The majority of the Proposed Action site is classified as Farmland of Local Importance under the FMMP as shown in **Table 3.2-4, Project Site Farmland**. A majority of the land classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland is located in the central and eastern portions of the site between Palladay Road and Watt Ave north of Dyer Lane.

Based on the Storie Index ratings, a majority of the project site (75 percent) contains soils rated as Grade 4 which are soils that are poorly suited for agriculture. Approximately 20 percent of the project site contains soils rated as Grade 1 which are soils that are excellent for agriculture. Based on the land capability classification system, most of the soils on the project site are Class III and IV soils, which have properties that severely limit agricultural production. However, soils in small portions of the site are Class I and Class II, which have properties that place slight to moderate limitations on agricultural production (NRCS 2010).

Because of the limitation of the site soils, a majority of the Proposed Action site is almost entirely used for cattle grazing. Crops grown on the project site include rice, permanent pasture, strawberries, grapes, corn, and alfalfa, along with various varieties of berries and fruit.



Type of Farmland	Proposed Action Site (acres)
Prime Farmland	41
Farmland of Statwide Importance	212
Unique Farmland	202
Farmland of Local Importance	1,853
Grazing Land	2,072
Urban and Built Up Land	29
Other Land	822
Total Acreages	5,230

SOURCE: State of California Department of Conservation 2008, Placer County, and ESRI Maps and Data 2011

FIGURE **3.2-1**

Project Site Important Farmland

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Table 3.2-3
1992–2008 Placer County Land Use Summary (in acres)

Year	Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance	Grazing	Subtotal Agriculture	Urban and Built-Up Land	Other Land	Water Area	Total Area
1992	10,523	5,546	23,975	113,464	36,297	189,805	31,462	185,067	5,292	411,626
1994	10,458	5,608	23,848	113,505	35,853	189,272	32,563	184,577	5,118	411,530
1996	9,867	5,546	23,301	114,270	33,694	186,678	35,002	184,804	5,047	411,531
1998	9,750	5,195	22,727	114,452	31,695	183,819	37,608	185,057	5,047	411,531
2000	9,768	6,089	22,686	102,658	39,208	180,409	41,446	184,648	5,027	411,530
2002	9,538	5,493	22,105	87,832	50,478	175,446	46,853	184,202	5,027	411,528
2004	9,236	5,510	23,283	86,235	46,000	170,264	52,183	184,058	5,027	411,532
2006	8,524	5,021	22,793	101,846	28,692	166,876	55,770	183,874	5,011	411,531
2008	7,894	4,822	20,194	101,012	24,448	158,370	58,623	189,456	5,011	411,460
Net Acreage Changed	-2,629	-724	-3,781	-12,452	-11,849	-31,435	27,161	4,389	-281	-166
Annual Avg.	-164	-45	-236	-778	-740	-1,965	1,698	274	-18	-10

Source: Department of Conservation, Farmland Conversion Report, 1992–2008.

Table 3.2-4
Project Site Farmland

Type of Farmland	Project site (acres)
Prime Farmland	41
Farmland of Statewide Importance	212
Unique Farmland	202
Farmland of Local Importance	1,853
Grazing Land	2,072
Urban and Built-Up Land	28
Other Land	822
Total	**5,230**

Source: California Department of Conservation, 2008

Agricultural lands with scattered residences are located to the north of the project site. This land is generally mapped by the DOC as Farmland of Local Importance. Land to the east of the proposed project site on the other side of Dry Creek consists of low-density residential housing and is urbanized. Land to the southeast of the proposed project site on the other side of Dry Creek is in agricultural use and is mostly mapped as grazing land with small pockets of Prime Farmland and Farmland of Statewide Importance associated with field crops and orchards. Land to the south, located in Sacramento County, can be characterized (moving west to east) as rural residential, agriculture, open space (Gibson Ranch Park), and low-density residential (community of Antelope). This land is generally mapped as grazing land. Lands to the west, located in Sutter County, are predominantly rural residential and are mapped by the DOC as Other Land.

3.2.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

This section summarizes relevant federal, state laws, LAFCO policies, County regulations, and policies contained in the Placer County General Plan.

3.2.3.1 Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) was enacted in 1981 to minimize the conversion of the nation's farmland to non-agricultural uses under Federal projects and programs. The FPPA assures that—to the extent possible—Federal programs are administered to be compatible with state, local government, and private programs and policies to protect farmland. The FPPA does not authorize the Federal Government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners.

For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. The Natural Resources Conservation Service (NRCS), which is an agency of the US Department of Agriculture, oversees the FPPA and maintains an inventory of farmland in the US. The NRCS

delegates the responsibility for designating farmland to appropriate local and State officials. The California FMMP is a supporting program that maps farmland in the State of California.

3.2.3.2 Williamson Act

The California Land Conservation Act, also known as the Williamson Act, was adopted in 1965 in order to encourage the preservation of the state's agricultural lands and to prevent its premature conversion to urban uses. In order to preserve these uses, this act established an agricultural preserve contract procedure by which any county or city within the state taxes landowners at a lower rate using a scale based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. In return, the owners guarantee that these properties would remain under agricultural production for a 10-year period. This contract is renewed automatically unless a notice of non-renewal is filed by the owner. In this manner, each agricultural preserve contract (at any given date) is always operable at least nine years into the future. As part of the Williamson Act, the state provides subventions to local participating governments. Subventions provide fiscal assistance to local governments to take part in the land preservation program. None of the parcels within the project area are restricted to agricultural use under the Williamson Act (Placer County 2006).

3.2.3.3 Placer County Right-to-Farm Ordinance

Right-to-farm ordinances have been adopted by several California counties to protect farmers in established farming areas from legal action that new residents in nearby urban settings may take against nuisances such as odor, noise, and dust associated with normal day-to-day farming activities. Placer County has adopted a right-to-farm ordinance that states that residents moving into areas where there are existing agricultural activities should be prepared to experience discomfort or inconveniences arising from typical agricultural operations which could include dust, smoke, noise, or odors. The right-to-farm ordinance promotes understanding and cooperation between urban residents and agricultural operators (Placer County 1999). Section 5.24.040 of the Placer County Code states the following:

1. No agricultural activity, operation, or facility, or appurtenances thereof, conducted or maintained for commercial purposes, and in a manner consistent with proper and accepted customs and standards, as established and followed by similar agricultural operations, shall be or become a nuisance, private or public, due to any changed condition in or about the locality, after the same has been in operation for more than one year if it was not a nuisance at the time it began.
2. Each prospective buyer of property in unincorporated Placer County shall be informed by the seller or his/her authorized agent of the right-to-farm ordinance. The seller or his/her authorized agent will keep on file a disclosure statement signed by the buyer with the escrow process.

3.2.3.4 Placer County General Plan Policies

The following is a list of goals and policies found in the Land Use and Agricultural and Forestry Resources Chapters of the Placer County General Plan relating to agricultural resources.

Agricultural Land Use

Goal 1.H. To designate adequate agricultural land and promote development of agricultural uses to support the continued viability of Placer County's agricultural economy.

Policy 1.H.1. The County shall maintain agriculturally designated areas for agricultural uses and direct urban uses to designated urban growth areas and/or cities.

Policy 1.H.2. The County shall seek to ensure that new development and public works projects do not encourage expansion of urban uses into designated agricultural areas.

Policy 1.H.3. The County will maintain large-parcel agricultural zoning and prohibit the subdivision of agricultural lands into smaller parcels unless such development meets the following conditions:

a. The subdivision is part of a cluster project and such a project is permitted by the applicable zoning;

b. The project will not conflict with adjacent agricultural operations; and

c. The project will not hamper or discourage long-term agricultural operations either on site or on adjacent agricultural lands.

Policy 1.H.4. The County shall allow the conversion of existing agricultural land to urban uses only within community plan areas and within city spheres of influence where designated for urban development on the General Plan Land Use Diagram.

Policy 1.H.5. The County shall require development within or adjacent to designated agricultural areas to incorporate design, construction, and maintenance techniques that protect agriculture and minimize conflicts with adjacent agricultural uses, except as may be determined to be necessary or inappropriate within a Specific Plan as part of the Specific Plan approval.

Policy 1.H.6. The County shall require new non-agricultural development immediately adjacent to agricultural lands to be designed to provide a buffer in the form of a setback of sufficient distance to avoid land use conflicts between the agricultural uses and the non-agricultural uses except as may be determined to be necessary or inappropriate within a Specific Plan as part of the Specific Plan approval. Such setback or buffer areas shall be established by recorded easement or other instrument, subject to the approval of

County Counsel. A method and mechanism (e.g., a homeowners association or easement dedication to a non-profit organization or public entity) for guaranteeing the maintenance of this land in a safe and orderly manner shall be also established at the time of development approval.

Land Use Conflicts

Goal 7.B. To minimize existing and future conflicts between agricultural and non-agricultural uses in agriculturally designated areas.

Policy 7.B.1. The County shall identify and maintain clear boundaries between urban/suburban and agricultural areas and require land use buffers between such uses where feasible, except as may be determined to be necessary or inappropriate within a Specific Plan as part of the Specific Plan approval. These buffers shall occur on the parcel for which the development permit is sought and shall favor protection of the maximum amount of farmland.

Policy 7.B.3. The County shall consider fencing subdivided lands adjoining agricultural uses as a potential mitigation measure to reduce conflicts between residential and agricultural uses. Factors to be considered in implementing such a measure include:

a. The type of agricultural operation (i.e., livestock, orchard, timber, row crops);

b. The size of the lots to be created;

c. The presence or lack of fences in the area;

d. Existing natural barriers that prevent trespass; and

e. Passage of wildlife.

Policy 7.B.4. The County shall continue to enforce the provisions of its Right-of-Farm Ordinance and of the existing state nuisance law.

Policy 7.B.5. The County shall encourage educational programs to inform Placer County residents of the importance of protecting farmland.

Agricultural/Timberland Buffers

In addition to the goals and policies outlined above, the General Plan requires the use of buffer zones in several types of developments. Land use buffer zones are to be reserved in perpetuity through land use acquisition, purchase of development rights, conservation easements, deed restrictions, or similar mechanisms, with adjacent proposed development projects providing the necessary funding. The exact dimensions of the buffer zones and specific uses allowed in buffer zones are determined through the specific

plan, land use permit, and/or subdivision review process. However, buffer zones must conform to the following standards:

1. **Agriculture/Timberland Buffers**. These buffer zones are required to separate urban uses (particularly residential) from lands designated Agriculture or Timberland on the Land Use Diagram, where noise from machinery, dust, the use of fertilizers and chemical sprays, and other related agricultural/timber harvesting activities would create problems for nearby residential and other sensitive land uses. These buffers also serve to minimize disturbance of agricultural operations from nearby urban or suburban uses, including trespassing by nearby residents and domestic animals.

   a. **Buffer Dimensions**: Timber harvesting and agricultural practices associated with crop production can contribute to land use conflicts when development occurs adjacent to agricultural and timberland areas. Since production practices vary considerably by crop type, buffer distances may vary accordingly. The separations shown in the table below are required between areas designated Agriculture or Timberland and residential uses, commercial/office uses, business park uses, and some types of recreational uses; no buffers are required for other uses. The buffer widths are expressed as ranges because of the possible influences of site or project-specific characteristics.

   b. **Uses Allowed in Buffer**: Low-density residential uses on parcels of one to 20 acres or open space uses are permitted within the buffer, although the placement of residential structures is subject to the minimum "residential exclusion areas" shown in the table below. Non-habitable accessory structures and uses may be located in the exclusion area, and may include barns, stables, garages, and corrals.

Table 3.2-5
Minimum Agriculture/Timberland Buffer Zone Width

Agriculture/Timberland Use	Buffer Zone Width	
	Residential Exclusion Area[1]	Buffer Range Width[2]
Field Crops	100 feet	100 to 400 feet
Irrigated Orchards	300 feet	300 to 800 feet
Irrigated Vegetables, Rice	400 feet	200 to 800 feet
Rangeland/Pasture	50 feet	50 to 200 feet
Timberland	100 feet	100 to 400 feet
Vineyard	400 feet	400 to 800 feet

[1] *Residential structures prohibited; non-habitable accessory structures permitted.*
[2] *Required buffer dependent on-site or project-specific characteristics as determined through County's specific plan, land use permit, and/or subdivision review process.*

3.2.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.2.4.1 Significance Thresholds

Council on Environmental Quality (CEQ) guidance requires an evaluation of a proposed action's effect on the human environment. The U.S. Army Corps of Engineers (USACE) has determined that the Proposed Action or its alternatives would result in significant adverse effects related to agricultural resources if the Proposed Action or an alternative would:

- result in the conversion of Important Farmland to non-agricultural uses; or
- place incompatible uses adjacent to existing agricultural uses.

Important Farmland is defined as land that is designated as prime farmland, unique farmland, and land of statewide or local importance under the FMMP.

3.2.4.2 Analysis Methodology

Impacts were assessed based on information contained in a variety of sources. Farmland status of the project site was obtained from the California DOC's FMMP. Although development of the project site with urban uses is anticipated to occur over a period of time under the Proposed Action and alternatives, this analysis assumes that ultimately all agricultural land within the project site would be eventually converted to non-agricultural uses.

3.2.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact AG-1 Conversion of Important Farmland

No Action Alt. The No Action Alternative would result in the conversion of approximately 2,300 acres of Important Farmland, which would be a **significant** effect. **PVSP EIR Mitigation Measure 4.4-1a** would be implemented but the effect would remain **significant and unavoidable**. The No Action Alternative would develop 3,294 acres (1,333 hectares) on the project site with urban uses and preserve 1,937 acres (784 hectares) as open space. Of the land that would be developed, about 1,091 acres (442 hectares) are Important Farmland. Once developed, these lands would no longer be available for agricultural uses. Even land that is preserved as open space would be unlikely to be farmed, because it would be comprised primarily of natural areas and drainages surrounded by urban development, although it would likely continue to be grazed. Therefore, development of the project site at buildout would result in the conversion of approximately 1,091 acres (442 hectares) of Important Farmland, and the loss of all active agricultural production within the project site. The loss of Important Farmland would be a **significant** effect.

PVSP EIR Mitigation Measure 4.4-1a would address this effect. This measure requires the applicant to compensate for converting agricultural land to urban uses by placing conservation easements at a 1:1 ratio on lands that are (1) in agricultural production, (2) are undeveloped and have an NRCS soils classification of the same or greater value than lands being affected within the property at issue, or (3) are undeveloped and have the same or

higher value DOC categorization as lands being affected within the property at issue. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this effect. The Placer Vineyards Specific Plan EIR found that this measure would substantially lessen the significant effect relating to the loss of agricultural land, including Important Farmland, but not to a less than significant level (Placer County 2007). The USACE also finds that the mitigation measures described above would not fully mitigate the effect of the No Action Alternative, and this effect would remain **significant**.

Proposed Action (Base Plan and Blueprint Scenarios)

The Proposed Action would develop 4,522 acres (1,830 hectares) of land on the site with urban uses and preserve about 709 acres (287 hectares) in open space. Land development would result in the conversion of about 2,300 acres (931 hectares) of Important Farmland. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative, the conversion of about 2,300 acres (931 hectares) of Important Farmland to non-agricultural uses under the Proposed Action would be a **significant** effect. **PVSP EIR Mitigation Measure 4.4-1a** would address this effect.

This measure was adopted by Placer County at the time of project approval and will be enforced by the County. The Placer Vineyards Specific Plan EIR found that this measure would substantially lessen the significant effect relating to the loss of agricultural land, including Important Farmland, but not to a less than significant level. Therefore, the effect would remain significant. The USACE agrees with the conclusion in the Placer Vineyards Specific Plan EIR and also finds that the effect would remain **significant** after mitigation.

Alts. 1 through 5

Alternatives 1 through 5 place varying amounts of acreages in open space, ranging from a minimum of 1 additional acre (0.4 hectare) greater than the Proposed Action under Alternative D up to a maximum of 47 additional acres (19 hectares) under Alternative 3. Therefore none of the alternatives would appreciably reduce the amount of Important Farmland that would be converted to urban uses on the project site. Development of Alternatives 1 through 5 combined would develop 4,431 acres (1,793 hectares) on the project site with urban uses and preserve 799 acres (323 hectares) as open space (compared to 709 acres [287 hectares] of open space under the Proposed Action). Therefore, Alternatives 1 through 5 (singly or combined) would also result in the conversion of about 2,300 acres (931 hectares) of Important Farmland.

Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative and the Proposed Action, the conversion of approximately 2,300 acres (931 hectares) of Important Farmland to non-agricultural uses would be a **significant** effect. **PVSP EIR Mitigation Measure 4.4-1a** would address this effect. The USACE assumes that Placer County would impose the same mitigation measure on Alternatives 1 through 5 (singly or combined) to address this effect. However, for the same reasons presented above, the effect would remain **significant**.

PVSP EIR Mitigation Measure 4.4-1a: Open Space/Agricultural Land Mitigation
(Applicability – Proposed Action and Alternatives)

PVSP EIR Mitigation Measure 4.4-1a *requires the Applicants to compensate for converting agricultural land to urban uses by placing conservation easements at a 1:1 ratio on lands that are (1) in agricultural production, (2) are undeveloped and have an NRCS soils classification of the same or greater value than lands being affected within the property at issue, or (3) are undeveloped and have the same or higher value DOC categorization as lands being affected within the property at issue. The full text of the EIR mitigation measure is presented in* ***Appendix 3.0****.*

Impact AG-2 Compatibility with Adjacent Agricultural Uses

No Action Alt. The No Action Alternative would result in **less than significant** effects from developing urban uses near agricultural uses. The No Action Alternative would not conflict with adjacent agricultural uses as land uses on the project site would be adequately buffered from surrounding agricultural uses. In addition, conflicts between new urban uses and continuing agricultural uses on the project site that may occur as the project site is built out would be resolved by adherence to the County's Right to Farm Ordinance and state nuisance laws.

Land to the north of the project site is currently undeveloped dry pastureland with some rural residential uses. In addition, there is an agricultural preserve area associated with rice production north of Baseline Road between County Acres Lane and South Brewer Road. Most of the land to the north east of County Acres Lane is designated for development in the Sierra Vista Specific Plan, which was recently approved by the City of Roseville, and the Curry Creek Community Plan. Land to the west of County Acres Lane designated for agriculture by the Placer County General Plan. In addition, land to the north is separated from the project site by Baseline Road.

The County General Plan requires the establishment of a 50- to 200-foot (15- to 61-meter) buffer between urban uses and grazing or pastureland. The setback provided by the future Baseline Road right-of-way (approximately 100 feet [30 meters]) will satisfy this buffer requirement. Concerning the agricultural preserve to the north of Baseline Road, a buffer of 200 to 800 feet (61 to 244 meters) with a residential exclusion area of 400 feet (122 meters) would be required according to the General Plan. The nearest residential use within the project site would be approximately 1,600 feet (488 meters) away from the preserve while other buildings adjacent to the preserve would be 200 feet (61 meters) away. As a result, the No Action Alternative meets the General Plan requirements for buffers adjacent to rice production.

Single-family residential uses are currently located to the east of the project site and undeveloped grazing and irrigated cropland (field crops and orchard) are currently located to the southeast of the project site. The land to the east is designated for development in the

Dry Creek Community Plan and land to the southeast is designated for development in the Riolo Vineyards Specific Plan. In addition, land to the southeast is separated from the project site by Dry Creek.

The single-family residential uses to the east of the project site do not require a buffer. As discussed above, for grazing or pastureland, the General Plan requires a 50- to 200-foot (15- to 61-meter) buffer. For irrigated field crops, the General Plan require a buffer of 200 to 800 feet (61 to 244 meters) with a residential exclusion area of 400 feet (122 meters) while for irrigated orchards a buffer of 300 to 800 feet (91 to 244 meters) with a residential exclusion area of 300 feet (91 meters) is required. An open space buffer is planned along Dry Creek under the No Action Alternative. Therefore the nearest residential use on the project site would be located approximately 800 to 900 feet (244 to 274 meters) from the grazing and agricultural uses to the southeast. The No Action Alternative meets the General Plan requirements for buffers adjacent to grazing and irrigated crop production.

Land to the south of the project site, located in Sacramento County, can be characterized (moving west to east) as rural residential, agriculture (undeveloped grazing), open space (Gibson Ranch Park), and low-density residential (community of Antelope). The land to the south between Gibson Ranch Park and 1,350 feet (411 meters) west of Palladay Road is designated for development in the Elverta Specific Plan. Land to the west of the Elverta Specific Plan area is designated for agriculture by the Sacramento County General Plan.

As discussed above, for grazing or pastureland, the General Plan requires a 50- to 200-foot (15- to 61-meter) buffer. The No Action Alternative provides for a 200-foot- (61-meter) wide open space buffer along the southern border of the project site to buffer future residential uses from existing rural residential uses, which could contain pasture land, and undeveloped grazing land to the south. This open space area would also provide a buffer between proposed residential uses and proposed rural residential uses in the Elverta Specific Plan area. East of the Elverta Specific Plan area the open space buffer narrows to 50 feet (15 meters) and is generally adjacent to Gibson Ranch Park. There is, however, an area of existing private open space between the project site and Gibson Ranch Park that is approximately 200 feet (61 meters) wide at its western extremity and tapering to a point as it approaches Dry Creek at the east end of the parcel. The parcel does not appear to be used agriculturally and, therefore, the narrower buffer does not present an agricultural land use conflict issue.

Properties to the west, located in Sutter County are characterized predominantly as rural residential and are designated for development by Sutter County (Placer County 2006). As the Special Planning Area borders these lands, no buffers are required.

Concerning the compatibility of adjacent agricultural uses within the project site, the use of agricultural buffers would only apply to lands within the project site that are adjacent to the SPA. The majority of the SPA is used as pasture and therefore would require a 50-foot

(15-meter) residential exclusion area and a 50- to 200-foot (15- to 61-meter) buffer for other uses according to buffer requirements contained in the General Plan. Development under the No Action Alternative would provide for a minimum 50-foot (15-meter) separation between the proposed uses on the project site and the SPA. Therefore, the No Action Alternative meets the General Plan requirements for buffers adjacent to pasture land.

Finally, because development will occur over a number of years, it is anticipated that some owners of the land within the project site will choose to retain their land in agriculture for a period of time while neighboring parcels may choose to develop. Although the Placer County General Plan contains standards for buffers between agriculture and other uses (see discussion above), the buffers are designed to be retained in perpetuity, depending on their width and size, and would not be workable where landowners have approved entitlements that could be exercised at any time, such as properties within the portion of the project site proposed for urban development. However, adherence to the County's Right to Farm Ordinance and state nuisance laws would ensure that adjacent agricultural and urban uses within areas designated for urban development within the project site would remain compatible.

In summary, land uses on the project site would be adequately buffered from surrounding agricultural uses and would meet buffer requirements for agricultural uses contained in the General Plan. In addition, conflicts between new urban uses and continuing agricultural uses on the project site that may occur as the project site is built out would be resolved by adherence to the County's Right to Farm Ordinance and state nuisance laws. Therefore, the effect would be **less than significant**. No mitigation is required.

Proposed Action (Base Plan and Blueprint Scenarios)

The Proposed Action would also develop residential uses that are adjacent the agricultural preserve to the north of Baseline Road. As with the No Action Alternative, the Proposed Action also meets the General Plan requirements for buffers adjacent to rice production. The nearest residential use within the project site would be approximately 700 feet (213 meters) away from the preserve while other buildings adjacent to the preserve would be 200 feet (61 meters) away. An open space buffer is planned along Dry Creek under the Proposed Action. Therefore the nearest residential use on the project site would be located approximately 800 to 900 feet (244 to 274 meters) from the grazing and agricultural uses to the southeast, and Proposed Action meets the General Plan requirements for buffers adjacent to grazing and irrigated crop production. Similarly, the Proposed Action provides for a 200-foot- (61-meter) wide open space buffer along the southern border of the project site to buffer future residential uses from existing rural residential uses, which could contain pasture land, and undeveloped grazing land to the south. Finally, Proposed Action provides for a minimum 50-foot (15-meter) separation between the proposed uses on the project site and the SPA. Therefore, the Proposed Action meets the General Plan requirements for buffers.

With respect to land use incompatibility resulting from the fact that some owners of the

land within the project site will choose to retain their land in agriculture for a period of time while neighboring parcels may choose to develop, as with the No Action Alternative, adherence to the County's Right to Farm Ordinance and state nuisance laws would ensure that adjacent agricultural and urban uses within areas designated for urban development within the project site would remain compatible. Therefore, the effect of the Proposed Action related to incompatibility with agricultural uses would be **less than significant**. No mitigation is required.

Alts. 1 through 5

Development of Alternatives 1 through 5 combined would increase the amount of open space areas in the eastern, southwestern, and western portions of the project site as compared to the Proposed Action. As a result, a portion of the 200-foot (61-meter) open space buffer adjacent to the Sacramento County line would increase (Alternatives 3 and 4). The size of the open space buffer along the remaining boundary with Sacramento County would remain the same. In addition, the minimum 50-foot (15-meter) buffer between proposed land uses and uses in the SPA would remain unchanged with the development of Alternatives 1 through 5 combined. However, as with the Proposed Action, some of the land parcels within the project site under Alternatives 1 through 5 individually or combined may remain in agricultural use while adjacent parcels develop. Overall, less development would be located adjacent to agricultural areas. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative and the Proposed Action, the effect related to incompatibility with agricultural uses would be **less than significant**. No mitigation is required.

Impact AG-3 Indirect Effects on Agricultural Resources from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5

The construction of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which may be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5, would result in **less than significant** effects on agricultural resources. Operation of the pipelines would not result in disruption of agricultural land. Therefore, operational impacts would not be significant.

The corridors where the water infrastructure would be constructed are primarily along existing roadways. However, in some locations construction in the utility line corridor would result in temporary loss of use of agricultural land. Because the loss of use would be temporary, the effect would be **less than significant**. Mitigation is not required.

3.2.6 RESIDUAL SIGNIFICANT IMPACTS

PVSP EIR Mitigation Measure 4.4-1a would reduce Important Farmland conversion impacts of the Proposed Action and alternatives. However, even with mitigation this impact would remain **significant** because conservation easements would not replace the acreage that is lost due to development.

3.2.7 REFERENCES

California Department of Conservation. 2008. "California Farmland Conversion Report 2006–2008."

California Department of Conservation. 2006. "California Farmland Conversion Report 2004–2006."

California Department of Conservation. 2004. "California Farmland Conversion Report 2002–2004."

California Department of Conservation. 2002. "California Farmland Conversion Report 2000–2002."

California Department of Conservation. 2000. "California Farmland Conversion Report 1998–2000."

California Department of Conservation. 1998. "California Farmland Conversion Report 1996–1998."

California Department of Conservation. 1996. "California Farmland Conversion Report 1994–1996."

California Department of Conservation. 1994. "California Farmland Conversion Report 1992–1994."

California Department of Conservation. 2010. "Placer County Important Farmland 2008" [Map].

County of Placer. 1994. "Placer County General Plan."

County of Placer. 2006. "Final Environmental Impact Report for the Placer Vineyards Specific Plan." Quad Knopf.

Placer County Department of Agriculture. 2010. "Placer County Agricultural Crop Report 2010."

Placer County Local Agency Formation Commission. 2010. "Placer LAFCO Policies."

Soil Survey Staff, Natural Resources Conservation Service (NRCS), United States Department of Agriculture. 2012. "Web Soil Survey." http://websoilsurvey.nrcs.usda.gov/. Accessed November 30, 2011

County of Placer. 1999. "Placer County Right-to-Farm Ordinance, Section 5.24.040."

3.3 AIR QUALITY

3.3.1 INTRODUCTION

This section covers the topic of air quality, describing existing conditions at and surrounding the project site, summarizes relevant regulations and policies, and analyzes the anticipated effects of implementing the Proposed Action and alternatives.

3.3.2 AFFECTED ENVIRONMENT

3.3.2.1 Regional Setting

The California Air Resources Board (CARB) has divided California into regional air basins according to topographic features. The proposed project is located in western Placer County, within the Placer County portion of the Sacramento Valley Air Basin (the Air Basin). This portion of the Air Basin is under the jurisdiction of the Placer County Air Pollution Control District (Air District) for issues related to air quality planning. The Air District works in conjunction with the Sacramento Metropolitan Air Quality Management District (SMAQMD) and other air pollution control districts within the Air Basin to address air quality in the region.

The primary factors that determine air quality in any region are the locations of air pollutant sources, the amount of pollutants emitted, and meteorological and topographical conditions affecting their dispersion. Atmospheric conditions, including wind speed, wind direction, and air temperature gradients, interact with the physical features of the landscape to determine the movement and dispersal of air pollutants.

The Air Basin includes Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba counties, the western urbanized portion of Placer County, and the eastern portion of Solano County. The Air Basin occupies 15,040 square miles and has a population of more than 2 million people. The Air Basin is bounded by the North Coast Ranges on the west and Northern Sierra Nevada Mountains on the east. The intervening terrain is flat and is often described as a bowl-shaped valley.

The Sacramento Valley Air Basin has a Mediterranean climate, characterized by hot dry summers and mild rainy winters. During the year the temperature may range from 20 to 115 degrees Fahrenheit with summer highs usually in the 90s and winter lows occasionally below freezing. Average annual rainfall is about 20 inches with snowfall being very rare. The prevailing winds are moderate in strength and vary from moist breezes from the south to dry land flows from the north (SMAQMD 2009).

The mountains surrounding the Sacramento Valley create a barrier to airflow, which can trap air pollutants in the valley when meteorological conditions are right and a temperature inversion exists. The highest frequency of air stagnation events occur in the autumn and early winter when large high-pressure cells lie over the valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in the air. The surface concentrations of pollutants are highest when these conditions are combined with smoke from agricultural burning or when temperature inversions trap cool air, fog, and pollutants near the ground.

The ozone season (May through October) in the Sacramento Valley is characterized by stagnant morning air or light winds with the Delta sea breeze arriving in the afternoon out of the southwest. Usually the evening breeze transports the airborne pollutants to the north out of the Sacramento Valley. During about half of the days from July to September, however, a phenomenon called the "Schultz Eddy" prevents this from occurring. Instead of allowing for the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern and pollutants to circle back southward preventing dispersion and increasing the likelihood of federal and state air quality standards violations (SMAQMD 2009).

3.3.2.2 Ambient Air Quality Standards

Both the federal government and the State of California have established ambient air quality standards for several different pollutants. The United States Environmental Protection Agency (U.S. EPA) sets National Ambient Air Quality Standards for the following seven pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), respirable particulate matter (PM10), fine particulate matter (PM2.5), and lead. These seven pollutants are commonly referred to as "criteria pollutants." California Ambient Air Quality Standards have also been adopted for these pollutants, as well as for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. California standards are generally stricter than national standards. Each of the criteria pollutants that are relevant to the Proposed Action and that are of concern in the Air Basin is briefly described below. While reactive organic gases (ROGs) are not considered to be criteria air pollutants, they are widely emitted from land development projects and undergo photochemical reactions in the atmosphere to form O_3; therefore, ROGs are also relevant to the Proposed Action and are of concern in the area (U.S. EPA n.d.c).

- **Ozone (O_3)**. O_3 is a gas that is formed when ROGs and oxides of nitrogen (NO_X) (both byproducts of internal combustion engine exhaust and other sources) undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.
- **Reactive Organic Gases (ROGs)**. ROGs are compounds composed primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary air pollutants, including ozone. ROGs are also referred to as reactive organic compounds (ROCs) or volatile organic compounds (VOCs). ROGs themselves are not "criteria" pollutants; however, they contribute to formation of O_3.
- **Nitrogen Dioxide (NO_2)**. NO_2 is a reddish-brown, highly reactive gas that is formed in the ambient air through the oxidation of nitric oxide (NO). NO_2 is also a byproduct of fuel combustion. The principal form of NO_X produced by combustion is NO, but NO reacts quickly to form NO_2, creating the mixture of NO and NO_2 referred to as NO_X. NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_X is only potentially irritating. NO_2 absorbs blue light, the result of which is a brownish-red cast to the atmosphere and reduced visibility.
- **Carbon Monoxide (CO)**. CO is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during winter mornings, with little to no wind,

when surface-based inversions trap the pollutant at ground levels. CO is emitted directly from internal combustion engines. Motor vehicles operating at slow speeds are the primary source of CO in the basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

- **Sulfur Dioxide (SO_2)**. SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high-sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4).
- **Respirable Particulate Matter (PM10)**. PM10 consists of suspended particles or droplets 10 micrometers or smaller in diameter. Some sources of PM10, like pollen and windstorms, are naturally occurring. However, in populated areas, most PM10 is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.
- **Fine Particulate Matter (PM2.5)**. PM2.5 is suspended particulate matter that is 2.5 micrometers or smaller in diameter. The sources of PM2.5 include fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel-powered vehicles such as buses and trucks. These fine particles are also formed in the atmosphere when gases such as sulfur dioxide, NO_X, and ROGs are transformed in the air by chemical reactions.

A summary of state and federal ambient air quality standards and the effects of the exceedance of these standards on health are shown in **Table 3.3-1, Ambient Air Quality Standards**. For some pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values, such as protection of crops, protection of materials, or avoidance of nuisance conditions.

Table 3.3-1
Ambient Air Quality Standards

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects
	State Standard (California Ambient Air Quality Standards)	Federal Primary Standard (National Ambient Air Quality Standards)	
Ozone	0.09 ppm, 1-hr. avg. 0.070 ppm, 8-hr avg.	0.075 ppm, 8-hr avg. (three-year average of annual 4th-highest daily maximum)	(a) Pulmonary function decrements and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects
	State Standard (California Ambient Air Quality Standards)	Federal Primary Standard (National Ambient Air Quality Standards)	
Nitrogen Dioxide[1]	0.18 ppm, 1-hr avg. 0.030 ppm, annual arithmetic mean	0.100 ppm, 1-hr avg. (three-year avg. of the 98th percentile of the daily maximum 1-hour avg.) 0.053 ppm, annual arithmetic mean	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extrapulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration
Carbon Monoxide	20 ppm, 1-hr avg. 9.0 ppm, 8-hr avg.	35 ppm, 1-hr avg. (not to be exceeded more than once per year) 9 ppm, 8-hr avg. (not to be exceeded more than once per year)	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses
Sulfur Dioxide[2]	0.25 ppm, 1-hr. avg. 0.04 ppm, 24-hr avg.	0.075 ppm, 1-hr avg. (three-year avg. of the 99th percentile)	Bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
Respirable Particulate Matter (PM10)	50 $\mu g/m^3$, 24-hr avg. 20 $\mu g/m^3$, annual arithmetic mean	150 $\mu g/m^3$, 24-hr avg. (not to be exceeded more than once per year on average over three years)	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly
Fine Particulate Matter (PM2.5)	12 $\mu g/m^3$, annual arithmetic mean	35 $\mu g/m^3$, 24-hr avg. (three-year average of 98th percentile) 15 $\mu g/m^3$, annual arithmetic mean (three-year average)	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly
Lead[3]	1.5 $\mu g/m^3$, 30-day avg.	1.5 $\mu g/m^3$, calendar quarter 0.15 $\mu g/m^3$, three-month rolling average	(a) Increased body burden; and (b) Impairment of blood formation and nerve conduction
Visibility-Reducing Particles	Reduction of visual range to less than 10 miles at relative humidity less than 70%, 8-hour avg. (10:00 AM–6:00 PM)	None	Visibility impairment on days when relative humidity is less than 70%.
Sulfates	25 $\mu g/m^3$, 24-hr avg.	None	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; and (f) Property damage

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects
	State Standard (California Ambient Air Quality Standards)	Federal Primary Standard (National Ambient Air Quality Standards)	
Hydrogen Sulfide	0.03 ppm, 1-hr avg.	None	Odor annoyance
Vinyl Chloride[3]	0.01 ppm, 24-hr avg.	None	Known carcinogen

Source: South Coast Air Quality Management District, Final Program Environmental Impact Report for the 2007 Air Quality Management Plan, (2007) Table 3.1-1, p. 3.1-3.
$\mu g/m^3$ = microgram per cubic meter.
ppm = parts per million by volume.

[1] *On January 25, 2010, the U.S. EPA promulgated a new 1-hour NO_2 standard. The new 1-hour standard is 0.100 parts per million (188 micrograms per cubic meter [$\mu g/m^3$]) and became effective on April 12, 2010.*

[2] *On June 3, 2010, the U.S. EPA issued a new 1-hour SO_2 standard. The new 1-hour standard is 0.075 parts per million (196 $\mu g/m^3$). The U.S. EPA also revoked the existing 24-hour and annual standards citing a lack of evidence of specific health impacts from long-term exposures. The new 1-hour standard becomes effective 60 days after publication in the Federal Register.*

[3] *CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.*

The U.S. EPA and CARB designate air basins or portions of air basins and counties as being in "attainment" or "nonattainment" for each of the criteria pollutants. Nonattainment areas are ranked (marginal, moderate, serious, severe, or extreme) according to the degree of nonattainment. Areas that do not meet the standards shown in **Table 3.3-1** are classified as nonattainment areas. The National Ambient Air Quality Standards (other than O_3, PM10, PM2.5, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The National Ambient Air Quality Standards for O_3, PM10, and PM2.5 are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards are not to be exceeded during a three-year period. **Table 3.3-2, Placer County Attainment Status**, presents the status of the Placer County portion of Air Basin with respect to the attainment of federal and state standards.

The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant.

Table 3.3-2
Placer County Attainment Status (Western Portion of County)

Pollutant	Federal Standards	State Standards
Ozone 1-hour	No federal standard	Nonattainment/Serious
Ozone 8-hour	Nonattainment/Severe-15[1]	Nonattainment
Nitrogen Dioxide	Attainment	Attainment
Carbon Monoxide	Unclassified/Attainment	Unclassified/Attainment
Sulfur Dioxide	Unclassified/Attainment	Attainment
PM10	Attainment	Nonattainment
PM2.5	Nonattainment	Attainment
Lead	Unclassified	Attainment
Hydrogen Sulfide	No federal standards	Unclassified
Sulfates	No federal standards	Attainment
Visibility-Reducing Particulates	No federal standards	Unclassified

Sources:
California Air Resources Board, "Area Designations Maps/State and National," http://www.arb.ca.gov/desig/adm/adm.htm. 2012.
U.S. Environmental Protection Agency, "Air Quality Maps," http://www.epa.gov/region9/air/maps/index.html. 2012.
[1] *A formal request for voluntary reclassification from "serious" to "severe" for the 8-hour ozone nonattainment area with an associated attainment deadline of June 15, 2019, was submitted by CARB to the U.S. EPA on February 14, 2008. The U.S. EPA approved the reclassification request on April 15, 2010.*

3.3.2.3 Toxic Air Contaminants

In addition to criteria pollutants, CARB periodically assesses the health impacts and ambient levels of toxic air contaminants in California. The U.S. EPA assesses health impacts for hazardous air pollutants. A toxic air contaminant is defined by California Health and Safety Code (Health and Safety Code Section 397655):

> *"Toxic air contaminant" means an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412(b)) is a toxic air contaminant.*

As noted in the definition above, all U.S. EPA hazardous air pollutants are considered to be toxic air contaminants. CARB has assessed inhalation cancer risk for the state and has provided risk maps based on the Assessment System for Population Exposure Nationwide (ASPEN) dispersion model (U.S. EPA n.d.a). The ASPEN model is used in the U.S. EPA's National Air Toxics Assessment study (U.S. EPA n.d.b). The risk maps depict inhalation cancer risk due to modeled outdoor toxic pollutant levels, and do not account for cancer risk due to other types of exposure (i.e., direct or ingestion). Based on CARB's assessment, the largest contributor to inhalation cancer risk is diesel emissions, which is consistent with the result of other studies, such as the South Coast Air Quality Management District's Multiple Air Toxics Exposure Study III (South Coast Air Quality Management District 2008).

In 2004, CARB conducted a health risk assessment of airborne particulate matter emissions from diesel-fueled locomotives at the Union Pacific J.R. Davis Yard located in Roseville, California. The study found that the background cancer risk for the broader Sacramento region was 360 in 1 million for diesel particulate matter and 520 in 1 million for all toxic air contaminants (CARB 2004).

3.3.2.4 Ambient Air Monitoring

CARB has established and maintains a network of sampling stations in conjunction with local air pollution control districts (APCDs) and air quality management districts (AQMDs), private contractors, and the National Park Service. The monitoring station network provides air quality monitoring data, including real-time meteorological data and ambient pollutant levels, as well as historical data. The network in the Air Basin consists of 12 monitoring stations. The closest monitoring station to the project is located at 151 North Sunrise Boulevard in Roseville, located approximately 8 miles east of the project site. This station monitors ambient pollutant concentrations of O_3, NO_2, PM10, and PM2.5. The nearest station to the project site that monitors CO and SO_2 is located at 7823 Blackfoot Way in North Highlands to the south of the project site.

Table 3.3-3, Ambient Pollutant Concentrations Registered Nearest to the Project Site, at the end of this section, lists the measured ambient pollutant concentrations and the exceedances of state and federal standards that have occurred at the above mentioned monitoring stations from 2008 through 2010, the most recent years for which data are available. As shown, the monitoring station in Roseville has registered values above state and federal standards for O3, the state standard for PM10, and the federal standard for PM2.5. The standards for CO, NO_2, SO_2, lead, and sulfate have not been exceeded anywhere within the basin for several years. Values for lead and sulfate are not presented in the table below since ambient concentrations are well below the state standards. Hydrogen sulfide, vinyl chloride, and visibility reducing particles were not monitored by CARB or the SMAQMD in the Air Basin during the period from 2008 to 2010.

3.3.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

Air quality within Placer County is addressed through the efforts of various federal, state, regional, and local government agencies. The agencies primarily responsible for improving the air quality within the County include the U.S. EPA, CARB, Air District, and the Sacramento Area Council of Governments (SACOG). The Placer County General Plan includes an Air Quality element, with goals and policies intended to improve air quality in the County. These agencies, their laws, regulations, rules, plans, and policies as they pertain to air quality and the Proposed Action are discussed below.

Table 3.3-3
Ambient Pollutant Concentrations Registered Nearest to the Project Site

Pollutant	Standards[1]	Year		
		2008	2009	2010
OZONE (O_3)				
Maximum 1-hour concentration monitored (ppm)		0.134	0.113	0.124
Maximum 8-hour concentration monitored (ppm)		0.107	0.101	0.105
Number of days exceeding state 1-hour standard	0.09 ppm	20	13	9
Number of days exceeding state 8-hour standard	0.070 ppm	38	32	21
Number of days exceeding federal 8-hour standard[2]	0.075 ppm	22	19	15
CARBON MONOXIDE (CO)				
Maximum 8-hour concentration monitored (ppm)		1.90	1.66	1.16
Number of days exceeding state 8-hour standard	9.0 ppm	0	0	0
Number of days exceeding federal 8-hour standard	9 ppm	0	0	0
NITROGEN DIOXIDE (NO_2)				
Maximum 1-hour concentration monitored (ppm)		0.067	0.061	0.071
Annual average concentration monitored (ppm)		0.012	0.010	0.010
Number of days exceeding state 1-hour standard	0.18 ppm	0	0	0
Number of days exceeding state 1-hour standard[3]	0.100 ppm	0	0	0
PARTICULATE MATTER (PM10)				
Maximum 24-hour concentration monitored ($\mu g/m^3$)		74.2	33.5	36.3
Annual average concentration monitored ($\mu g/m^3$)		22.7	17.9	15.4
Number of samples exceeding state standard	50 μg/m3	6	0	0
Number of samples exceeding federal standard	150 μg/m3	0	0	0
PARTICULATE MATTER (PM2.5)				
Maximum 24-hour concentration monitored ($\mu g/m^3$)		60.0	22.6	27.3
Annual average concentration monitored ($\mu g/m^3$)		10.0	8.5	6.6
Number of samples exceeding federal standard	35 μg/m3	6	0	0
SULFUR DIOXIDE (SO_2)				
Maximum 24-hour concentration monitored (ppm)		0.002	0.002	0.002
Number of samples exceeding 24-hour state standard	0.04 ppm	0	0	0
Number of samples exceeding federal 24-hour standard	0.14 ppm	0	0	0

Sources:
California Air Resource Board, "Air Quality Data Statistics," http://www.arb.ca.gov/adam/welcome.html.
U.S. Environmental Protection Agency, "Air Data: Access to Air Pollution Data," http://www.epa.gov/air/data/.
— No air quality data received for this year.

[1] *Parts by volume per million of air (ppm), micrograms per cubic meter of air ($\mu g/m^3$), or annual arithmetic mean (aam).*

[2] *Federal 8-hour O_3 standard was revised to 0.075 ppm in March 2008. Statistics are based on the current standard.*

[3] *The U.S. EPA has promulgated a new 1-hour National Ambient Air Quality Standards for NO_2. The new 1-hour standard is 0.100 parts per million (188 micrograms per cubic meter) and became effective on April 12, 2010.*

3.3.3.1 Federal Regulations

Clean Air Act

The U.S. EPA is responsible for enforcing the federal Clean Air Act (CAA) and the National Ambient Air Quality Standards. The U.S. EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The U.S. EPA also maintains jurisdiction over emission sources beyond state waters (outer continental shelf), and establishes various emissions standards for vehicles sold in states other than California. These standards identify acceptable levels of ambient concentrations for seven criteria pollutants: ozone (O_3), CO, NO_2, SO_2, PM10, PM2.5, and lead. The thresholds are considered to be the maximum concentrations of ambient (background) air pollutants determined safe to protect the public health and welfare with an adequate margin of safety.

As part of its enforcement responsibilities, the U.S. EPA requires each state with areas that do not meet the federal standards to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the time frame identified in the SIP. The *Air Quality Attainment Plan* (AQAP), prepared by the Air District in conjunction with other air pollution control districts in the Air Basin, is the regulatory mechanism by which the Air District conforms to U.S. EPA regulations. The Air District provides Triennial Progress Reports (TPRs) on air quality issues addressed by the AQAP, with the latest published in draft form in 2009.

The 1990 CAA Amendments were enacted to better protect the public's health and create more efficient methods for lowering pollutant emissions. The major areas of improvement addressed in the amendments include National Ambient Air Quality Standards, air basin designations, automobile/heavy-duty engine emissions, and hazardous air pollutants. The U.S. EPA has designated air basins as being in attainment or nonattainment for each of the seven criteria pollutants. Nonattainment air basins for ozone are further ranked (marginal, moderate, serious, severe, or extreme) according to the degree of nonattainment. CARB is required to describe in its SIP how the state will achieve federal standards by specified dates for each air basin that has failed to attain a National Ambient Air Quality Standards for any criteria pollutant.

The extent of mitigation implementation of a given SIP depends on the severity of the air quality condition within the state or a specific air basin. Western Placer County is classified by the U.S. EPA as in serious nonattainment for the O_3 standard, in nonattainment for the PM2.5 standard, and as attainment/unclassified for the other criteria pollutants, as summarized in **Table 3.3-2, Placer County Attainment Status,** above.

The 1990 CAA Amendments addressed tailpipe emissions from automobiles, heavy-duty engines, and diesel fuel engines. The amendments established more stringent standards for hydrocarbons, NO_X, and CO emissions in order to reduce the ozone and carbon monoxide levels in heavily populated areas.

Under the 1990 CAA Amendments, new fuels were required to be less volatile, contain less sulfur (regarding diesel fuel), and have higher levels of oxygenates (oxygen-containing substances to improve fuel combustion). Due to the lack of a substantial reduction in hazardous emissions under the 1977 CAA, the 1990 CAA Amendments listed 189 hazardous air pollutants (HAPs), which are carcinogenic, mutagenic, and/or reproductive toxicants, to be reduced. The 1990 CAA Amendments regulate major stationary sources and area emissions sources requiring use of Maximum Achievable Control Technology to reduce HAP emissions and their associated health impacts.

3.3.3.2 State Regulations

California Clean Air Act

The California Clean Air Act (CCAA) established a legal mandate for air basins to achieve the California Ambient Air Quality Standards by the earliest practical date. The California Ambient Air Quality Standards, established by CARB, apply to the same seven pollutants as the National Ambient Air Quality Standards, as well as to sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. California Ambient Air Quality Standards are more stringent than the National Ambient Air Quality Standards, and in the case of PM10 and SO_2, far more stringent.

As a branch of the California Environmental Protection Agency, CARB oversees air quality monitoring, planning, and control throughout California. It is primarily responsible for implementing the CCAA, ensuring conformance with CAA requirements, and for regulating emissions from motor vehicles and consumer products within the state. In addition, CARB sets the California Ambient Air Quality Standards and control measures for toxic air contaminants (TACs). CARB approves the regional air quality management/attainment plans for incorporation into the SIP and is responsible for preparing those portions of the SIP related to mobile source emissions. CARB establishes new standards for vehicles sold in California and for various types of commercially available equipment. It also sets fuel specifications to further reduce vehicular emissions.

CARB also makes area designations for O_3, CO, NO_2, SO_2, PM10, PM2.5, sulfates, lead, hydrogen sulfide, and visibility-reducing particles. Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. These designation criteria provide the basis for CARB to designate areas of the state as “attainment,” “nonattainment,” or “unclassified” according to state standards. In addition, Health and Safety Code Section 39608 requires CARB to use the designation criteria to classify areas of the state and to annually review those area designations.

3.3.3.3 Local Plans, Policies, and Ordinances

Sacramento Area Council of Governments

The SACOG is an association of local governments in the Sacramento County region that provides transportation planning and funding for the region. Although SACOG is not an air quality management agency, it is responsible for several air quality planning issues. Specifically, as the designated Metropolitan Planning Organization for the Sacramento region, it is responsible, pursuant to

Section 176(c) of the 1990 CAA Amendments, for providing current population, employment, travel, and congestion projections for regional air quality planning efforts.

Placer County Air Pollution Control District

The Air District has jurisdiction over most air quality matters within the Placer County portion of the Air Basin. The Air District regulates most stationary sources of air pollutants in Placer County, maintains ambient air quality monitoring stations at numerous locations, and collaborates in preparation of the air quality management/attainment plans for the area that are required under the CAA and CCAA. The Air District also prepares regular progress reports, the TPRs, which detail the results of efforts to improve air quality within Placer County and the Air Basin.

Sacramento Valley Air Basin Air Quality Plans

As shown in **Table 3.3-2**, the western portion of Placer County is in nonattainment for the federal standards for ozone (8-hour) and PM2.5. Western Placer County is also in nonattainment for the state standards of ozone (1-hour), ozone (8-hour), and PM10. Therefore, the Air District has assisted in preparing attainment plans for the area in order to demonstrate achievement of the state and federal ambient air quality standards for ozone, PM10, and PM2.5. The most recent plans include:

- Air Quality Attainment Plan
- Sacramento Regional Clean Air Plan for the 1-Hour National Ozone Standard
- Sacramento Region Clean Air Plan Update
- Sacramento Regional Nonattainment Area 8-Hour Ozone Rate-of-Progress Plan
- Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan

The Air District must continuously monitor its progress in implementing these attainment plans and must periodically report to CARB and the U.S. EPA. It must also periodically revise its attainment plans to reflect new conditions and requirements in accordance with schedules mandated by the CAA and the CCAA. The following sections provide an overview of these five plans.

Air Quality Attainment Plan

The CCAA requires nonattainment areas to achieve and maintain the state ambient air quality standards by the earliest practicable date and local air districts to develop plans for attaining the state ozone, CO, SO_2, and NO_2 standards. In compliance with the CCAA, the Air District collaborated with other air pollution control districts in the Air Basin to prepare and submit the 1991 Air Quality Attainment Plan.

The CCAA also requires triennial assessments to report the extent of air quality improvement and the amounts of emission reductions achieved from control measures for the preceding three-year period. The Air District Board of Directors adopted the most recent Triennial Progress Report in 2006, with a draft version of the 2009 TPR published in 2010. The report identifies “all feasible measures” the Air District will study or adopt over the next three years. The report also describes historical trends in air quality, updates emissions inventories, and evaluates the Air District's implementation of air pollution control measures.

Sacramento Regional Clean Air Plan

The Clean Air Plan was adopted in 1994 in compliance with the 1990 Amendments to the Federal Clean Air Act, which was developed cooperatively with all the districts in the Sacramento Region (El Dorado Air Pollution Control District, Feather River Air Quality Management District, Air District, Sacramento Metropolitan Air Quality Management District, and Yolo-Solano Air Quality Management District). The region could not show that it would meet federal 1-hour ozone standard by 1999; therefore, the deadline was extended to 2005 and the region accepted a designation of "severe nonattainment" for the federal 1-hour ozone standard, with additional emission requirements on stationary sources. As a "severe nonattainment" area, the Sacramento Region is required to submit a rate-of-progress milestone evaluation report. The 1999 and 2002 Milestone Reports include compliance demonstrations that the milestone requirement has been met for the Sacramento nonattainment area.

The federal CAA requires the region's transportation plan to conform to the region's ozone standards. Regions with a SIP must analyze the emissions anticipated from transportation plans and transportation improvement programs and ensure that they remain within the SIP's emissions, demonstrating conformity with the federal CAA. Regions with a SIP have a "motor vehicle emissions budget" tied to the SIP. Transportation planners must analyze the emissions anticipated from transportation plans and transportation improvement programs and ensure that they remain within the SIP's emissions budget (this is called demonstrating conformity). A conformity lapse for the Sacramento region began October 4, 2004, and an expedited new Clean Air Plan was prepared. The following section describes the Clean Air Plan update and plans to meet the 8-hour ozone standard, which the U.S. EPA promulgated in 1997.

Sacramento Region Clean Air Plan Update/Sacramento Regional Nonattainment Area 8-Hour Ozone Rate-of-Progress Plan

The *Sacramento Region Clean Air Plan Update/Sacramento Regional Nonattainment Area 8-Hour Ozone Rate-of-Progress Plan* (8-Hour Ozone Plan) updates the region's Clean Air Plan to addresses the conformity lapse through updates to the emission inventory and establishing new motor vehicle emission budgets. In addition to updating the Clean Air Plan, the Plan also fulfills the federal 8-hour ozone requirements for the 2002–2008 Rate-of-Progress Plan for the Sacramento regional nonattainment area.

In July 1997, U.S. EPA promulgated a new 8-hour standard for ozone. Key aspects of the 8-hour ozone rule are the new designations and nonattainment classifications and the revocation of the 1-hour ozone standard in June 2005. However, the new rule also addresses anti-backsliding provisions in the Clean Air Act, so 8-hour ozone nonattainment areas remain subject to control measure commitments that applied under the 1-hour ozone standard. The Sacramento region was designated as a "serious" nonattainment area for the federal 8-hour ozone standard with an attainment deadline of June 2013. The 8-Hour Ozone Plan addresses how the region will meet the federal 8-hour ozone standard by this attainment deadline.

Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan

The 2009 *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* was adopted on December 19, 2008 but has not been approved by the U.S. EPA. The Sacramento region was classified

by the U.S. EPA as a "serious" nonattainment area on June 15, 2004, for the federal 8-hour ozone standard with an attainment deadline of June 15, 2013. However, since the Sacramento region needs to rely on the longer-term emission reduction strategies from state and federal mobile source control programs, the 2013 attainment date cannot be met. Consequently, on February 14, 2008, CARB, on behalf of the air districts in the Sacramento region, submitted a letter to U.S. EPA requesting a voluntary reclassification (bump-up) of the Sacramento federal nonattainment area from a "serious" to a "severe-15" 8-hour ozone nonattainment area with an extended attainment deadline of June 15, 2019.[1] The U.S. EPA approved the reclassification request on April 15, 2010. The 8-Hour Ozone Attainment Plan includes the information and analyses to fulfill the CAA requirements for demonstrating reasonable further progress and attainment of the 1997 8-hour ozone National Ambient Air Quality Standards for the Sacramento region. The Plan also contains a Reasonable Further Progress (RFP) demonstration. The RFP demonstration shows that existing local, state, and federal controls are sufficient for the Sacramento Metropolitan Area to achieve the required minimum 3 percent per year reduction in ozone-precursor emissions. This RFP also sets the new transportation conformity budget for the Sacramento metropolitan transportation plan area.

PCAPCD Rules and Regulations

The Air District's primary means of implementing its attainment plans is through its adopted rules and regulations. The Proposed Action would be subject to the following rules adopted by the Air District that are designed to reduce and control pollutant emissions throughout the Air Basin.

- **Rule 202 (Visible Emissions):** A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:
  - As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
  - Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection (A) above.
- **Rule 205 (Nuisance):** A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause to have a natural tendency to cause injury or damage to business or property.
- **Rule 217 (Cutback and Emulsified Asphalt Paving Materials):** A person shall not manufacture for sale nor use for paving, road construction or road maintenance any: rapid cure cutback asphalt; slow cure cutback asphalt containing organic compounds which evaporate at 500 °F or lower as determined by current American Society for Testing and Materials (ASTM) Method D402; medium cure cutback asphalt except as provided in Section 1.2.; or emulsified asphalt

[1] In order to attain by June 15th, the prior year's ozone season would need to be in attainment, making 2018 the attainment demonstration analysis year.

containing organic compounds which evaporate at 500 °F or lower as determined by current ASTM Method D244, in excess of 3 percent by volume.

- **Rule 218 (Application of Architectural Coatings):** No person shall manufacture, blend, or repackage for sale within the Air District; supply, sell, or offer for sale within Air District; or solicit for application or apply within the Air District, any architectural coating with a volatile organic carbon (VOC) content in excess of the corresponding specified manufacturer's maximum recommendation.
- **Rule 225 (Wood Burning Appliances):** No person shall sell or supply new wood burning appliances unless it is a U.S. EPA phase II Certified wood burning appliance, pellet-fueled wood burning heater, masonry heater, or determined to meet the U.S. EPA standard for particulate matter emissions standards.
- **Rule 228 (Fugitive Dust):**
  - ***Visible Emissions Not Allowed Beyond the Boundary Line:*** A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area (including disturbance as a result of the raising and/or keeping of animals or by vehicle use), such that the presence of such dust remains visible in the atmosphere beyond the boundary line of the emission source.
  - ***Visible Emissions from Active Operations***: In addition to the requirements of Rule 202, Visible Emissions, a person shall not cause or allow fugitive dust generated by active operations, an open storage pile, or a disturbed surface area, such that the fugitive dust is of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as number 2 on the Ringelmann Chart, as published by the United States Bureau of Mines.
  - ***Concentration Limit:*** A person shall not cause or allow PM10 levels to exceed 50 micrograms per cubic meter ($\mu g/m^3$) (24-hour average) when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM10 monitoring.
  - ***Track-Out onto Paved Public Roadways:*** Visible roadway dust as a result of active operations, spillage from transport trucks, and the track-out of bulk material onto public paved roadways shall be minimized and removed.
    - The track-out of bulk material onto public paved roadways as a result of operations, or erosion, shall be minimized by the use of track-out and erosion control, minimization, and preventative measures, and removed within 1 hour from adjacent streets such material anytime track-out extends for a cumulative distance of greater than 50 feet onto any paved public road during active operations.
    - All visible roadway dust tracked-out upon public paved roadways as a result of active operations shall be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. Wet sweeping or a High Efficiency Particulate Air filter equipped vacuum device shall be used for roadway dust removal.
    - Any material tracked-out, or carried by erosion, and clean-up water, shall be prevented from entering waterways or storm water inlets as required to comply water quality control requirements.

- ***Minimum Dust Control Requirements:*** The following dust mitigation measures are to be initiated at the start and maintained throughout the duration of the construction or grading activity, including any construction or grading for road construction or maintenance.
  - Unpaved areas subject to vehicle traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered.
  - The speed of any vehicles and equipment traveling across unpaved areas must be no more than 15 miles per hour unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 miles per hour from emitting dust exceeding Ringelmann 2 or visible emissions from crossing the project boundary line.
  - Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile.
  - Prior to any ground disturbance, including grading, excavating, and land clearing, sufficient water must be applied to the area to be disturbed to prevent emitting dust exceeding Ringelmann 2 and to minimize visible emissions from crossing the boundary line.
  - Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt, from being released or tracked off-site.
  - When wind speeds are high enough to result in dust emissions crossing the boundary line, despite the application of dust mitigation measures, grading and earthmoving operations shall be suspended.
  - No trucks are allowed to transport excavated material off-site unless the trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments, and loads are either covered with tarps; or wetted and loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than 6 inches from the top and that no point of the load extends above the top of the cargo compartment.
- ***Wind-Driven Fugitive Dust Control:*** A person shall take action(s), such as surface stabilization, establishment of a vegetative cover, or paving, to minimize wind-driven dust from inactive disturbed surface areas.

- **Rule 501 (General Permit Requirement):** Any person operating an article, machine, equipment or other contrivance, the use of which may cause, eliminate, reduce, or control the issuance of air contaminants, shall first obtain a written permit from the Air Pollution Control Officer. Stationary sources subject to the requirements of Rule 507, Federal Operating Permit Program, must also obtain a Title V permit pursuant to the requirements and procedures of that rule.
- **Rule 508 (General Conformity):** The conditions of the Code of Federal Regulations, Title 40, Chapter I, Subchapter C, Parts 6 and 51 in effect January 31, 1994, are made part of the Rules and Regulations of the Placer County Air Pollution Control District.
- **Rule 509 (Traffic Conformity):** The conditions of the Code of Federal Regulations, Title 40, Chapter I, Part 51, Subpart T, Sections 51.392 - 51.400, 51404, 51,410 - 51.450, 51.460, and 51.462, in effect December 27, 1993, are made part of the Rules and Regulations of the Placer County Air Pollution Control District.

Placer County General Plan

The Placer County General Plan includes an Air Quality element, with goals and policies intended to improve air quality in the County. These policies generally mirror state and federal air quality rules and regulations. Policies in the General Plan Air Quality element relevant to the proposed action include:

Policy 6.F.6. The County shall require project-level environmental review to include identification of potential air quality impacts and designation of design and other appropriate mitigation measures or offset fees to reduce impacts. The County shall dedicate staff to work with project proponents and other agencies in identifying, ensuring the implementation of, and monitoring the success of mitigation measures.

Policy 6.F.7. The County shall encourage development to be located and designed to minimize direct and indirect air pollutants.

Policy 6.F.8. The County shall submit development proposals to the PCAPCD for review and comment in compliance with CEQA prior to consideration by the appropriate decision-making body.

Policy 6.F.9. In reviewing project applications, the County shall consider alternatives or amendments that reduce emissions of air pollutants.

Policy 6.F.10. The County may require new development projects to submit an air quality analysis for review and approval. Based on this analysis, the County shall require appropriate mitigation measures consistent with the PCAPCD's 1991 Air Quality Attainment Plan (or updated edition).

Policy 6.G.3. The County shall encourage the use of alternate forms of transportation by incorporating public transit, bicycle, and pedestrian modes in County transportation planning and by requiring new development to provide adequate pedestrian and bikeway facilities.

Policy 6.G.4. The County shall consider instituting disincentives for single-occupant vehicle trips, including limitation in parking supply in areas where alternative transportation modes are available and other measures identified by the PCAPCD and incorporated into regional plans.

Policy 6.G.5. The County shall endeavor to secure adequate funding for transit services so that transit is a viable transportation alternative. New development shall pay its fair share of the cost of transit equipment and facilities required to serve new projects.

Policy 6.G.6. The County shall require large new developments to dedicate land for and construct appropriate improvements for park-and-ride lots, if suitably located.

3.3.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.3.4.1 Significance Thresholds

The Air District has adopted thresholds for determining significant impacts on air quality. In accordance with guidance from the Council on Environmental Quality (40 CFR § 1506.2), the U.S. Army Corps of Engineers (USACE) considers local standards when determining significance of the impacts of a proposed action. Therefore, the USACE has used the thresholds developed by the local Air District to evaluate the impacts of the Proposed Action and its alternatives on air quality.

The Air District thresholds are presented below in **Table 3.3-4 Placer County CEQA Significance Thresholds.** These thresholds apply to both construction and operational emissions and were developed in order to allow the Air District meet its obligations under both the CAA and the California Environmental Quality Act (CEQA). If the emission rates of a particular pollutant associated with a proposed project are above these thresholds, the project is judged to potentially have a significant impact on air quality.[2]

Table 3.3-4
Placer County Air District Significance Thresholds

Pollutant	Threshold (lbs per day)
ROG	82
NOx	82
PM10	82
CO	550

Source: Placer County APCD, (2012).

2 The PCAPCD has developed the approach to the assessment of air quality impacts which is based on mass emissions of pollutants and does not require the estimation of pollutant concentrations. The air district (like all other air districts in the state) has developed thresholds of significance that are in pounds per day (or tons per year) that can be used to measure a project's impact on regional air quality. Significance thresholds produced by the air districts are designed to ensure compliance with both NAAQS and CAAQS. The air districts use this approach because pollutants released at one point may be transported throughout the air basin, or even into neighboring air basins. Consequently, the focus of air districts in attaining ambient air standards is on overall basin-wide emissions. The most efficient way to protect regional air quality is to restrict emissions on a mass basis, and therefore guidelines developed by the air districts include significance thresholds using pounds per day as the preferred measure. This is discussed in the Placer County APCD CEQA guidelines (PCAPCD 2012).

3.3.4.2 Analysis Methodology

URBEMIS2007 Environmental Management Software was used to estimate construction emissions and operational emissions from area and mobile sources associated with the Proposed Action. Construction was assumed to occur over a period of 18 years, beginning in 2013 and completing by 2025. Emissions during construction and operation were estimated using default values in URBEMIS2007. These emissions are primarily associated with combustion of natural gas, operation of landscape maintenance equipment, and evaporative emissions from architectural coatings and consumer products.

Localized CO concentration estimates were obtained from the Place Vineyards Specific Plan EIR. That EIR used the CALINE4 model and methodologies as developed by California Department of Transportation (Caltrans) for use with CALINE (California Department of Transportation 1989) to estimate CO concentrations**.** CO concentrations were modeled using traffic volumes and conditions from the traffic study performed for the EIR. Background CO concentrations for the area of the Proposed Action were included in the analysis, specifically 2.6 ppm for the 1-hour and 1.3 ppm for the 8-hour averaging periods for the 2015 and 2025 scenarios The 2025 values are considered conservative, because given the same assumptions, CO concentrations would be less in 2030 than in 2025 due to improvements in local air quality and reductions in average vehicle emissions.

Impacts due to exposure to TACs are generally assessed using a Health Risk Assessment (HRA), which quantifies the risk of chronic and acute health impacts including cancer. This process requires modeling with precise information regarding specific sources and TACs as well as receptor data. This level of detail is not available to date, so an HRA was not conducted for the Proposed Action and the impacts from TACs were analyzed qualitatively. This was done by identifying sensitive receptors such as schools and residences and comparing their location with either existing or potential sources of TACs, taking into consideration wind patterns in the area. Sources considered include industrial sites, commercial zones, and freeways and other major roadways.

Potential odor impacts were also analyzed qualitatively, examining the locations of existing and future odor sources relative to the receptors in the context of prevailing wind patterns.

With respect to the construction emissions of the alternatives (No Action and Alternatives 1 through 5), emissions were assumed to be proportional to acreage under development. For operations, emissions of the alternatives were assumed to be proportional to the number of residences and the area of non-residential buildings. All alternatives have very similar amounts of land area that would be developed and similar amounts of non-residential space. The number of residential units for all alternatives is identical to the number included in the Proposed Action. While the exact mix of types of residential units differs with each alternative (that is, the ratio of single-family homes to multi-family buildings is different), the difference is be expected to result in very minor changes in the overall emissions. Similarly, while the acreage that would be disturbed or developed varies somewhat with each alternative, the difference is minor and not expected to result in substantial differences in emissions from construction. Therefore, construction and operational emissions from all alternatives were assumed to be similar to the emissions from construction and operation of the Proposed Action.

3.3.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact AQ-1 Emissions Associated with Construction

No Action Alt. Construction of the No Action Alternative would likely generate emissions of ROG, NOx, and PM10 in exceedance of thresholds and therefore are likely to result in a **significant** effect on air quality in the Air Basin.

Construction-related emissions can be distinguished as either on-site or off-site. On-site emissions generated during construction principally consist of exhaust emissions (NO_x, sulfur oxides [SO_x], CO, VOC, PM10, and PM2.5) from the operation of heavy-duty construction equipment, fugitive dust (PM10) from disturbed soil, and VOC emissions from asphaltic paving and painting. Off-site emissions during the construction phase normally consist of exhaust emissions and entrained paved road dust (PM10 and PM2.5) from worker commute trips, material delivery trips, and haul truck trips to and from the construction site.

Construction activities associated with the No Action Alternative would occur over a number of years, with portions of the area developed in phases. However, the exact timing and duration of these phases is not currently known as they will be determined by market conditions and other factors that are unpredictable over the course of development. The period over which construction of the No Action Alternative would occur is assumed for this EIS to extend from 2013 to 2030. Construction emissions were not separately modeled for the No Action Alternative. As shown in **Table 3.3-5, Estimated Unmitigated Construction Emissions – Proposed Action Base Plan and Blueprint Scenarios** emissions of ROG, NOx, and PM10 from the Proposed Action Base Plan and Blueprint scenarios are above the significance threshold. The No Action Alternative is substantially smaller than the Proposed Action Base Plan and Blueprint scenarios as it involves a mixed-use residential community of approximately 8,030 residential units and 24,000 residents compared to a community of 14,132 residential units under the Base Plan and about 21,631 residential units under the Blueprint scenario. However, given the size of the No Action Alternative, its construction would likely result in emissions of ROG and PM10 that are above significance thresholds. Therefore, the No Action Alternative would result in a **significant** effect on air quality in the Air Basin.

PVSP EIR Mitigation Measures 4.8-1a through **4.8-1e** would be implemented to address the effect of the No Action Alternative on air quality. The USACE assumes that Placer County would impose the same mitigation measure on the No Action Alternative. **PVSP EIR Mitigation Measures 4.8-1a** through **4.8-1e** would reduce fugitive dust and other sources of PM10 and PM2.5 emissions during construction. The County EIR determined that, while the mitigation measure would reduce construction emissions, the impact would not be reduced to a less than significant level for the Proposed Action (Placer County 2007). Construction emissions from the No Action Alternative would also likely

not be reduced to be below the significance thresholds. The USACE finds, based on the estimated mitigated emissions reported for the Proposed Project, that after mitigation, emissions of ROG and PM10 would likely remain above the significance thresholds. Consequently, construction emissions are predicted to have a **residual significant** effect on air quality after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios)

Construction of the Proposed Action would generate emissions of ROG, NOx, and PM10 that would exceed significance thresholds and therefore are likely to result in a **significant** effect on air quality in the Air Basin.

Construction activities associated with the Proposed Action would occur over a number of years, with portions of the area developed in phases. However, the exact timing and duration of these phases is not currently known as they will be determined by market conditions and other factors that are unpredictable over the course of development. The period over which construction of the full Proposed Action would occur is assumed for this EIS to extend from 2013 to 2030. Since emissions rates for construction are evaluated on a maximum rate per day, any extension of the construction schedule would result in emissions that are the same or less than for the shortest schedule. Consequently, the construction emissions of criteria pollutants shown in **Table 3.3-5, Estimated Unmitigated Construction Emissions – Proposed Action Base Plan and Blueprint Scenarios** are conservatively based on a construction schedule from 2013 to 2030, with total development averaged over that period.

Table 3.3-5
Estimated Unmitigated Construction Emissions – Proposed Action Base Plan and Blueprint Scenarios

Maximum Emissions in Any Construction Year	Emissions in Pounds per Day					
	ROG	NOx	CO	SOx	PM10	PM2.5
Proposed Action – Base Plan scenario	1,306	116	129	0.13	520	113
Proposed Action – Blueprint scenario	2,052	141	176	0.20	788	170
Significance Threshold	82	82	550	--	82	--

*Source: Impact Sciences 2012. Emissions calculations are provided in **Appendix 3.3**.*

As construction emissions of ROG, NOx, and PM10 for the Proposed Action are above significance thresholds, the Proposed Action is likely to result in a **significant** effect on air quality in the Air Basin.

PVSP EIR Mitigation Measures 4.8-1a through **4.8-1e** would be implemented to address the effect of the Proposed Project on air quality. These measures were adopted by Placer

County at the time of PVSP approval and will be enforced by the County. **PVSP EIR Mitigation Measures 4.8-1a** through **4.8-1e** would reduce fugitive dust and other sources of PM10 and PM2.5 emissions during construction. The County determined that, while the mitigation measure would reduce construction emissions, but the impact would not be reduced to a less than significant level (Placer County 2007).The USACE agrees with the conclusion in the PVSP EIR and also finds, based on the estimated mitigated emissions reported in **Table 3.3-6, Estimated Mitigated Construction Emissions – Proposed Action Base Plan and Blueprint Scenarios**, that after mitigation, emissions of PM10 and PM2.5 would be greatly reduced but emissions of ROG, NOx, and PM10 would remain above the significance thresholds. Consequently, construction emissions are predicted to have a **residual significant** effect on air quality after mitigation.

Alts. 1 through 5

Construction emissions are roughly proportional to the land area to be graded as well as the total building area. Although the total area developed would be smaller under Alternatives 1 through 5, the total number of residential units would remain the same under the Proposed Action Base Plan or Blueprint scenario. Consequently, construction emissions for the alternatives were assumed to be essentially identical to the emissions for the Proposed Action Base Plan or Blueprint. Construction emissions under all alternatives would therefore also exceed significance thresholds for ROG, NOx, and PM10.

PVSP EIR Mitigation Measures 4.8-1a through **4.8-1e** would be implemented to address the effect of Alternatives 1 through 5 on air quality. The USACE assumes that Placer County would impose the same mitigation measure on Alternatives 1 through 5 to address this effect. The USACE finds that the mitigation measure described above would not fully mitigate the effect of the alternatives. Consequently, construction emissions are predicted to have a **residual significant** effect on air quality after mitigation.

PVSP EIR Mitigation Measure 4.8-1a through
PVSP EIR Mitigation Measure 4.8-1e: **Construction Activities Emissions Reduction Measures** ***(Applicability – No Action, Proposed Action, and All Alternatives)***

PVSP EIR Mitigation Measures 4.8-1a *through* ***4.8-1e*** *require a construction emission/dust control plan, strategies to reduce NOx and ROG, use of low-VOC architectural coatings, and construction traffic management. The full mitigation measure text is available in* ***Appendix 3.0****.*

Table 3.3-6
Estimated Mitigated Construction Emissions – Proposed Action Base Plan and Blueprint Scenarios

Alternative	Maximum Emissions in Any Year, in Pounds per Day					
	ROG	NOx	CO	SOx	PM10	PM2.5
Proposed Action – Base Plan Scenario	1,306	116	129	0.13	273	62
Proposed Action – Blueprint Scenario	2,052	141	176	0.20	412	92
Significance Threshold	82	82	550	--	82	--

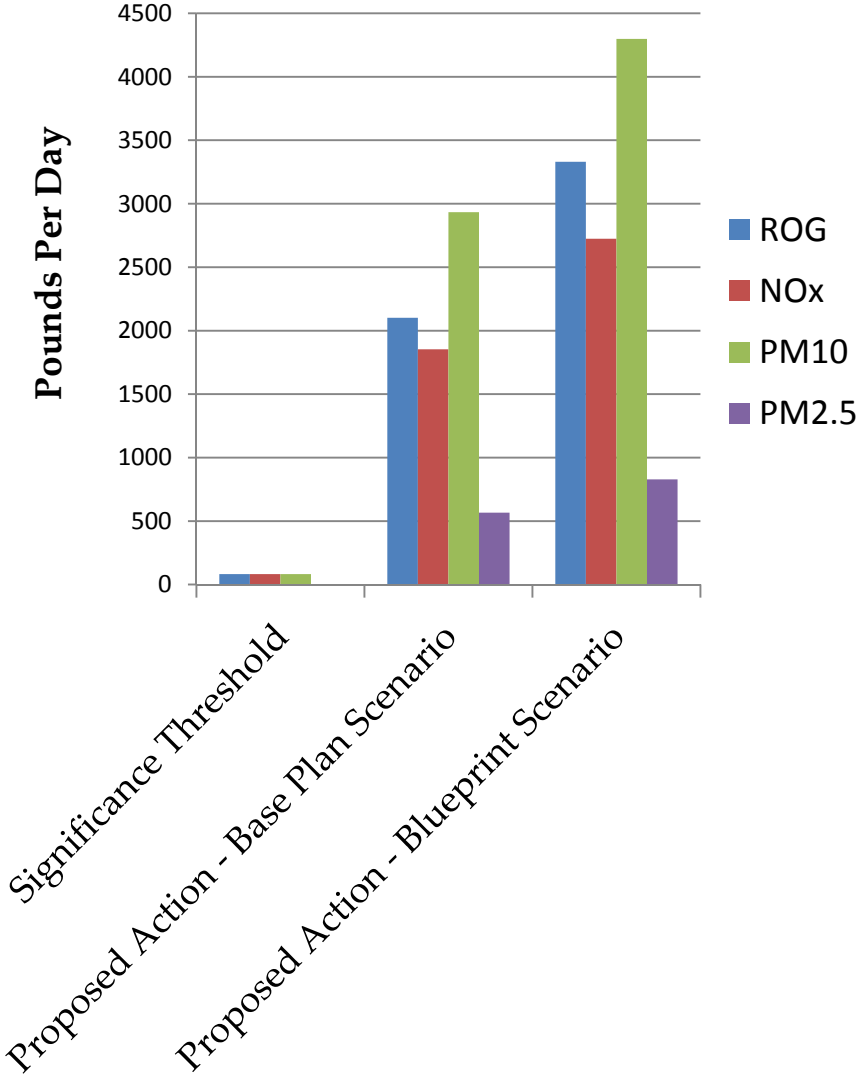
Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix 3.3****.*

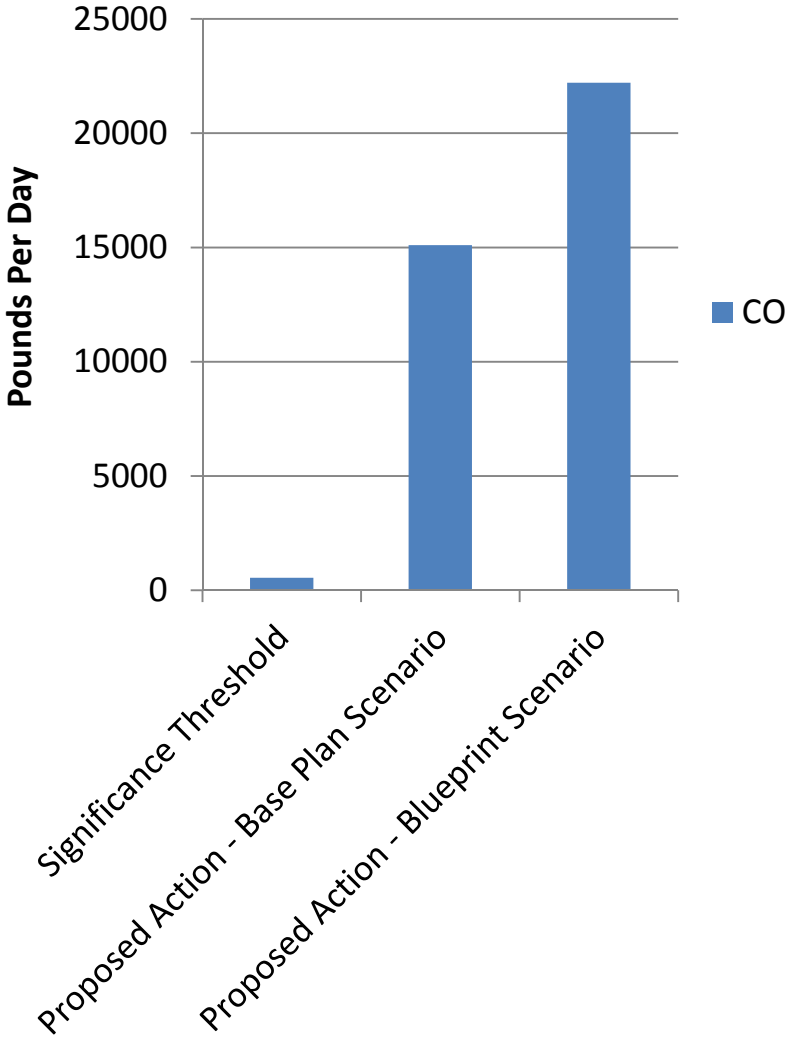
Impact AQ-2 Criteria Pollutant Emissions Associated with Occupancy/Operation

No Action Alt. Operation of the No Action Alternative would generate emissions of ROG, NOx, CO, and PM10 in exceedance of thresholds and therefore the alternative is likely to result in a **significant** effect on air quality.

Operational emissions would be generated by mobile and area sources as a result of normal day-to-day activity within the mixed-use regional community that would be developed under the No Action Alternative. Mobile source emissions would be generated by motor vehicles traveling to and from the area. Area emissions would be generated by the use of natural gas in space and water heating devices, the operation of landscape maintenance equipment, the use of consumer products, and the application of architectural coatings.

Operational emissions were not separately modeled for the No Action Alternative. URBEMIS2007 was used to quantify the Proposed Action's mobile source and area source emissions. **Table 3.3-7**, **Estimated Unmitigated Operational Emissions – Proposed Action Base Plan and Blueprint Scenarios,** as well as **Figure 3.3-1, Estimated Unmitigated Operational Emissions,** shows the future operational emissions at full build out of the Proposed Action in 2030. Emissions of air pollutants other than SOx and PM2.5 would be substantial, and in all cases well above significance thresholds recommended by the Air District. As described above, the No Action Alternative would be smaller than the Proposed Action but operational emissions would likely exceed ROG, NOx, CO, and PM10 thresholds. Therefore, the No Action Alternative would likely result in a **significant** effect on air quality.





Note: Emissions from Alternatives A through E would be the same as the Proposed Action for both scenarios. The No Action Alternative would result in roughly a half to two-thirds of the emissions for the Base Plan scenario assuming a linear relationship between emissions residential dwelling units/commercial space.

SOURCE: Impact Sciences, July 2012

FIGURE **3.3-1**

Estimated Unmitigated Operational Emissions

As stated in **Section 3.5, Climate Change**, **PVSP EIR Mitigation Measures 4.13-1a** through **4.13-1p** would be implemented to reduce greenhouse gas emissions. In addition, **PVSP EIR Mitigation Measures 4.8-3a** through **4.8-3k** will be implemented. The USACE assumes that Placer County would impose the same mitigation measure on the No Action Alternative to address this effect. **PVSP EIR Mitigation Measures 4.8-3a** through **4.8-3k** would reduce operational emissions from the proposed development. The County determined that while the mitigation measures would reduce operational emissions, but the impact would not be reduced to a less than significant level (Placer County 2007). The USACE agrees with the conclusion in the PVSP EIR and also finds that implementation of **PVSP EIR Mitigation Measures 4.13-1a** through **4.13-1p** and **4.8-3a** through **4.8-3k** would reduce emissions of criteria pollutants from project occupancy and operation but would be insufficient to reduce emission rates substantially. The No Action Alternative would therefore have a residual **significant effect** on air quality after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios)

Operation of the Proposed Action would generate emissions of ROG, NOx, CO, and PM10 that would exceed significance thresholds and therefore are likely to result in a **significant** effect on air quality in the Air Basin.

URBEMIS2007 was used to quantify the Proposed Action's mobile source and area source emissions. **Table 3.3-7**, **Estimated Unmitigated Operational Emissions – Proposed Action Base Plan and Blueprint Scenarios,** as well as **Figure 3.3-1, Estimated Unmitigated Operational Emissions,** shows the future operational emissions at full build out of the Proposed Action in 2030. The proposed site is currently designated agricultural land, and has minimal emission sources associated with some rural residential uses so baseline emissions were assumed to be negligible. Emissions shown are peak summer time values.

Emissions of air pollutants other than SOx and PM2.5 would be substantial, and in all cases well above significance thresholds recommended by the Air District. Emissions from operation of the Proposed Action would likely have a significant effect on air quality.

The Proposed Action would also implement **PVSP EIR Mitigation Measures 4.13-1a** through **4.13-1p** to reduce vehicle traffic and energy use and **PVSP EIR Mitigation Measures 4.8-3a** through **4.8-3k** to reduce operational emissions of criteria pollutants. **PVSP EIR Mitigation Measures 4.8-3a** through **4.8-3k** were adopted by Placer County at the time of project approval and will be enforced by the County. The County determined that while the mitigation measures would reduce operational emissions, but the impact would not be reduced to a less than significant level (Placer County 2007). The USACE agrees with the conclusion in the PVSP EIR and also finds that implementation of **PVSP EIR Mitigation Measures 4.13-1a** through **4.13-1p** and **4.8-3a** through **4.8-3k** would reduce emissions of criteria pollutants from project occupancy and operation but would be insufficient to reduce emission rates substantially. The Proposed Action would therefore have a **residual significant** effect on air quality after mitigation.

Table 3.3-7
Estimated Unmitigated Operational Emissions – Proposed Action Base Plan and Blueprint Scenarios

Emissions Source	Emissions in Pounds Per Day					
	ROG	NOx	CO	SOx	PM10	PM2.5
Proposed Action – Base Plan Scenario						
Mobile Sources	1,356	1,686	14,862	17	2,933	565
Area Sources	745	167	239	0.01	0.7	0.7
Emissions Total	2,101	1,853	15,101	17	2,934	566
Proposed Action – Blueprint Scenario						
Mobile Sources	1,999	2,468	21,875	25	4,297	828
Area Sources	1,332	267	330	0.01	1	1
Emissions Total	3,331	2,724	22,205	25	4,298	829
Significance Threshold	82	82	550	--	82	--

*Source: Impact Sciences 2012. Emissions calculations are provided in **Appendix 3.3**.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.

Alts. 1 through 5

As noted earlier, Alternatives 1 through 5 vary only slightly from the Proposed Action in the area to be developed but not in the amount of residential, public, commercial and other buildings that would be constructed. Any reductions in residential units or commercial acreage that may result from selection of any or all of the alternatives would be made up for on another parcel. Emissions from both area and mobile sources are proportional to the amount of development, specifically the number of residential units constructed and the total amount of commercial or other space built on the site. Consequently, emissions from the various alternatives would be almost identical to the emissions calculated for the Proposed Action. Emissions for all alternatives would substantially exceed the Air District significance thresholds and would likely have a significant effect on air quality in the area.

Alternatives 1 through 5 would also implement **PVSP EIR Mitigation Measures 4.13-1a** through **4.13-1p** to reduce vehicle traffic and energy use and **PVSP EIR Mitigation Measures 4.8-3a** through **4.8-3k** to reduce all operational emissions. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 5 to address this effect. The USACE finds that the mitigation measures described above would not fully mitigate the effect of the alternatives to a less than significant level. Consequently, operational emissions associated with Alternatives 1 through 5 individually or combined are predicted to have a **residual significant** effect on air quality after mitigation.

PVSP EIR Mitigation Measure 4.8-3a through
PVSP EIR Mitigation Measure 4.8-3k: **Operational Emissions Reduction Measures (*Applicability – No Action, Proposed Action, and All Alternatives)***

PVSP EIR Mitigation Measures 4.8-3a *through* ***4.8-3k*** *require a variety of design measures to reduce air pollution. The full mitigation measure text is available in* ***Appendix 3.0.***

Impact AQ-3 CO Hotspots

No Action Alt. CO concentrations, from motor vehicle emissions, would be below both state and federal standards. Therefore, there would be a **less than significant** localized effect on air quality associated with the No Action Alternative.

Motor vehicles are a primary source of pollutants within the project vicinity. Traffic congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed state and/or federal standards are termed CO "hotspots." Such hot spots are defined as locations where the ambient CO concentrations exceed the state or federal ambient air quality standards. Emissions of CO are produced in greatest quantities from vehicle combustion and are usually concentrated at or near ground level because CO does not readily disperse into the atmosphere. As a result, potential air quality impacts to sensitive receptors are assessed through an analysis of localized CO concentrations. Areas of vehicle congestion have the potential to create CO hotspots that exceed the state ambient air quality 1-hour standard of 20 ppm or the 8-hour standard of 9.0 ppm. The federal levels are less stringent than the state standards and are based on 1- and 8-hour standards of 35 and 9 ppm, respectively. Thus, an exceedance condition would occur based on the state standards prior to exceedance of the federal standard.

Operational emissions were not separately modeled for the No Action Alternative. The Proposed Action was evaluated utilizing the CALINE4 model developed by Caltrans to determine if it would cause or contribute to the formation of CO hotspots. The results of the CO hotspots analysis are presented in **Table 3.3-8, Maximum 2025 Carbon Monoxide Concentrations – Cumulative Plus Proposed Action**. CO concentrations are estimated to remain below both state and federal standards for all intersections for the Proposed Project. The No Action Alternative would construct a smaller project. Therefore, vehicle trips would be substantially less than those under the Proposed Action. Consequently, there would be a **less than significant** impact on air quality due to CO emissions associated with the No Action Alternative.

Proposed Action (Base Plan and Blueprint Scenarios)

CO concentrations, which are a result of motor vehicle emissions, are estimated to remain below both state and federal standards for all intersections that would experience increases in traffic due to the Proposed Action. Consequently there would be a **less than significant** localized effect on air quality associated with the Proposed Action.

The Proposed Action was evaluated utilizing the CALINE4 model developed by Caltrans to determine if it would cause or contribute to the formation of CO hotspots. This analysis is based on the certified EIR performed for the PVSP previously, which assessed CO concentrations for the five intersections with the highest traffic volumes. Further details on the modeling process are available in that report. The results of the CO hotspots analysis are presented in **Table 3.3-8, Maximum 2025 Carbon Monoxide Concentrations – Cumulative Plus Proposed Action**.

Table 3.3-8
Maximum 2025 Carbon Monoxide Concentrations
Cumulative Plus Proposed Action

Intersection	1-Hour	8-Hour
1. Fiddyment Road and Baseline Road	5.6	3.4
2. Walerga Road and PFE Road	5.1	3.1
3. Watt Avenue and Roseville Road	5.5	3.3
4. Watt Avenue and Elkhorn Blvd.	5.4	3.3
5. Watt Avenue and Baseline Road	5.3	3.2
Exceeds state 1-hour standard of 20 ppm?	NO	—
Exceeds federal 1-hour standard of 35 ppm?	NO	—
Exceeds state 8-hour standard of 9.0 ppm?	—	NO
Exceeds federal 8-hour standard of 9 ppm?	—	NO

CO concentrations are estimated to remain below both state and federal standards for all intersections. Consequently there would be a **less than significant** impact on air quality due to CO emissions associated with the Proposed Action.

Alts. 1 through 5

Traffic volumes for Alternatives 1 through 5 (individually or combined) are essentially the same as the traffic volumes predicted for the Proposed Action. Therefore, CO concentrations for the alternatives would be no greater than those estimated for the Proposed Action. The effect on air quality due to CO emissions would be **less than significant** for Alternatives 1 through 5 individually or combined.

Impact AQ-4 Exposure to Toxic Air Contaminants

No Action Alt.

Existing sources of Toxic Air Contaminants (TACs) that could impact future residents of the project site are currently minimal. Furthermore, the No Action Alternative is a mixed-use residential community that will include only few sources of TACs, and any new sources would be subject to strict regulation. Therefore, the No Action Alternative would not expose sensitive populations to substantial TAC emissions and the effect would be **less than significant**.

Receptors are generally exposed to TACs through either (1) the construction of a source of TACs in proximity to a residence, workplace, school, or care facility or (2) the siting of such facilities within proximity to sources of TACs. Typical sources of TACs that might be associated with the No Action Alternative include freeways or other major roadways, certain commercial operations such as dry cleaners and auto repair, and construction and other heavy diesel equipment. The No Action Alternative has the potential to include new on-site sources of TACs in the commercial zones incorporated in the land use plan. These sources would generally be minor, for example dry cleaners, auto repair or parts shops, service stations, or paint booths. Regardless of size, any new source of TACs would be required to demonstrate that there would be no significant health risks associated with TAC emissions from the facility before commencing operation. This ensures that no on-site TAC sources would cause an adverse impact on receptors in the area, whether on- or off-site.

Receptors associated with the No Action Alternative would not be located near any existing significant sources of TACs. The existing land uses surrounding the site are primarily residential and rangeland, with no industrial sites or other significant sources of TACs. CARB has also provided planning guidance that recommends not locating sensitive receptors within 500 feet of a freeway or roadways with greater than 100,000 annual average daily traffic (AADT). No portion of the project site would be within 500 feet of a freeway or roadway with AADT of 100,000. Baseline Road has the highest AADT of the roads adjacent to the site, with an AADT well below 100,000. Therefore, the No Action Alternative is expected to result in a **less than significant** effect related to TACs. No mitigation is required.

Proposed Action (Base Plan and Blueprint Scenarios) and Alts. 1 through 5

Although the Proposed Action and Alternatives 1 through 5 would construct a larger project, the effect related to exposure to TACs would be substantially the same as discussed above for the No Action Alternative. The effect would be **less than significant**. No mitigation is required.

Impact AQ-5 Exposure to Objectionable Odors

No Action Alt.

Odor impacts are generated when receptors are located downwind of or near sources of objectionable odors. Sources of these odors include facilities such as wastewater treatment plants, rendering plants, landfills, chemical plants, dairies, refineries, large agricultural operations, and composting.

Potential sources of odors include a lift station in the western portion of the No Action Alternative and possible expansion of the local wastewater treatment plants to treat wastewater generated by the No Action Alternative and other regional growth. If required, the lift station would be enclosed and is not considered a significant source of potential odors. Expansion of either the Dry Creek Wastewater Treatment Plant (DCWWTP) or the Sacramento Regional Wastewater Treatment Plant (SRWWTP) could potentially result in increased emissions of odors. However, the SRWWTP includes large buffer zones restricting any residential development nearby. The DCWWTP also includes buffer zones and is in a predominately non-residential area. Consequently, neither Wastewater Treatment Plant (WWTP) would be considered a significant source of odor impacts for the No Action Alternative. The effect associated with odors would be **less than significant**. No mitigation is required.

Proposed Action (Base Plan and Blueprint Scenarios) and Alts. 1 through 5

The effect related to exposure to odors would be substantially the same as discussed above for the No Action Alternative. The effect associated with odors would be **less than significant**. No mitigation is required.

Impact AQ-6 Indirect Effects on Air Quality from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5

The construction activities associated with the off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which may be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5, would result in **significant** effects to air quality. There would be no operational air quality emissions.

Construction of the pipelines would generate exhaust emissions, primarily NOx, from equipment. In addition, there would be fugitive dust emissions due to excavation, grading, and exposed earth. The duration and extent of the construction is unknown. Therefore, average daily construction emissions cannot be estimated. Nonetheless, given the nonattainment status of the Air Basin with respect to ozone and particulate matter, the USACE conservatively assumes that the emissions would result in a **significant**

impact. While standard construction-phase mitigation measures would reduce the emissions, the impact would not be fully mitigated and a **residual impact** would result.

3.3.6 GENERAL CONFORMITY

Under section 176(c)(1) of the federal Clean Air Act (CAA), federal agencies that "engage in, support in any way or provide financial assistance for, license or permit, or approve any activity"(42 USC § 7506(c)) must demonstrate that such actions do not interfere with state and local plans to bring an area into attainment with the National Ambient Air Quality Standards.

The Proposed Action is located in the Sacramento Valley Air Basin (SVAB), an 11-county air basin. The western Placer County portion of the air basin is designated as nonattainment with respect to the national standards for 8-hour ozone and PM2.5. To address the air basin's nonattainment status, the regional air districts, including the Placer County Air Pollution Control District (PCAPCD), have worked together to produce implementation plans for attainment of the national standards. The General Conformity Rule ensures a federal agency's actions in a non-attainment area do not obstruct or conflict with a state or local implementation plan. The implementing regulations for the General Conformity Rule are found in Title 40 CFR, Part 51, Subpart W and Part 93, Subpart B. In addition, the PCAPCD has adopted the federal General Conformity regulations under Regulation 5, Rule 508.

Under the General Conformity regulations, both the direct and indirect emissions associated with a federal action must be evaluated. Subpart W defines direct emissions as:

> *[T]hose emissions of a criteria pollutant or its precursors that are caused or initiated by the Federal action and occur at the same time and place as the action (40 CFR § 51.852).*

Indirect emissions are defined as:

> *[T]hose emissions of a criteria pollutant or its precursors that:*
>
> *(1) Are caused by the Federal action, but may occur later in time and/or may be farther removed in distance from the action itself but are still reasonably foreseeable; and*
>
> *(2) The Federal agency can practicably control and will maintain control over due to a continuing program responsibility of the Federal agency (40 CFR § 51.852).*

A conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions of the criteria pollutant or precursor in a federal nonattainment or maintenance area would equal or exceed specified annual emission rates, referred to as *de minimus* thresholds, For ozone precursors, the *de minimus* thresholds depend on the severity of the nonattainment classification; for other pollutants, the threshold is set at 100 tons per year. The Air Basin was designated as "serious" nonattainment for ozone by the U.S. EPA in June 2004. However, due to concerns with meeting emissions reductions targets, the member air districts of the Sacramento Federal Nonattainment Area requested a voluntary reclassification to "severe," which was approved by the U.S. EPA in June 2010. The relevant *de minimus* thresholds for the Air Basin are shown below in **Table 3.3-9**.

Table 3.3-9
General Conformity De Minimus Thresholds

Pollutant	Attainment Status	Annual Emissions (ton/yr)
NO_X	Nonattainment/Severe (Ozone)	25
VOC	Nonattainment/Severe (Ozone)	25
PM2.5 (direct)	Nonattainment	100
PM2.5 (NO_X)[1]	Nonattainment	100
PM2.5 (VOC and NH_3)[2]	Nonattainment	100
PM2.5 (SO_X)	Nonattainment	100

Notes:
[1] *NO_X is included for PM2.5 unless determined not to be a significant precursor. However, the NO_X threshold based on its contribution to ozone is more stringent.*
[2] *VOC and ammonia (NH_3) are not included for PM2.5 unless determined to be a significant precursor. However, the VOC threshold based on their contribution to ozone is more stringent. Only very minor emissions of ammonia would be emitted to the atmosphere as a result of the Proposed Action or its alternatives.*

According to the General Conformity Rule, conformity analysis only applies to activities that trigger National Environmental Policy Act (NEPA) review.[3] Where the federal action is a permit, license, or other approval for some aspect of a nonfederal undertaking, the relevant activity is the part, portion, or phase of the nonfederal undertaking that requires the federal permit, license, or approval. The USACE permit action is limited to filling of the waters of the U.S. on the project site and in the area of off-site improvements, and does not extend to other construction activities, nor will the USACE maintain control over those elements of the Proposed Action or alternatives that are associated with operation of facilities constructed under the Placer Vineyards Specific Plan. Accordingly, this evaluation will not consider the operational emissions from the development of the Specific Plan. Furthermore, with respect to construction emissions, the scope of the conformity analysis would be appropriately limited to the emissions associated with grading activities that would result in the filling of jurisdictional wetlands, any associated access roads and any staging areas necessary to conduct the filling activity. Other construction

3 As stated in 40 CFR Parts 6, 51, and 93 (FRL-4805-1), Determining Conformity of General Federal Actions to State or Federal Implementation Plans, "the definition of "Federal action" is revised by adding the following sentence to the end of the definition in the proposal: Where the Federal action is a permit, license, or other approval for some aspect of a nonfederal undertaking, the relevant activity is the part, portion, or phase of the nonfederal undertaking that requires the Federal permit, license, or approval. The following examples illustrate the meaning of the revised definition. Assume, for example, that the COE issues a permit and that permitted fill activity represents one phase of a larger nonfederal undertaking; i.e., the construction of an office building by a nonfederal entity. Under the conformity rule, the COE would be responsible for addressing all emissions from that one phase of the overall office development undertaking that the COE permits; i.e., the fill activity at the wetland site. However, the COE is not responsible for evaluating all emissions from later phases of the overall office development (the construction, operation, and use of the office building itself), because later phases generally are not within the COE's continuing program responsibility and generally cannot be practicably controlled by the COE."

activities not associated with the filling of jurisdictional waters would not be included in the conformity calculations.

While grading would take place over a large area of the project site, only a small portion of the grading would involve the filling of jurisdictional waters, and only this small portion of the grading is required to be analyzed. However, since information was readily available for the effect of grading the site as a whole, the USACE analyzed this data. If this data had provided emissions greater than the threshold then further efforts to focus the analysis on the grading specific to the discharge of dredge or fill into waters of the US would have been warranted. In this case, the effects of the entire grading operations do not exceed the *de minimis* thresholds. Therefore the entire grading operations were analyzed even though the grading operations that are required to be analyzed are a small portion of the overall operation. Annual grading emissions for the Proposed Action were estimated by multiplying the modeled daily emissions by 260 days (assuming 52 weeks per year of construction, with five days per week of activity) and dividing the total by 2,000 to convert from pounds to tons. Emissions totals for the alternatives are essentially the same as those for the Proposed Action, so if the Proposed Action is determined to meet the conformity criteria then the alternatives would as well. The resultant average annual emissions for each nonattainment or maintenance pollutant are shown in **Table 3.3-10**. As the table shows, all emission values are less than the *de minimus* threshold for that pollutant. Based on this preliminary analysis, a detailed conformity analysis by the USACE is not required (40 CFR § 51.858). In addition, the direct emissions associated with the Proposed Action would not conflict with or obstruct implementation of the applicable air quality plan (i.e., SIP for the Sacramento Valley Air Basin).

Table 3.3-10
Direct Average Annual Grading Emissions

Source	VOC (tons/yr)	NO_x (tons/yr)	SO_x (tons/yr)	PM2.5 (tons/yr)
Proposed Action	**1.04**	8.4	0.00	14.3
Thresholds (tons/yr)	25	25	100	100
Exceeds Threshold?	NO	NO	NO	NO

*Source: Impact Sciences, Inc. Emissions calculations are provided in **Appendix 3.3**.*

3.3.7 RESIDUAL SIGNIFICANT IMPACTS

The No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined) would have significant residual impacts due to ROG, NOx, CO, and PM10 as emissions of these pollutants during operation and emissions of ROG, NOx, and PM10 during construction cannot be mitigated below the significance thresholds adopted by the Air District. Construction emissions would be limited to the years during which construction would occur. Operational emissions would likely continue to be significant over the life of the development.

3.3.8 REFERENCES

California Air Resources Board. 2004. "Roseville Rail Yard Study," 5.

County of Placer. 2006. "Revised Draft Environmental Impact Report for Placer Vineyards Specific Plan." Quad Knopf.

Sacramento Metropolitan Air Quality Management District (SMAQMD). 2009. *Guide to Air Quality Assessment in Sacramento County*. 1–7, 1–8.

South Coast Air Quality Management District (SMAQMD). 2008. "MATES III: Multiple Air Toxics Exposure Study," http://www.aqmd.gov/prdas/matesIII/matesIII.html.

U.S. Environmental Protection Agency (U.S. EPA). n.d.a. "The ASPEN Model," http://www.epa.gov/ttn/atw/nata/aspen.html.

U.S. Environmental Protection Agency (USEPA). n.d.b. "National Air Toxics Assessments," http://www.epa.gov/nata/.

U.S. Environmental Protection Agency. n.d.c. "Ground-level Ozone," http://www.epa.gov/air/ozonepollution/.

U.S. Environmental Protection Agency. 40 CFR Parts 6, 51, and 93 (FRL-4805-1) Determining Conformity of General Federal Actions to State or Federal Implementation Plans. Tuesday, November 30, 1993

3.4 BIOLOGICAL RESOURCES

3.4.1 INTRODUCTION

This section describes effects to biological resources that could result from implementation of the Proposed Action or its alternatives, and is based on information drawn from but not limited to the following sources:

- Revised U.S. Fish and Wildlife Service Biological Assessment to Support Section 7 Consultation for the Placer Vineyards Specific Plan Project, Placer County, California, prepared by ECORP Consulting, March 27, 2013 (see document titled Applicant's Submittal in Support of a Biological Assessment, U.S. Fish and Wildlife Service in **Appendix 3.4**);
- Revised National Marine Fisheries Service Endangered Species Act Consultation, Biological Assessment for Placer Vineyards Specific Plan Project, Placer County, California, prepared by ECORP Consulting, March 27, 2013 (see document titled Applicant's Submittal in Support of a Biological Assessment, National Marine Fisheries Service in **Appendix 3.4**);
- Placer Vineyards Specific Plan Environmental Impact Report, certified by Placer County, October 2006; and
- Placer Vineyards Mitigation Strategy, prepared by ECORP Consulting/Cox Castle Nicholson, November 2012 (see **Appendix 2.0**).

3.4.2 AFFECTED ENVIRONMENT

3.4.2.1 Key Terms Used in this Section

As described in **Chapter 1**, the Placer Vineyards Specific Plan (PVSP) includes development of a 5,230-acre (2,117-hectare) site with a mix of land uses, predominantly residential use with some commercial and office uses, public and quasi-public uses, parks, and open space, and the infrastructure improvements to support these uses. The U.S. Army Corps of Engineers (USACE) has 23 active DA permit applications to develop up to 3,746 acres (1,516 hectares) of land within the PVSP area (project site) and an application for the development of backbone infrastructure. The owners of the remaining properties, comprising 505 acres (204 hectares) within the PVSP area, are not applying for DA permits at this time. In addition, limited to no development is envisioned in the western 979 acres (396 hectares) of the project site, an area that is designated a Special Planning Area (SPA) by the County. However, for reasons presented in **Chapter 1**, for purposes of this EIS, the Proposed Action encompasses the development of the entire PVSP site consistent with the County-approved PVSP. The term "Project Site" in this section refers to the entire 5,230-acre (2,117-hectare) site. All resources, activities, and impacts within the 5,230-acre (2,117-hectare) project site are described in this section as being "on the project site" or "on-site."

Given that DA permits are not being sought at this time for some portions of the project site, the on-site resources and impacts are presented in this section separately for "Properties with Active DA Permit Applications" and "Properties with No DA Permit Applications."

The Proposed Action also includes infrastructure improvements (two sewer lines, a potable water line, a recycled water line, and road improvements) that would be constructed outside of the project site. The alignments of the infrastructure improvements are referred to as "off-site" throughout this section.

3.4.2.2 Regional Setting

For purposes of this section, the project region is defined as the southwestern portion of Placer County. The project site is located in the transition zone between land developed with urban uses to the east and land developed for intensive agriculture to the west. This transition zone is marked by older alluvial soils with well-developed hardpans and some dense clay pans. The poorly drained soils of this transition zone are primarily utilized for grazing, while level, well-drained soils on the valley floor to the west have been largely converted to agriculture. Evidence of hardpans and claypans throughout the eastern Sacramento Valley is demonstrated most effectively at the soils' surface by the presence of seasonally inundated areas—vernal pools and swales. Habitat types typical of the project region include annual grasslands, oak woodlands, vernal pool and swale complexes, seasonal seeps and marshes, ponds, riparian forest and scrub, perennial streams, cropland (especially irrigated rice fields), and scattered areas of ruderal vegetation.

3.4.2.3 Location and Setting

The project site consists of flat to gently rolling topography with elevations ranging from approximately 40 to 100 feet (12 to 30 meters) above mean sea level. Current land uses within the project site include active agriculture (pasturelands and farmlands), rural residences, transmission line corridors, and paved and unpaved roadways. The project site contains a variety of habitat types, and is dominated by a mixture of non-native annual grassland (grazed and non-grazed) and cultivated agricultural land, with scattered seasonal wetlands, including vernal pools, stock ponds, and ephemeral (and formerly ephemeral) streams. Runoff from the irrigated pastures and rice fields has altered the hydrology of the site, as several historically ephemeral stream features are currently intermittently, or even perennially, wet. Where changed, these watercourses typically support emergent marsh vegetation and scattered stands of scrub riparian habitat. A mature riparian corridor occurs along the southeastern edge of the project site adjacent to Dry Creek. Two stands of blue oak woodland and several scattered individual oak trees represent the majority of the upland trees on the project site. Non-native landscaping dominates the rural residential portions of the project site (ECORP 2012b).

Land uses near the alignments of the off-site infrastructure improvements are typical of the project area and include active agriculture (pasturelands and farmlands), rural residences, transmission line corridors, and developed and undeveloped roadways. Habitat types along the alignments include annual grassland, riparian woodland, oak woodland, seasonal wetland and vernal pool complexes, and landscaped areas associated with industrial, commercial, rural, and residential development.

The climate in the project area is mild with average annual maximum temperature of 73.6 degrees Fahrenheit (23.1 degrees Celsius) and average annual minimum temperature of 49.0 degrees Fahrenheit (9.4 degrees Celsius). Summers are typically dry and the average annual rainfall (usually in winter) is approximately 20 inches (51 centimeters).

As described in more detail in **Section 3.8**, the site is underlain by strata of the Riverbank Formation, strata of the Turlock Lake Formation, and a small portion is underlain with Quaternary Period Alluvium (Placer County 2006). These geological formations are not known to support soil-specific special-status plant species that occur primarily in the Sierra Nevada foothills. In addition, most of the soils mapped on the project site are categorized as Alfisols, which have a dense clay layer or have a hardpan that restricts the percolation of water. As such, these soils tend to become inundated in swales and depressions during the wet season. Several of these soils are known to support vernal pools and swales in this part of the Central Valley.

Similar to the project site, the areas to the north and west of the project site consist of mostly grazed annual grasslands with dispersed vernal pools and cultivated agricultural uses. The area to the east and northeast is urbanized with residential developments and roadways.

3.4.2.4 Surveys Conducted for the Proposed Action

Waters of the United States

Wetland delineations have been conducted for each of the properties with active DA permit applications, and with the exception of one property, all wetland delineations have been verified by the USACE. The Placer Vineyards C property (#6) wetlands jurisdictional determination has not been verified. Aquatic features within the properties with no active DA permit applications, and off-site area for infrastructure improvements were visually assessed through aerial photograph interpretation. Delineations for infrastructure improvements will be conducted by the Applicants and submitted to the USACE for verification as access rights are secured.

Plant Surveys

Surveys for federally listed, proposed, and/or candidate plants were conducted in 2004, 2005, and 2006 within the properties with active DA permit applications and have been completed on approximately 3,502 acres (1,417 hectares). To date, no federally listed plants species have been identified on-site.

Wildlife Species Surveys

Wet and/or dry season surveys for vernal pool branchiopods have been completed on approximately 2,521 acres of the project site. Full-protocol wet season surveys were conducted on 16 of the 22 properties with active DA permit applications during the 2004 through 2008 seasons and assessment surveys were conducted on one property which focused on a specific subset of potential habitat and terminated after positive results were obtained. Vernal pool fairy shrimp (*Branchinecta lynchi*) was identified on five of the properties surveyed and vernal pool tadpole shrimp (*Lepidurus packardi*) was identified on one of the properties.

Valley Elderberry Longhorn Beetle surveys have been conducted for parcels totaling approximately 934 acres (378 hectares). To date, no elderberry shrubs have been observed on the project site.

3.4.2.5 Project Site Habitat Types

Figure 3.4-1, Project Site Habitat Types, presents the on-site biological communities and **Table 3.4-1, Project Site Habitat Types,** presents the acreage of each biological community on the site**. Figure 3.4-1** identifies properties with active DA permit applications and those without active DA permit applications. The latter areas have not been completely surveyed for wildlife and plant species because neither the Applicants nor the USACE has access to them. The acres of habitat types for both types of properties are summarized in **Table 3.4-1** and described below. Wetland habitats are described further in **Subsection 3.4.2.7, Waters of the United States,** below.

Table 3.4-1
Project Site Habitat Types (acres)

Habitat Type	Properties with Active DA Permit Applications	Properties without Active DA Permit Applications (including SPA)	Total
Seasonal Wetlands	81.5	0.6	82.1
Vernal Pools	32.5	8.6	41.1
Stream/Pond	49.3	1.5	50.8
Marsh/Riparian	39.1	3.5	42.6
Oak Woodland/Oak Savannah	65.5	1.8	67.3
Annual Grassland	2,123.7	1,349.2	3,472.9
Agricultural Land	1,330.3	117.4	1,447.7
Roads/Other Surfaces	22.0	5.3	27.3
Total	**3,743.9**[1]	**1,486.4**	**5,231.8**[2]

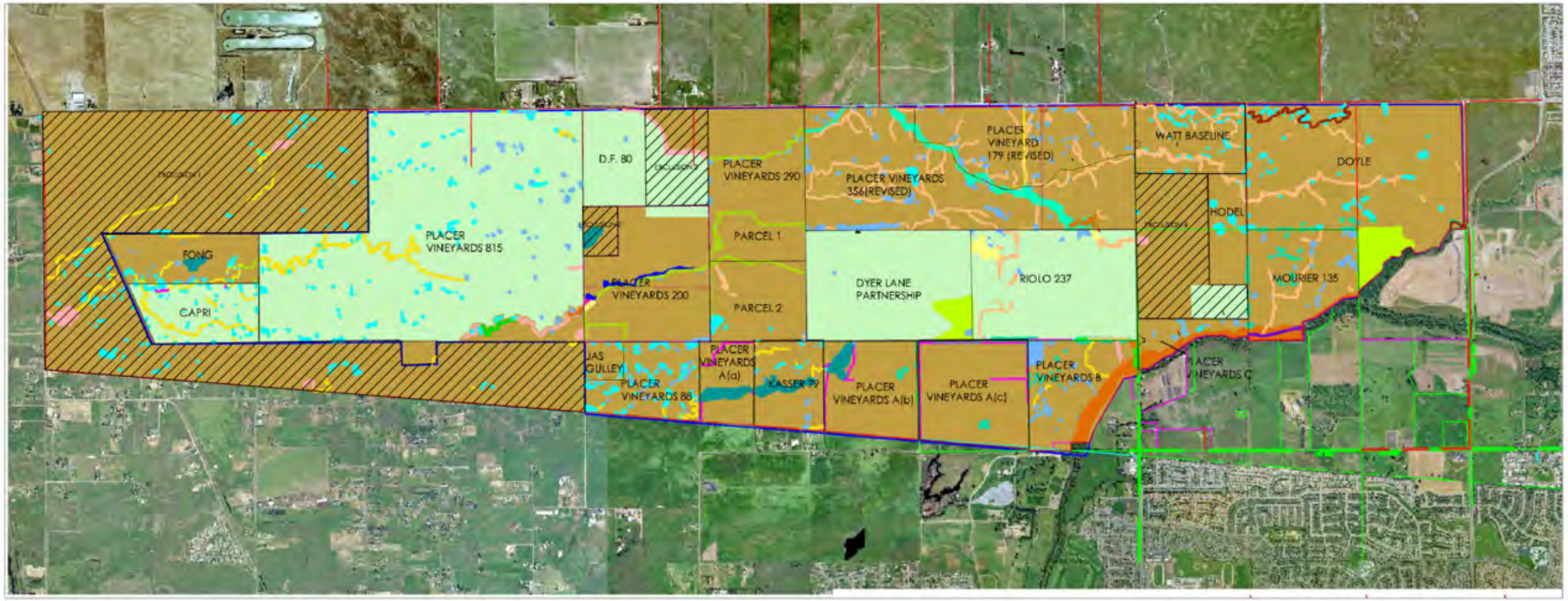
Source: ECORP, 2012b; Placer County, 2006.

[1] *This number represents the acreage for the 3,746-acre development area. Surveyed boundary data overlap results in minor acreage discrepancy.*

[2] *This number is slightly greater (1.8 acres) than the total area of the project site due to survey boundary data overlap error.*

Annual Grassland

Annual grassland is the dominant habitat type on the project site. It occurs throughout the region and is used for grazing (or lies fallow). This herbaceous vegetation community is dominated by non-native grasses and forbs, such as those found in the agricultural land described below. Plant species found in this community include Fitch's tarweed (*Hemizonia fitchii*) and soft chess (*Bromus hordeaceus*). The project site contains approximately 3,473 acres (1,405 hectares) of grassland, of which approximately 2,124 acres (860 hectares) occur within the areas with active DA permit applications.



LEGEND

DEPRESSIONAL WETLANDS
- Vernal Pool
- Seasonal Wetland
- Seasonal Wetland Swale
- Seasonal Marsh
- Pond
- Ephemeral Drainage
- Intermittent Drainage
- Drainage Swale
- Stock Pond
- Channel

RIVERINE WETLANDS
- Ditch/Canal
- Creek
- Seasonal Wetland
- Seasonal Marsh
- Perennial Marsh

- Oak Woodland
- Oak Savannah
- Agricultural
- Grassland
- Riparian
- Riparian Non-Native

Properties with No Active DA Permit Applications

SCALE IN FEET
0 1250 2500

SOURCE: ECORP Consulting, Inc./Quad Knopf – 2005

FIGURE **3.4-1**

Project Site Habitat Types

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Wildlife species observed in this habitat type include American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), and western meadowlark (*Sturnella neglecta*). Additional species expected to occur here include house finch (*Carpodacus mexicanus*), savannah sparrow (*Passerculus sandwichensis*), western kingbird (*Tyrannus verticalis*), and California ground squirrel (*Spermophilus beecheyi*). Seasonal wetlands within the region are associated with the non-native grassland habitats. Wildlife species expected to occur in seasonal wetlands are similar to those observed or expected to occur in the non-native grasslands.

Riparian Habitat

When water remains in an intermittent stream long enough, emergent vegetation can become established. Mature riparian habitat occurs along the southeastern edge of the project site adjacent to Dry Creek. Another small, sparse stand of riparian habitat occurs in association with an intermittent stream in the southwestern portion of the project site. Riparian trees such as arroyo willow (*Salix lasiolepis*), Goodding's black willow (*Salix goodingii*), and Fremont's cottonwood (*Populus fremontii*) occur in these areas. The associated understory consists of woody and herbaceous plant species such as Himalayan blackberry (*Rubus discolor*), dallis grass (*Paspalum dilatatum*), and Johnson grass (*Sorghum halepense*). Just upstream to the east, across Palladay Road, there is a 0.6-acre (0.2-hectare) stand of eucalyptus planted around a stock pond (mapped as riparian non-native).

Riparian areas provide habitat for a variety of wildlife. Bird species expected to occur in the riparian habitat in association with the on-site intermittent stream include northern harrier (*Circus cyaneus*), red-tailed hawk (*Buteo jamaicensis*), northern flicker (*Colaptes auratus*), white-crowned sparrow (*Zonotrichia leucophrys*), song sparrow (*Melospiza melodia*), black phoebe (*Sayornis nigricans*), yellow-rumped warbler (*Dendroica coronata*), spotted towhee (*Pipilo maculatus*), and American goldfinch (*Carduelis tristis*). Common mammal species expected to occur in this habitat type include raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis*). Opossum (*Didelphis marsupialis*) is also commonly observed in riparian habitats.

Oak Woodland/Oak Savannah

Two stands of blue oak woodland totaling approximately 44.3 acres (17.9 hectares) occur within the project site. The blue oak woodland is dominated by blue oaks (*Quercus douglasii*) with a non-native herbaceous understory typical of non-native grassland habitat. The savannah is an open community with several scattered oaks. Approximately 19.4 acres (7.9 hectares) of oak savannah habitat have been identified on properties with active DA permit applications.

Blue oak woodlands provide cover, foraging and roosting opportunities for a wide range of avian species. Species observed in this habitat type include northern flicker, dark-eyed junco (*Junco hyemalis*), white-breasted nuthatch (*Sitta carolinensis*), acorn woodpecker (*Melanerpes formicivorus*), house finch (*Carpodacus mexicanus*), mourning dove (*Zenaida macroura*), and western scrub jay (*Aphelocoma californica*).

Agricultural Land

Cultivated agricultural land makes up a large portion of land use throughout the region. Typically, these areas are actively maintained (disked or tilled) throughout the year for cultivated grain crops such as wheat. Other areas are leveled and flooded for rice production, or irrigated for cattle grazing. Upland herbaceous vegetation primarily consists of non-native grass species such as wild oats (*Avena sp.*), foxtail (*Hordeum murinum*), annual ryegrass (*Lolium multiflorum*), and annual bluegrass (*Poa annua*). Additional weedy herbaceous species include yellow star-thistle (*Centaurea solstitialis*), filaree (*Erodium sp.*), and wild radish (*Raphanus sativus*). The project site contains approximately 1,448 acres (586 hectares) of agricultural lands of which 1,330 acres (538 hectares) are within the areas with active DA permit applications.

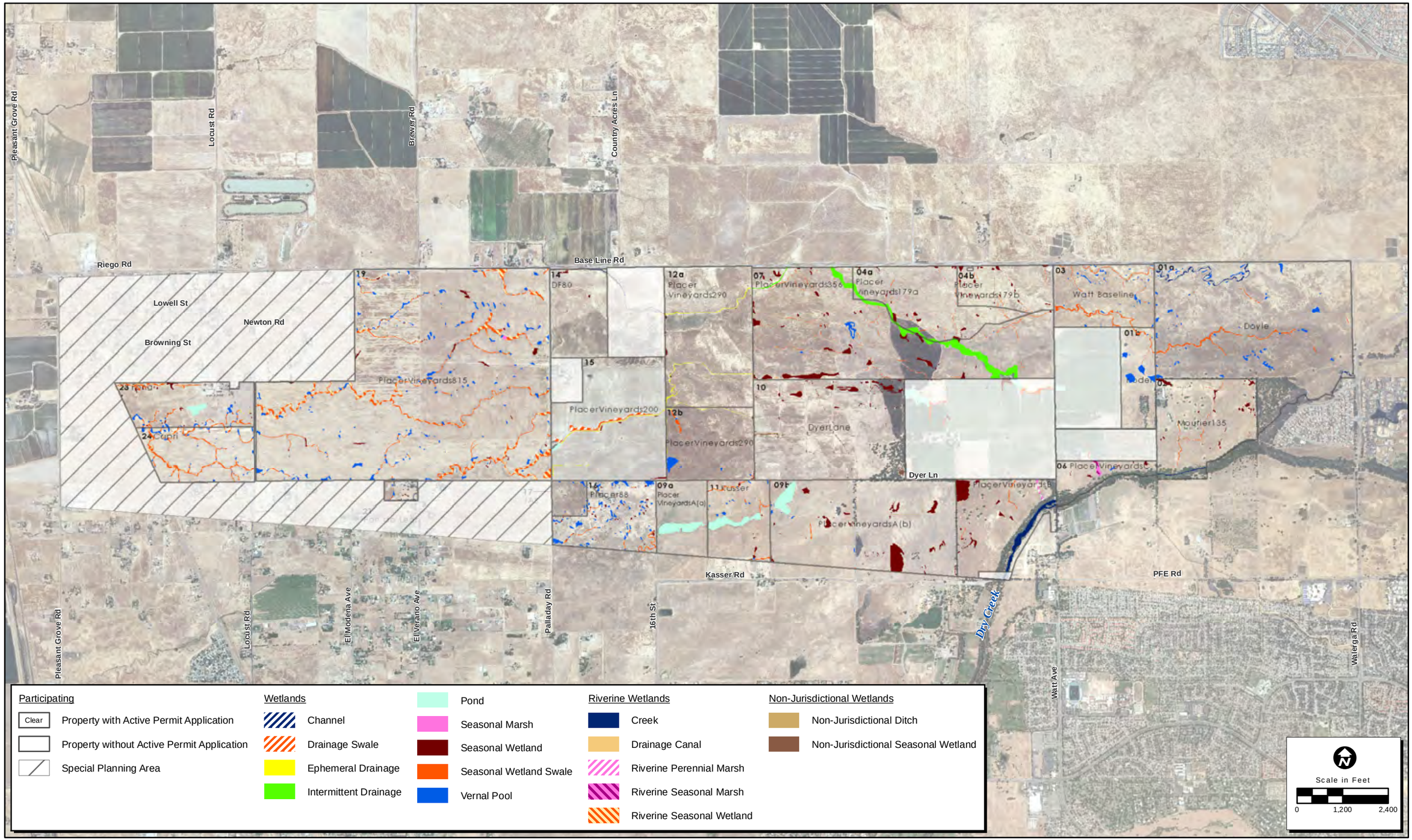
Agricultural land provides food and cover for small mammals, which in turn provide a prey base for raptors. Wildlife species observed in this habitat type include birds of prey such as Swainson's hawk (*Buteo swainsoni*), loggerhead shrike (*Lanius ludovicianus*), American kestrel (*Falco sparverius*), northern harrier (*Circus cyaneus*), turkey vulture (*Cathartes aura*), and white-tailed kite (*Elanus leucurus*). Additional species observed include white-crowned sparrow (*Zonotrichia leucophrys*), Brewer's blackbird (*Euphagus cyanocephalus*), western meadowlark (*Sturnella neglecta*), and European starling (*Sturnus vulgaris*).

3.4.2.6 Habitats Present in the Off-Site Infrastructure Area

Vegetation communities mapped within the off-site infrastructure area include annual grassland, riparian woodland, oak woodland, seasonal wetland and vernal pool complexes, and landscaped areas associated with industrial, commercial, rural, and residential development. In addition, there are other water bodies such as creek and small stream crossings. Aquatic features in the off-site infrastructure area have been estimated based on aerial photograph interpretation, since access to these off-site areas could not be secured. Furthermore, the upland resources have not been quantified, since construction-related disturbances to these resources are expected to be temporary and minor in nature.

3.4.2.7 Project Site Waters of the United States

The project site contains approximately 177 acres (72 hectares) of the waters of the U.S. The wetlands are dispersed throughout the project site with higher concentrations in the northeastern, southern, and western portions of the site. The types of wetlands within the project site are identified in **Table 3.4-2, Project Site Waters of the U.S.** and shown in **Figure 3.4-2, Project Site Waters of the U.S.** The surveyed portion of the project site contains the following depressional wetlands: vernal pools, seasonal wetlands, seasonal wetland swales, seasonal marshes, pond, and drainage swales. The project site also contains the following riverine wetlands: canals, creeks, ephemeral streams, intermittent streams, channels, riverine seasonal wetlands, riverine seasonal marshes, and riverine perennial marshes. Information about these waters is based on multiple wetland delineations that were combined and presented to the USACE by ECORP. Except for one property, all of the wetland delineations for properties with active DA permit applications have been verified by the USACE.



SOURCE: ECORP Consulting, Inc., May 2012

FIGURE **3.4-2**

Project Site Waters of the U.S.

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Table 3.4-2
Project Site Waters of the U.S.

Waters of the U.S.	Properties with Active DA Permit Applications	Properties without Active DA Permit Applications (including SPA)	Total
Depressional Wetlands			
Vernal Pool	32.5	0.1	32.6
Seasonal Wetland	41.4	1.4	42.8
Seasonal Wetland Swale	12.7	3.4	16.1
Seasonal Marsh	0.2	0.0	0.2
Pond	18.5	5.4	23.9
Drainage Swale	2.1	0.0	2.1
Riverine Wetlands			
Canal/Ditch	1.5	0.6	2.1
Creek	6.0	1.0	7.0
Ephemeral Stream	4.1	0.0	4.1
Intermittent Stream	17.8	0.0	17.8
Channel	1.5	0.0	1.5
Riverine Seasonal Wetlands	25.3	0.0	25.3
Riverine Seasonal Marsh	0.6	0.0	0.6
Riverine Perennial Marsh	0.6	0.0	0.6
Total	**164.7**	**12.0**	**176.7**

Source: ECORP, 2012b.

Vernal Pools

Vernal pools are shallow depressions underlain by a hardpan layer that causes them to inundate. Vernal pools typically flood to a depth of 2 inches (5 centimeters) to over 1 foot (30 centimeters) in the winter and spring and dry out completely in the summer and fall months. Subsequently, vernal pools support specialized vegetation and wildlife restricted primarily to vernal pools. They typically support a variety of invertebrate populations, including federally listed branchiopods. The plant communities within vernal pools are typically dominated by vernal pool endemics, a majority of which are native annuals. The vernal pool plant species and some of the wildlife species (e.g., vernal pool invertebrates) are adapted to, and depend on, the cyclical inundation of water and complete desiccation of the soil that occurs in vernal pools. Most vernal pool-associated plant and wildlife species life cycles can only be completed by the progression of inundation and desiccation. The project site contains approximately 32.5 acres (13.2 hectares) of vernal pools; all of these are located on properties for which DA permit applications have been filed.

The project site vernal pools support typical vernal pool plants species found in the Sacramento Valley. Plant species observed in these habitats include Vasey's coyote-thistle (*Eryngium vaseyi*), popcorn flower (*Plagiobothrys stipitatus*), tricolored monkeyflower (*Mimulus tricolor*), and downingia (*Downingia* spp.). The invertebrate species that potentially occur in vernal pools include common species such as clam shrimp (*Cyzicus* or *Lynceus* sp.), seed shrimp species, and several aquatic insects such as predaceous diving beetles (*Family Dytiscidae*), crawling water beetles (*Family Haliplidae*), back swimmers (*Family Notonectidae*), and water fleas (*Daphnia sp.*). Listed species that have been observed in the project site vernal pools include vernal pool fairy shrimp (*Branchinecta lynchi*) and vernal pool tadpole shrimp (*Lepidurus packardi*).

Seasonal Wetlands

Seasonal wetlands (defined here to include seasonal wetlands, seasonal wetland swales, drainage swales, and riverine seasonal wetlands) occur throughout the project site. Seasonal wetlands are typically associated with shallow streams, swales or other depressions, and typically support wetland vegetation including grasses such as Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), perennial ryegrass (*Lolium perenne*), curly dock (*Rumex crispis*), annual bluegrass (*Poa annua*), and annual rabbits-foot grass (*Polypogon monspeliensis*). The project site contains approximately 84.8 acres (34.3 hectares) of seasonal wetlands, 81.5 acres (33.0 hectares) of which are located on properties with active DA permit applications. This acreage is subject to change following verification of wetlands on the properties for which no DA permit applications have been filed at this time.

Streams and Ponds

There are approximately 31.2 acres (12.6 hectares) of streams mapped within the project site, 30.8 acres (12.5 hectares) of which are located on properties with active DA permit applications. Several stream types are mapped within the project site. These include canal/ditch, perennial creek, ephemeral streams, intermittent stream, and channel. These features typically have a defined bed and bank, and are mostly devoid of vegetation. There are three types of stream channels that occur within the project area: perennial streams, intermittent streams, and ephemeral streams. Most of these streams remain dry most of the time, carrying water only during and/or shortly after rain events. However, Dry Creek along the southeastern boundary is a perennial creek. Curry Creek, which is located in the northeastern portion of the project site, although previously an intermittent creek has changed to more of a perennial condition through the addition of irrigation runoff from upstream development (North Fork Associates 2009).

There are approximately 18.5 acres (7.5 hectares) of ponds and stock ponds on the project site. The ponds and stock ponds on the project site support a narrow fringe of perennial vegetation dominated by cattail (*Typha latifolia*), bulrush (*Scirpus acutus*), and common rush (*Juncus effusus*). The remainder of pond surface acreage is open water.

Dry Creek is the only feature on the site known to support a variety of fish species. Although the on-site ponds could support warm water species such as sunfishes, these do not provide habitats for listed species, such as Chinook salmon (*Oncorhynchus tshawytscha*) or steelhead (*Oncoryhnchus mykiss*). Listed and other special-status fish species are discussed later in this section under **Special-Status Species**.

Riverine Marsh

The project site contains approximately 0.6 acre (0.2 hectare) of riverine seasonal marsh and 0.6 acre (0.2 hectare) of riverine perennial marsh. This acreage is subject to change following verification on the properties for which no DA permit applications have been filed at this time.

3.4.2.8 Off-site Infrastructure Area – Waters of the United States

As described in **Section 3.4.2.1**, the Proposed Action also includes infrastructure improvements that would be constructed outside of the project site. Since some of these off-site infrastructure improvements would cross streams in the vicinity of the project site and pass through areas containing wetlands including vernal pools, wetland swales, seasonal wetlands, perennial marsh, these off-site improvements that are part of the Proposed Action would also fill approximately 4.2 acres (1.7 hectares) of jurisdictional wetlands and would have the potential to affect fish species present in the streams crossed by the improvements, including Dry Creek, Curry Creek, and Steelhead Creek.[1]

3.4.2.9 Quality of Project Site Wetlands

The quality of project site wetlands was evaluated by ECORP Consulting using the California Rapid Assessment Method (CRAM). CRAM is a standardized, tool for assessing the health of wetlands and riparian habitats. The purpose of the assessment was to document the existing conditions of the wetlands and to compare wetlands across the site.

The CRAM methodology assesses four attributes of wetlands – buffer and landscape context, hydrology, physical structure, and biotic structure. Each of the four attributes is further subdivided into metrics. The metrics are defined by narrative descriptive conditions that are assessed in the field and each narrative condition correlates to a numeric value. The numeric values are lower for wetlands in a poor or degraded condition and higher for wetlands in a good or relatively undegraded condition. The numeric values are then used to derive an overall CRAM score that can range from a low of 25 to a high of 100.

A total of 54 CRAM assessment areas (AAs) in various locations on the project site were selected for evaluation. The AAs selected for evaluation were approved by the USACE, U.S. Environmental Protection Agency (USEPA), and U.S. Fish and Wildlife Service (USFWS). An assessment area can comprise a single wetland feature or a group/system. Fourteen of the AAs were vernal pool systems, 14 AAs were individual vernal pools, and 26 AAs comprised individual depressional wetland features. The results of the CRAM analysis are shown in **Figure 3.4-3, California Rapid Assessment Method Analysis Results**. Representatives from USACE, USEPA, and USFWS were present during the initial scoring and field-verified the results. The average AA score of the evaluated features was 69.1. The AA

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1 This does not include off-site water supply infrastructure improvements that would be constructed by PWCA or any transmission line improvements that would be constructed by the utility companies. As and when those improvements are proposed, PCWA or the utility companies will complete an environmental review and if the improvements have a potential to fill waters of the U.S., PCWA or the utility company will obtain necessary permits from the USACE.

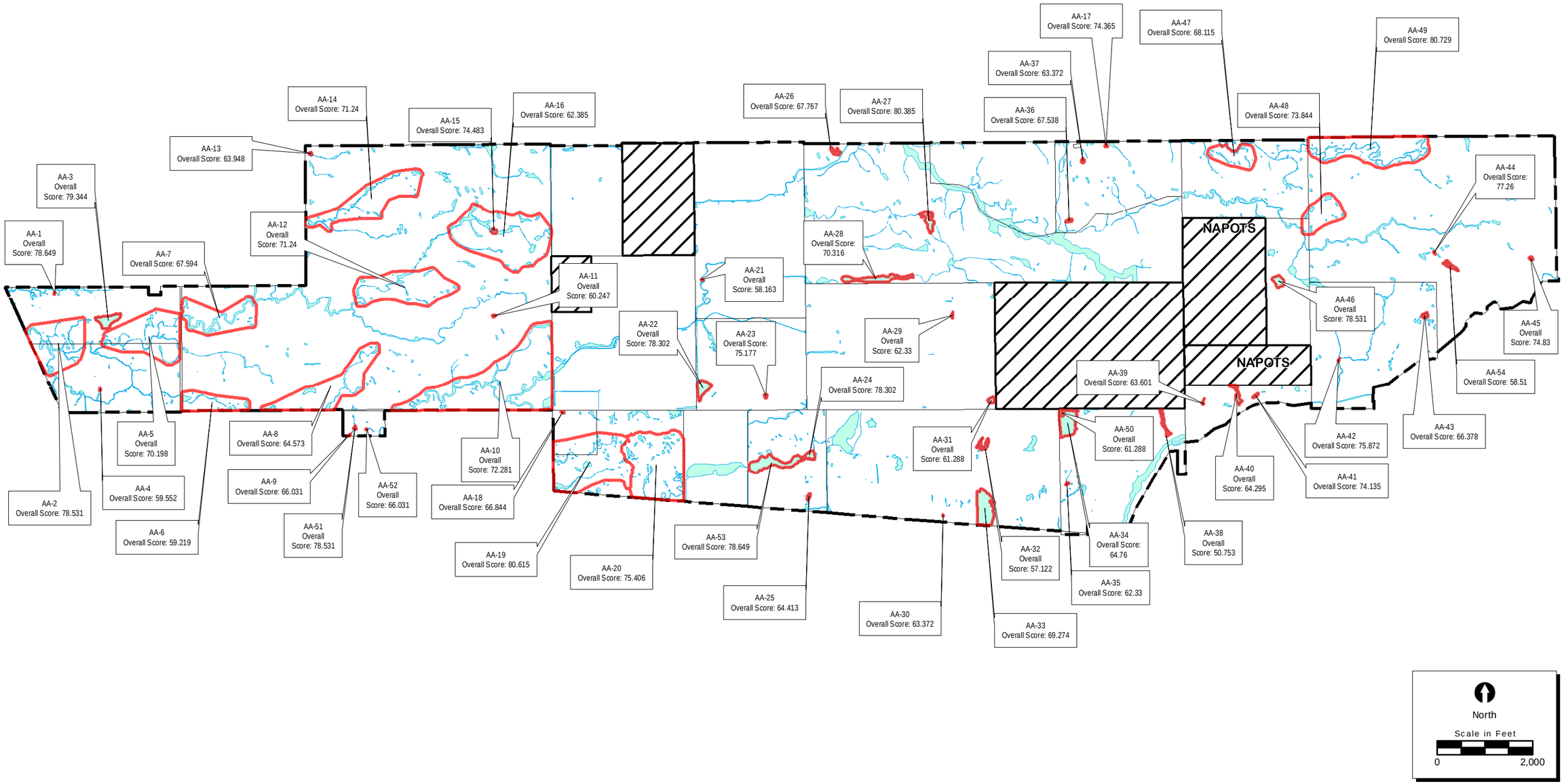
scores range from a low of 50.8 to a high of 80.7 indicating that there is a fair amount of variability in the condition of the resource on the project site, and project site wetlands in some portions of the project site have been affected by past and present agricultural practices such as disking, irrigated agriculture (for rice, row crops and pasture), and dry farming.

3.4.2.10 Special-Status Species

Special-status species are plants and wildlife that are legally protected under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or other regulations, and other plants and wildlife that are considered sufficiently rare to warrant consideration under the National Environmental Policy Act (NEPA). Special-status plants and animals are defined as:

- Species listed or proposed for listing as Threatened or Endangered under the ESA (50 Code of Federal Regulations [CFR] 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the Federal Register [FR] [proposed species])
- Species that are candidates for possible future listing as Threatened or Endangered under the ESA (72 FR 69034, December 6, 2007)
- Species listed or candidates for listing by the State of California as Threatened or Endangered under CESA (14 CCR 670.5)
- Species that meet the definitions of Rare, Threatened, or Endangered under the California Environmental Quality Act (CEQA) (*State CEQA Guidelines*, Section 15380)
- Plants listed as Rare or Endangered under the California Native Plant Protection Act (NPPA) (California Fish and Wildlife Code, Section 1900 et seq.)
- Animals listed on California Department of Fish and Wildlife's Special Animals List (California Fish and Wildlife 2008)
- Animals fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians])

The California Natural Diversity Data Base identifies six special-status plants and 23 special-status wildlife species for the project region. Of the six plant species and 23 wildlife species, three plants and 22 wildlife species either occur within the project site or have some potential to occur because the project site and area of off-site improvements has some areas of suitable or marginally suitable habitat or the species are known from nearby locations.



SOURCE: ECORP Consulting, Inc., September 2009

FIGURE **3.4-3**

California Rapid Assessment Method Analysis Results

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Special-Status Plants

Special-status plant species that have the potential to occur at or near the project site and in the vicinity of off-site infrastructure improvements are presented in **Table 3.4-3, Special-Status Plants with Potential to occur on the Project Site or in the Off-Site Infrastructure Areas**, below. Of these, five species are federally listed special-status plants or species of concern. Most of the plant species typically occur in vernal pool habitats (i.e., Boggs Lake hedge-hyssop, Sacramento Valley Orcutt grass, slender Orcutt grass, Ahart's dwarf rush, and Henderson's bentgrass). However, due to either their shallow depth or disturbed nature (due to either historical or active cultivation) and the lack of on-site survey sightings, their potential for occurrence in vernal pools on the project site has been determined to be low. These species could, however, occur in pools within the off-site infrastructure areas.

Table 3.4-3
Special-Status Plants with Potential to occur on the Project Site or in the Off-Site Infrastructure Areas

Name	Federal Status	State Status	Habitat	Likelihood of Occurrence on Project Site
Bogg's Lake hedge-hyssop *Gratiola heterosepala*	-	E	Vernal Pools	Marginal habitat is present.
Sacramento Valley Orcutt grass *Orcuttia viscida*	E	E	Vernal Pools	No suitable habitat present.
Slender Orcutt grass *Orcuttia tenuis*	T	E	Vernal Pools	No suitable habitat present.
Henderson's bentgrass *Agrostis hendersonii*	SC	--	Vernal pools	Marginal habitat present.
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	SC	--	Vernal pools	Marginal habitat present.
Hartweg's golden sunburst *Pseudobahia bahiaefolia*	E	E	Foothills, woodlands, clay grasslands	No suitable habitat present.

Status explanations:
Federal
– = *No status*
E = *Listed as "endangered" under the federal Endangered Species Act*
T = *Listed as "threatened" under the federal Endangered Species Act*
SC = *species of concern*
State
– = *No status*
E = *Listed as "endangered" under the California Endangered Species Act*
R = *Listed as "rare" under the California Endangered Species Act*

Critical habitat for vernal pool species including slender Orcutt grass and Sacramento Orcutt grass was designated in August 2003 by the USFWS (2003a) and revised in 2005 (USFWS 2005b) and 2006 (USFWS

2006a). The nearest Critical Habitat Unit for slender Orcutt grass is located approximately 13 miles (21 kilometers) southeast of the project site near Mather Air Force Base and the nearest Critical Habitat Unit for Sacramento Orcutt grass is approximately 7 miles (11 kilometers) southeast of the project site within the Phoenix Field vernal pool complex. There is no critical habitat designation for Hartweg's golden sunburst, nor has any been proposed. However, a recovery plan for southern Sierran foothill plants, which addresses this species, is currently under development by the USFWS (ECORP 2012b).

Special-Status Wildlife

Table 3.4-4, Special-Status Wildlife Species with Potential to Occur on the Project Site or in the Off-Site Infrastructure Areas, below, presents wildlife species that were observed on the project site during field surveys or have some potential to occur because the project site and the off-site infrastructure areas have some areas of suitable habitat or because the species are known from nearby locations.

Table 3.4-4
Special-Status Wildlife Species with Potential to Occur on the Project Site or in the Off-Site Infrastructure Areas

Name	Federal Status	State Status	Habitat	Likelihood of Occurrence on Project Site
Invertebrates				
Conservancy fairy shrimp *Branchinecta conservatio*	E	-	Vernal pools, swales, seasonal wetlands	Marginal habitat present. Not observed on site. Known to occur in the project region.
Vernal pool tadpole shrimp *Lepidurus packardi*	E	-	Vernal pools, some seasonal wetlands	Present on project site.
Vernal pool fairy shrimp *Branchinecta lynchi*	T	_	Vernal pools, some seasonal wetlands	Present on project site.
California linderiella *Linderiella occidentalis*	SC	_	Vernal pools, some seasonal wetlands	Suitable habitat present.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T	-	Elderberry shrubs	Suitable habitat present. Not observed in portion of the project site surveyed.
Amphibians and Reptiles				
Western spadefoot *Spea hammondii*	--	SSC	Grasslands with seasonal breeding pools	Suitable habitat present.
California tiger salamander *Ambystoma californiense*	T	SSC	Valley-foothill grasslands with suitable breeding pools	Marginal habitat present.
Western pond turtle *Actinemys marmorata*	_	SSC	Permanent water bodies with basking sites such as logs and rocks	Suitable habitat present.
California red-legged frog *Rana aurora draytonii*	T	SSC	Deeper pools and streams with emergent or overhanging vegetation	Marginal habitat present.

Name	Federal Status	State Status	Habitat	Likelihood of Occurrence on Project Site
Giant garter snake *Thamnophis couchi gigas*	T	T	Perennial water bodies with sufficient cover vegetation	Marginal habitat present.
Birds				
Grasshopper sparrow *Ammodramus savannarum*	-	SSC	Short to middle-height, moderately open grasslands with scattered shrubs. Upland meadows, pastures, hayfields.	Suitable habitat present in off-site utility corridor.
Northern harrier *Circus cyaneus*	-	SSC	Grasslands, seasonal wetlands, agricultural lands	Suitable habitat present. Observed foraging.
White-tailed kite *Elanus leucurus*	-	FP	Open grassland, and farmlands. Nests in tall trees near foraging areas	Suitable habitat present.
Western burrowing owl *Athene cunicularia*	-	SSC	Grasslands with friable soils for burrowing	Suitable habitat present.
Swainson's hawk *Buteo swainsoni*	-	T	Large trees, riparian woodlands and open grasslands/agricultural fields for foraging	Suitable nesting and foraging habitat present.
Greater sandhill crane *Grus candadensis tabida*	-	T	Seasonal wetlands, irrigated pastures, alfalfa and corn fields	Marginal foraging habitat present. No nesting habitat.
Loggerhead shrike *Lanius ludovicianus*	-	SSC	Grasslands, pastures, agricultural lands	Suitable foraging habitat present. Observed foraging. Marginal nesting habitat.
California black rail *Laterallus jamaicesis*	-	T	Shallow, perennial freshwater marshes	Marginal habitat present.
Tricolored blackbird *Agelaius tricolor*	-	SSC	Open water areas with tall emergent vegetation or in willow and blackberry thickets	Suitable habitat present.
Western yellow-billed cuckoo *Coccyzus americanus*	SC	-	Large blocks of riparian habitats, particularly woodlands with cottonwoods and willows	No suitable habitat present.
Bats				
Pallid bat *Antrozous pallidus*	-	SSC	Shrublands, grasslands, woodlands, forests; rocky areas, caves, hollow trees	Suitable foraging habitat present. Marginal roosting habitat present.
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	-	SSC	Most low to mid elevation habitats; caves, mines, and buildings for roosting	Suitable foraging habitat present. Marginal roosting habitat present.

Name	Federal Status	State Status	Habitat	Likelihood of Occurrence on Project Site
Yuma myotis *Myotis yumanensis*	-	SSC	Forests and woodlands; caves, mines, and buildings for roosting	Suitable foraging habitat present. Marginal roosting habitat present.
Fish				
Delta smelt	T	T	Sacramento Delta	Not present in Dry Creek watershed
Central Valley steelhead	T	-	Sacramento River and its perennial tributaries	Occurs on-site within Dry Creek
Central Valley Chinook Salmon (spring-run)	T	T	Sacramento River and its perennial tributaries	Not present in Dry Creek watershed
Sacramento River Chinook salmon (winter-run)	E	E	Sacramento River and its perennial tributaries below Shasta Dam	Not present in Dry Creek watershed
Sacramento River Chinook salmon (fall/late fall-run)	SC	-	Sacramento River and its perennial tributaries below Keswick Dam	Occurs on-site within Dry Creek

Status explanations:
Federal
E = listed as endangered under the federal Endangered Species Act
T = listed as threatened under the federal Endangered Species Act
SC = species of concern; species for which the USFWS has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list, but issuance of the proposed rule is precluded
– = no listing
State
E = listed as endangered under the California Endangered Species Act
T = listed as threatened under the California Endangered Species Act
FP = fully protected under the California Fish and Game Code
SSC = species of special concern in California
– = no listing

Federal Special-Status Wildlife Species

Vernal Pool Invertebrates

Four special-status invertebrates have a potential to occur in seasonal wetland habitats on the project site: Conservancy fairy shrimp (*Branchinecta conservatio*) and vernal pool tadpole shrimp (*Lepidurus packardi)*, both federally listed as Endangered species, vernal pool fairy shrimp (*Branchinecta lynchi*), federally listed as a Threatened species, and California linderiella (*Linderiella occcidentalis*), federally listed as a species of concern. These species occur in vernal pools and other seasonal wetland habitats throughout the Central Valley, and are known to occur or potentially occur in western Placer County.

The USFWS has produced a Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (Recovery Plan), which includes efforts for vernal pool fairy shrimp and vernal pool tadpole shrimp conservation (USFWS 2005a). Portions of western Placer County, including portions of the project site, are situated within the Southeastern Sacramento Vernal Pool Region (as identified within the Recovery Plan), which is a "Priority 2" core area for vernal pool fairy shrimp and vernal pool tadpole

shrimp. The Recovery Plan recommends the protection of 85 percent of suitable habitat within the core area, but it does not specify regulatory limits or requirements (USFWS 2005a).

Conservancy fairy shrimp is federally listed as Endangered. The species is endemic to California, and is found in grasslands in the northern two-thirds of the Central Valley. The historic distribution of Conservancy fairy shrimp is not known. Only one occurrence of the species is known from Placer County. Marginal habitat for the species is present on the project site. However, determinate surveys for vernal pool branchiopods did not document Conservancy fairy shrimp occurrence on the project site (ECORP 2012b). Based on a review of USFWS data, there is no critical habitat for Conservancy fairy shrimp within the vicinity of the project site (USFWS 2005b). The Vernal Pool Recovery Plan does not include western Placer County as a core area for the Conservancy fairy shrimp conservation (USFWS 2005a).

Vernal pool tadpole shrimp is federally listed as Endangered. The species is associated with low-alkalinity seasonal pools in grasslands throughout the northern and eastern portions of the Central Valley. Determinate surveys for vernal pool branchiopods have documented vernal pool tadpole shrimp occurrence on the project site (ECORP 2012b). No Critical Habitat Units for vernal pool tadpole shrimp are located within the project site or areas that would be affected by the off-site infrastructure improvements. The nearest Critical Habitat Unit for vernal pool tadpole shrimp is located approximately 11 miles (18 kilometers) southeast of the project site near Mather Air Force Base (USFWS 2005b). A portion of the project site is within the western Placer County core area for the recovery of this species (USFWS 2005a).

Vernal pool fairy shrimp is federally listed as Threatened. The species is adapted to seasonally inundated features such as vernal pools, seasonal wetlands, and seasonal wetland swales. Based on determinate surveys for vernal pool branchiopods, vernal pool fairy shrimp have been documented to occur on the project site (ECORP 2012b). No Critical Habitat Units for vernal pool fairy shrimp are located within the project site or areas that would be affected by the off-site infrastructure improvements. The nearest Critical Habitat Unit for vernal pool fairy shrimp is approximately 9 miles (14 kilometers) north of the project site (USFWS 2005b). A portion of the project site is within the western Placer County core area for the recovery of this species (USFWS 2005a).

California linderiella is a federal species of concern. It is the most common fairy shrimp in the Central Valley. It has been documented at elevations as high as 3,770 feet (1,149 meters) on most landforms, geologic formations, and soil types supporting vernal pools in California. California linderiella was considered for listing in 1995 but the listing was rejected. It remains on the federal candidate list. Suitable habitat is present on the project site. A portion of the project site is within the western Placer County core area for the conservation of this species (USFWS 2005a).

Other Federally listed Wildlife Species

Valley elderberry longhorn beetle (VELB) is federally listed as Threatened and occurs in association with elderberry shrubs, where it completes its life cycle. Elderberry shrubs were not observed on the project site but could occur in unsurveyed areas of the project site such as the Dry Creek riparian area or

in the off-site infrastructure areas where suitable habitat exists. Elderberry shrubs are widely distributed throughout the region and are known from many locations near the project site. The nearest Critical Habitat Unit designated for the Valley elderberry longhorn beetle is approximately 8 miles (13 kilometers) southeast, along the American River (CDFG 2003).

California tiger salamander (CTS) is federally listed as Threatened and state-listed as a species of special concern. It is found in vernal pools and seasonal ponds, including stock ponds, in grassland, from sea level to about 1,500 feet (457 meters) in central California. The project site is outside the range of previously recorded observations for this species. There are no documented occurrences of CTS on the project site or its vicinity and it is well established that this species does not currently occur in Placer County. The nearest documented occurrence of CTS is approximately 20 miles (32 kilometers) southwest of the project site near Davis, in Yolo County. Critical habitat was designated for the Central Population of CTS by USFWS in 2005 and the nearest Critical Habitat Unit is located approximately 28 miles (45 kilometers) southeast of the project site. The project site and infrastructure improvements do not fall within CTS critical habitat. The project site contains habitat components that CTS could inhabit. However, the habitat is marginal. And because CTS is not known from the area, it is highly unlikely to occur on the project site.

California red-legged frog (CRLF) is federally listed as Threatened and state-listed as a species of special concern. Once common, most of the remaining populations occur in the Coast Ranges. The project site is outside the range of previously recorded observations of CRLF. In addition, reproducing populations of CRLF have not been documented on the floor of the Central Valley since around 1947, and are considered to be extirpated. The nearest documented occurrence of this species is approximately 13 miles (21 kilometers) east of the site. There are no documented occurrences of CRLF on the project site or its vicinity. Although both Curry Creek and Dry Creek provide marginal habitat, predators including bullfrogs were detected within both creeks which further diminishes the likelihood that CRLF is present within the creeks. Critical habitat has been designated for the species (USFWS 2006b). The project site and off-site improvements do not fall within any Critical Habitat units and the nearest Critical Habitat Unit is located approximately 35 miles (56 kilometers) east of the project site (PLA-1) in the Sierra Nevada.

Giant garter snake is state- and federally listed as a Threatened species. The historic range of giant garter snake extended from the vicinity of Sacramento and Contra Costa Counties southward to Buena Vista Lake, near Bakersfield in Kern County (Federal Register 1999). Currently, the range of this species is restricted to rice production zones of Sacramento, Sutter, Butte, Colusa, and Glenn Counties, portions of Yolo County, and along the eastern fringes of the Sacramento-San Joaquin River delta (USFWS 1993). The majority of the project site is outside the range of previously recorded observations for giant garter snake, and none have been found within the project site. The nearest documented occurrences of giant garter snake is approximately 1.2 miles (1.9 kilometers) west of the project site. The species has not been observed on the project site, and it is unlikely that it does occur there. However, there are areas of marginal habitat that are hydrologically connected to populated areas to the west, and therefore, the project site cannot be completely excluded from potential occupancy.

In addition, the species could occur in marginally suitable habitat present in the area of some off-site infrastructure improvements. No critical habitat has been designated for the giant garter snake.

Western yellow-billed cuckoo is a candidate species to be proposed for federal listing. Historically, the breeding range of the yellow-billed cuckoo included most of North America. In the west, the distribution of the species has declined significantly. In California, the northern limit of breeding is the Sacramento Valley. There are no documented occurrences of western yellow-billed cuckoo in the project area or its vicinity, and there is no suitable nesting or foraging habitat on the project site. No Recovery Plan or Critical Habitat has been designated for this species.

Delta smelt is federally listed as Threatened. The historic range of this species extended from Suisan Bay upstream to the City of Sacramento on the Sacramento River. Currently it is only known to occur in the lower reaches of the Sacramento River below Isleton, the San Joaquin River below Mossdale, throughout the Delta and into Suisun Bay. The nearest occurrence of Delta smelt is approximately 29 miles (47 kilometers) southwest of the project site. Except for the small portion of Dry Creek, there is no suitable habitat for Delta smelt within the project site or in the infrastructure improvements area. Furthermore, no occurrences of Delta smelt are reported from the Dry Creek watershed. Critical habitat for Delta smelt was established by the USFWS in 1994. The project site is not within designated critical habitat for this species.

Central Valley steelhead is federally listed as Threatened. Steelhead requires cold, clean water flowing over a gravel bottom in order to successfully reproduce. This species is known to occur in the Sacramento River and many of its tributaries below Keswick Dam in Shasta County. Steelhead use of upstream portions of the Dry Creek system (i.e., Miners Ravine and Secret Ravine) indicates that these species migrate through the portion of Dry Creek adjacent to the project site and therefore are present on the project site (ECORP 2012b). This species could also occur in appropriate habitat in off-site infrastructure areas (utility line and roadway crossings).

Sacramento River Chinook salmon (winter-run) is federally listed as Threatened. Similar to steelhead, Chinook salmon (spring-run, fall-run, late fall-run, and winter run) require cold, clean water flowing over a gravel bottom in order to successfully reproduce. These species are known to occur in the Sacramento River and many of its tributaries below Keswick Dam in Shasta County. Neither winter-run nor spring-run Chinook salmon use the Dry Creek system. Fall-run salmon and steelhead use of upstream portions of the Dry Creek system (i.e., Miners Ravine and Secret Ravine) indicates that these species migrate through that portion of Dry Creek adjacent to the project site. These species could occur in appropriate habitat in off-site infrastructure areas (utility line and roadway crossings) (Placer County 2006).

State Special-Status Wildlife Species

Western spadefoot toad is a state species of special concern. It occurs throughout the Central Valley and adjacent foothills up to 4,500 feet (1,372 meters). There are four occurrences within 5 miles (8 kilometers) of the project vicinity (ECORP 2006d and 2007b). With the exception of one occurrence which is within a mitigation site, the other three recorded sites are threatened by ongoing urbanization in the Roseville area, and one recorded site has already been developed. Although vernal pools occur in the project site

and off-site infrastructure areas, the disturbed nature of the land (i.e., active cultivation), and degraded condition of these habitats likely precludes the occurrence of this species.

Western pond turtle is a state species of special concern. This species occurs in permanent water bodies with basking sites such as logs and rocks. Although this species could occur on the project site, since this species was not observed during reconnaissance surveys and there are no historical records known for Placer County, the potential for the species to occur in the on-site ponds is low.

Greater sandhill crane is a state listed Threatened species. Portions of the Sacramento-San Joaquin Delta and Cosumnes River basin are principal wintering grounds for the crane. Most traditional foraging areas are near communal roost sites (within 2 to 3 miles [3 to 5 kilometers]) that are flooded with several inches of standing or slowly moving water. Foraging habitat includes harvested fields, irrigated pastures, alfalfa fields, and seasonally flooded habitats. Due to marginal foraging habitat on the project site and the fact that the site does not provide suitable nesting habitat, the potential for the species to occur on the project site is low.

Northern harrier is a state species of special concern. While population declines in California have been noted for many years, the species can be locally abundant. They occur primarily in open wetland, grassland, and agricultural habitats. The northern harrier is a ground-nesting raptor, which nests on the ground in marsh, grassland, and some agricultural habitats, particularly grain fields. They forage in seasonal wetland, grassland, and agricultural habitats. This species could nest on the site because suitable nesting and foraging habitat exists in some portions of the project site.

White-tailed kite is a state species of special concern and a state fully protected species. The white-tailed kite nests in riparian forests and woodlands, and occasionally in isolated trees. They forage in grasslands, seasonal wetlands, and agricultural fields. Nesting of this species is possible on the site because the project site provides suitable nesting and foraging habitat for the white-tailed kite.

Swainson's hawk is a state listed Threatened species. It forages in open grassland in the Central Valley and Great Basin and nests in riparian forests, remnant oak woodlands, isolated trees, and roadside trees. It forages primarily in agricultural habitats, particularly those that optimize availability of prey, and also uses irrigated pastures and annual grasslands. The scattered valley oak, cottonwood, willow, and eucalyptus trees located in the project site provide suitable nesting opportunities. Numerous nest sites are known to occur in the vicinity of the project site. Swainson's hawks prefer agricultural fields adjacent to nest sites for foraging. Due to the proximity of the project site to known nest sites, this species could forage throughout the project site as well as nest in selected trees.

Ferruginous hawk is designated as a state species of special concern. It typically does not nest in California. Individuals migrate into California during the winter where they utilize open grassland and agricultural land for foraging and roosting. The project site provides suitable grassland wintering habitat for this species. While it probably is only an occasional visitor, its potential for occurrence during the winter is high.

California black rail is a state-listed Threatened species. Until recently, the current range of this species was thought to be restricted mainly to coastal marshes. In the 1990s populations were discovered in freshwater marshes in Yuba County. Recently the black rail was detected in the City of Rocklin in Clover Valley and along Yankee Slough southeast of Sheridan. The black rail typically inhabits marshes dominated by bulrushes and cattails. A relatively narrow range of conditions is required for occupancy and successful breeding. Too much water will prevent nesting and too little water will lead to abandonment of the site. Suitable nesting habitat is currently lacking on the project site and it is highly unlikely that this species could nest on the project site.

Western burrowing owl is a state species of special concern. It is a small ground-dwelling owl that typically occupies the burrows created by ground squirrels. They also occupy artificial habitats, such as those created by pipes and small culverts. Burrowing owls forage in grassland and agricultural habitats with low vegetative height. Burrowing owl has not been recorded on the project site, but potential foraging and nesting habitat is present.

Tri-colored blackbird is a state species of special concern that is almost entirely restricted to California. In any given year, more than 75 percent of the breeding population can be found in the Central Valley. The species breeds in colonies that require open accessible water, a protected nesting area (including either flooded or thorny or spiny vegetation), and a suitable foraging area providing adequate insect prey within a few miles of the nesting colony. Tricolored blackbirds prefer marsh habitats and are less likely to nest in blackberry brambles in the Central Valley. Because these habitats are present on the project site, the species could nest on the site.

Loggerhead shrike is a state species of special concern. It is a permanent resident and winter visitor throughout California. The species prefers open habitats with scattered trees, shrubs, posts, fences, utility lines or other perches. It nests in small trees and shrubs, and forages in pastures and agricultural lands. Loggerhead shrike use small trees and shrubs within open grassland and agricultural settings as nesting territories. The entire project site is suitable foraging habitat for the species.

Heron and Egret Rookeries are colonial nesting sites for heron and egret species. While these species are not considered special-status species, rookeries are included on the CDFW's special animals list because these breeding colonies can support a large segment of local populations. Herons and egrets could also forage in the area; however, no rookeries were observed during field surveys (Placer County 2006).

Special-status Bats that have a potential to occur in the area include Townsend's big-eared bat, Pallid bat, and Yuma myotis. These species prefer arid upland areas in California in a wide variety of habitats including arid wooded and brushy uplands near water. These species feed on moths, flies, and beetles. The project site and off-site infrastructure areas provide suitable foraging opportunities for these species. However, no potential maternity roost sites were found during the surveys, and these species are not expected to breed on the project site, but could breed within the off-site infrastructure areas (Placer County 2006).

3.4.2.11 Regional Aquatic Resources

The Proposed Action and alternatives would receive its water supply from various surface water supply sources **(Section 3.15, Utilities and Service Systems)**. The Proposed Action's initial surface water supply source would be from the lower American River water and long-term surface water supply would be from the Sacramento River. Fish species and fisheries habitat present in the American River and the Sacramento River are described below.

Lower American River

The American River is one of two major tributaries of the Sacramento River, with the Feather River as the second major tributary. The lower American River begins below Nimbus Dam and flows along the valley floor until it reaches the Sacramento River in the City of Sacramento.[2] The flow regime in the lower American River has been significantly altered since the completion of the Folsom and Nimbus dams. The lower American River from Nimbus Dam to Goethe Park is primarily unrestricted by levees, but is bordered by some developed areas. Natural bluffs and terraces hydrologically control this reach of the river. Downstream and extending to its confluence with the Sacramento River, levee construction and resulting reductions in velocity and meandering have transformed the river channel to a slower moving, deeper reach (Placer County 2006).

The lower American River provides a diversity of aquatic habitats, including shallow, fast-water riffles, glides, runs, pools, and off-channel backwater habitats. At least 43 species of fish occur in the lower American River system, including numerous resident native and introduced species, as well as several anadromous species (City of Roseville 2010). Although each fish species fulfills an ecological niche, several species are of primary management concern, either as a result of their declining numbers or their importance to recreational and/or commercial fisheries. Both Central Valley steelhead (*Oncorhynchus mykiss*), listed as Threatened under the Federal ESA, and Sacramento splittail (*Pogonichthys macrolepidotus*), a California species of special concern and, informally, a federal species of concern, occur in the lower American River. Additionally, the lower American River from the outfall of the Natomas East Main Drainage Canal ("NEMDC" and also known as "Steelhead Creek") downstream to the confluence with the Sacramento River is designated as critical habitat for spring-run Chinook salmon (70 FR 52512). Current recreationally and/or commercially important anadromous species include fall-run Chinook salmon (*Oncorhynchus tshawytscha*), steelhead, striped bass (*Morone saxatilis*), and American shad (*Alosa sapidissima*) (City of Roseville 2010).

Sacramento River

The Sacramento River is the largest river in California, providing water for municipal, agricultural, recreational, and environmental purposes throughout Northern and Southern California. Water originating from the upper Sacramento River watersheds represents a significant component of the total

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2 The lower American River is designated a Wild and Scenic river for recreational use under the federal Wild and Scenic Rivers Act.

Central Valley Project (CVP) supply, which provides high-quality water to meet downstream urban and agricultural demands. The Sacramento River enters the Sacramento –San Joaquin Delta at Freeport, downstream of its confluence with the American River.

The upper Sacramento River, the portion of the river from Keswick Dam to Princeton (RM 163), provides a diversity of aquatic habitats, including fast-water riffles and shallow glides, slow-water deep glides and pools, and off-channel backwater habitats. The upper Sacramento River is of primary importance to native anadromous species, and is presently utilized for spawning and early life-stage rearing, to some degree, by all four runs of Chinook salmon (fall, late fall, winter, and spring runs) and steelhead. Consequently, various life stages of the four runs of Chinook salmon and steelhead can be found in the upper Sacramento River throughout the year (Placer County 2006).

The lower Sacramento River, the portion of the river from Princeton to the Delta, is predominantly channelized, leveed, and bordered by agricultural lands. Aquatic habitat in the lower Sacramento River is characterized primarily by slow-water glides and pools, is depositional in nature, and has reduced water clarity and channel habitat diversity compared to the upper portion of the river (Placer County 2006).

Many of the fish species utilizing the upper Sacramento River also use the lower river to some degree, even if only as a migratory pathway to and from upstream spawning and rearing grounds. For example, adult Chinook salmon and steelhead primarily use the lower Sacramento River as an immigration route to upstream spawning habitats and an emigration route to the Delta. The lower river is also used by other fish species (e.g., Sacramento splittail and striped bass) that make little to no use of the upper river (upstream of RM 163). Overall, fish species composition in the lower portion of the Sacramento River is quite similar to that of the upper Sacramento River and includes resident and anadromous cold- and warm water species. Many fish species that spawn in the Sacramento River and its tributaries depend on river flows to carry their larval and juvenile life stages to downstream nursery habitats. Native and introduced warm water fish species primarily use the lower river for spawning and rearing, with juvenile anadromous fish species also using the lower river and non-natal tributaries, to some degree, for rearing (Placer County 2006).

Over 30 species of fish are known to use the Sacramento River. Anadromous species include Chinook salmon, steelhead, green and white sturgeon (*Acipenser medirostris* and *Acipenser transmontanus*), striped bass, and American shad. Other Sacramento River fishes are considered resident species, which complete their lifecycles entirely within freshwater, often in a localized area. Resident species include rainbow and brown trout, largemouth and smallmouth bass, channel catfish (*Ictalurus punctatus*), sculpin (*Cottus asper*), Sacramento pikeminnow, Sacramento sucker (*Catostomus occidentalis*), hardhead, and common carp (*Cyprinus carpio*) (Placer County 2006).

3.4.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

3.4.3.1 Federal Laws and Regulations

Federal laws and regulations for the protection of biological resources that applicable to the Proposed Action and its alternatives are summarized below. The federal Clean Water Act, which regulates the placement of fill in the waters of the US, is summarized below and discussed in more detail in **Section 3.10, Hydrology and Water Quality**.

Clean Water Act

The Clean Water Act (CWA) is the principal federal law protecting the quality and integrity of the nation's surface waters. The CWA offers a range of mechanisms to reduce pollutant input to waterways, manage polluted runoff, and finance municipal wastewater treatment facilities. Permit review serves as the CWA's principal regulatory tool; CWA regulation operates on the premise that all discharges to jurisdictional waters are unlawful unless specifically authorized by a permit.

Section 404 Discharge into Waters of the U.S.

Under Section 404 of CWA, discharges of dredged or fill material into waters of the U.S. are prohibited without a permit from the USACE. Among other regulatory program requirements, an applicant for a Department of the Army (DA) permit involving a discharge must demonstrate under the USEPA's Section 404(b)(1) guidelines that the proposed activity is the least environmentally damaging practicable alternative that achieves the project's overall purpose (see document titled Section 404(b)(1) Alternatives Analysis for Placer Vineyards Specific Plan in **Appendix 3.4**). Practicable alternatives include activities that do not involve a discharge of fill into waters of the United States or involve a discharge at another location(s) in waters of the United States. An alternative is "practicable" if it is "available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purposes" (40 CFR § 230.10(a)(2)).

In March 2008, the USEPA and USACE issued the Compensatory Mitigation Rule (33 CFR 332) that provides new standards to ensure no-net-loss of wetlands and emphasizes use of the best available science. This rule reinforces the goal to first avoid and then minimize impacts to waters, and then provides a preference hierarchy for compensatory mitigation in the following order: mitigation banks, in-lieu fee program credits, and permittee-responsible mitigation. It is preferable that compensatory mitigation take place at a mitigation bank within the same watershed as the waters to be replaced. If mitigation banks are not available within the affected watershed, then compensatory mitigation involving creation or restoration within the affected watershed may be preferable to using a mitigation bank outside the affected watershed.

In addition to the above provisions, Section 404(b)(1) Guidelines also prohibit discharges that cause or contribute to violation of water quality standards, violate any toxic effluent limit under Section 307 of the

Clean Water Act, jeopardize the continued existence of any listed species, or destroy or modify listed species' critical habitat (40 CFR §230.10(b)).

Section 401 Water Quality Certification

Section 401 of the CWA requires certification from the state to ensure compliance with state water quality standards for any activity that may result in a discharge to a water body. A project that would result in the discharge of any pollutant, including soil, into waters and wetlands requires coordination with the appropriate California Regional Water Quality Control Board to obtain Section 401 certification. Additional information is presented in **Section 3.10, Hydrology and Water Quality**.

Federal Endangered Species Act

The federal ESA protects fish and wildlife species, and their habitats that have been identified as Threatened or Endangered. "Endangered" refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range; "Threatened" refers to those likely to become Endangered in the near future.

The USFWS in the Department of the Interior and the National Marine Fisheries Service (NMFS) - NOAA - Fisheries in the Department of Commerce share responsibility for administration of the federal ESA. Provisions of Section 7 of the ESA relevant to the Proposed Action and alternatives are summarized below.

- Section 7 provides a means for authorizing take of Threatened and Endangered species by federal agencies. "Take" is defined by the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Section 7 applies to actions that are conducted, permitted, or funded by a federal agency. Under Section 7, the federal agency conducting, funding, or permitting an action must consult with the USFWS, as appropriate, to ensure that the Proposed Action will not jeopardize Endangered or Threatened species or destroy or adversely modify designated critical habitat. If a Proposed Action "may affect" a listed species or designated critical habitat, the lead agency is required to prepare a biological assessment evaluating the nature and severity of the expected effect. The lead agency can also request concurrence or formal consultation with the USFWS if a Proposed Action "may affect" or is "not likely to adversely affect" listed species or critical habitat. If there is a "likely to adversely affect" determination, the USFWS issues a biological opinion, with a determination that the Proposed Action: may jeopardize the continued existence of one or more listed species (jeopardy finding) or result in the destruction or adverse modification of critical habitat (adverse modification finding); or will not jeopardize the continued existence of any listed species (no jeopardy finding) or result in adverse modification of critical habitat (no adverse modification finding).

The biological opinion may stipulate discretionary "reasonable and prudent" alternatives. If the Proposed Action would not jeopardize a listed species, the USFWS will issue an incidental take statement to authorize incidental take associated with the Proposed Action.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 USC 661-667e) provides the basic authority for the USFWS's involvement in evaluating impacts to fish and wildlife from proposed water resource development

projects. It requires that fish and wildlife resources receive equal consideration to other project features. It also requires federal agencies that construct, license or permit water resource development projects to first consult with the USFWS (and NMFS in some instances) and state fish and wildlife agencies regarding the impacts on fish and wildlife resources and measures to mitigate these impacts.

Vernal Pool Recovery Plan

The project site is located within the area covered by the "Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon" prepared by the U.S. Fish and Wildlife Service (U.S. Fish and Wildlife Service 2005). The plan is a voluntary guidance program that broadly addresses conservation needs for 20 species of animals and plants listed as Endangered or Threatened so these species will no longer require protection under the Endangered Species Act. The plan identifies many options and strategies that may contribute to recovery. The recovery plan identifies a number of vernal pool regions throughout California and within each region, designates certain areas as core areas for initial focus of protection measures. The plan notes that while a goal of the recovery plan is to protect the long-term viability of existing populations within each vernal pool region, core areas within each vernal pool region have been identified where recovery actions will be focused. Each core area is further classified as Zone 1, 2, or 3 in order of overall priority for recovery.

The project site is located within the Western Placer County core area of the Southeast Sacramento Valley vernal pool region. The Western Placer County core area is ranked as Zone 2. The recovery plan notes that although most species covered in the plan can be recovered primarily through the protection of Zone 1 core areas, protection of Zone 2 core areas will significantly contribute to the recovery of species.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) protects migratory bird species from take. *Take,* under the Act, is defined as the action of, or an attempt to, pursue, hunt, shoot, capture, collect, or kill (50 Code of Federal Regulations [CFR] 10.12). The definition differentiates between "intentional" take (take that is the purpose of the activity in question) and "unintentional" take (take that results from, but is not the purpose of, the activity in question).

Executive Order (EO) 13186 (signed January 10, 2001) directs each federal agency taking actions that would have or would likely have a negative impact on migratory bird populations to work with the USFWS to develop a Memorandum of Understanding (MOU) to promote the conservation of migratory bird populations. Protocols developed under the MOU must include the following agency responsibilities:

- Avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting federal agency actions.
- Restore and enhance habitat of migratory birds, as practicable.
- Prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The EO is designed to assist federal agencies in their efforts to comply with the MBTA; it does not constitute any legal authorization to take migratory birds.

Numerous migratory bird species have potential to nest in the project site. Mitigation is proposed in this Draft EIS to avoid impacts to nesting migratory birds from construction of the Proposed Action or any of its alternatives.

Executive Order 13112: Prevention and Control of Invasive Species

EO 13112, signed February 3, 1999, directs all federal agencies to prevent and control introduction of invasive species in a cost-effective and environmentally sound manner. It established a National Invasive Species Council (NISC) composed of federal agencies and departments and a supporting Invasive Species Advisory Committee (ISAC) composed of state, local, and private entities. NISC and ISAC prepared a national invasive species management plan that recommends objectives and measures to implement the EO and to prevent the introduction and spread of invasive species (National Invasive Species Council & Invasive Species Advisory Committee 2001). The EO requires consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

3.4.3.2 State Laws and Regulations

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Section 2050 et seq.) establishes state policy to conserve, protect, restore, and enhance Threatened or Endangered species and their habitats. CESA mandates that state agencies should not approve projects that jeopardize the continued existence of Threatened or Endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that would affect a species that is both federally and state-listed, compliance with the Federal Endangered Species Act (FESA) satisfies CESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with CESA under California Fish and Game Code Section 2080.1. CDFW administers CESA and authorizes take of Endangered, Threatened, or candidate species that is incident to an otherwise lawful activity through issuance of Section 2081 permits (except for species designated as fully protected).

Development of the Proposed Action or any of its alternatives could result in direct and indirect effects to state-listed species, or their habitat. The applicants would be required to consult with CDFW regarding the Proposed Action's effects on species listed as Threatened or Endangered, or proposed for listing as Threatened or Endangered under CESA. The applicants would either be required to obtain a 2081 take permit from CDFW prior to conducting activities that result in the potential take of state-listed species (take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") or a consistency determination in accordance with Fish and Game Code Section 2080.1.

California Fish and Game Code

Streambed Alteration Agreements (Section 1600 *et seq*.)

Under Section 1602 of the Fish and Game Code, agencies are required to notify CDFW before implementing any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake (Fish and Game Code Section 1602). Preliminary notification and project review generally occur during the environmental review process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable changes to the project to protect the resources. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project. Development of the Proposed Action or any of the alternatives would require a 1602 streambed alteration agreement from CDFW.

Unlawful Destruction of Nests or Eggs and Birds-of-Prey or their Eggs (Sections 3503 and 3503.5)

Under Sections 3503 and 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, or to take, possess, or destroy any birds of prey or their nest or eggs. Numerous birds-of-prey have potential to nest within the project site. Mitigation measures are proposed to ensure that active bird-of-prey nests will not be disturbed by the Proposed Action or its alternatives.

California Fully Protected Species

The California Fish and Game Code provides protection from take for a variety of species, referred to as "fully protected species." Section 5050 lists fully protected amphibians and reptiles; Section 3515 lists fully protected fish; Section 3511 lists fully protected birds; and Section 4700 lists fully protected mammals. Except for take related to scientific research, all take of fully protected species is prohibited.

California Native Plant Protection Act

The California Native Plant Protection Act (CNPPA) preserves, protects, and enhances endangered native plants in California. The act gave the California Fish and Game Commission the power to designate native plants as endangered, threatened, or rare, and to require permits for collecting, transporting, or selling such plants. CDFW recommends that species listed in the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California be addressed under CEQA.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act authorizes the State Water Resources Control Board (SWRCB) to regulate state water quality and protect beneficial uses. The SWRCB certifies activities subject to CWA Section 404 permits. The applicants would be required to obtain a Section 401 water quality certification for their federal wetlands permits.

3.4.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.4.4.1 Significance Thresholds

Council on Environmental Quality (CEQ) regulations require an evaluation of a proposed action's ecological effects such as the effects on natural resources and on the components, structures and functioning of affected ecosystems (40 CFR 1508.8), as well as effects in Endangered or Threatened species or their habitat (40 CFR 1508.27). The National Environmental Policy Act (NEPA) does not specify significance thresholds to evaluate the effects of a proposed action on biological resources. For purposes of evaluating the effects in this EIS, the USACE has determined that the Proposed Action or its alternatives would result in significant effects on biological resources if the Proposed Action or an alternative would:

- have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, Threatened, Endangered, otherwise protected, or special-status species, by the CDFW or the USFWS;[3]
- have a substantial adverse effect on riparian habitat;
- have a substantial adverse effect on waters of the United States; or
- interfere substantially with the movement of any native, resident or migratory wildlife species.

3.4.4.2 Analysis Methodology

This impact analysis addresses effects of the Proposed Action and alternatives on both on-site and off-site biological resources. The term "on-site" is defined as referring to the 5,230-acre (2,117-acre) project site, whereas the term "off-site" refers to land area within which Proposed Action-related off-site improvements (such as roadway widening, etc.) would be located. The area evaluated for effects is shown in **Figure 3.4-4, Project Study Area,** and includes the project site, the alignments of the infrastructure improvements and a 250-foot (76-meter) zone around the site and on both sides of the linear improvements. The analysis evaluates both direct and indirect effects of the Proposed Action and alternatives, as defined below.

Direct Effects

With respect to direct effects, the analysis assumes full buildout of the Proposed Action or an alternative resulting in loss of all habitats within those portions of the site that are designated for development. In addition, the analysis covers off-site areas that would be directly affected by the construction of infrastructure improvements such as roadways. The following activities would result in direct effects:

- Vegetation clearing (including trees), grading, excavating/trenching, and paving activities during construction;

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3 There are no local or regional plans, policies, or regulations related to plant and wildlife species that apply to the project area.

- Temporary stockpiling and side-casting of soil, construction materials, or other construction wastes;
- Soil compaction, dust, and water runoff from the construction site;
- Short-term construction-related noise (from equipment); and
- Degradation of water quality in streams and wetlands, resulting from construction runoff containing petroleum products.

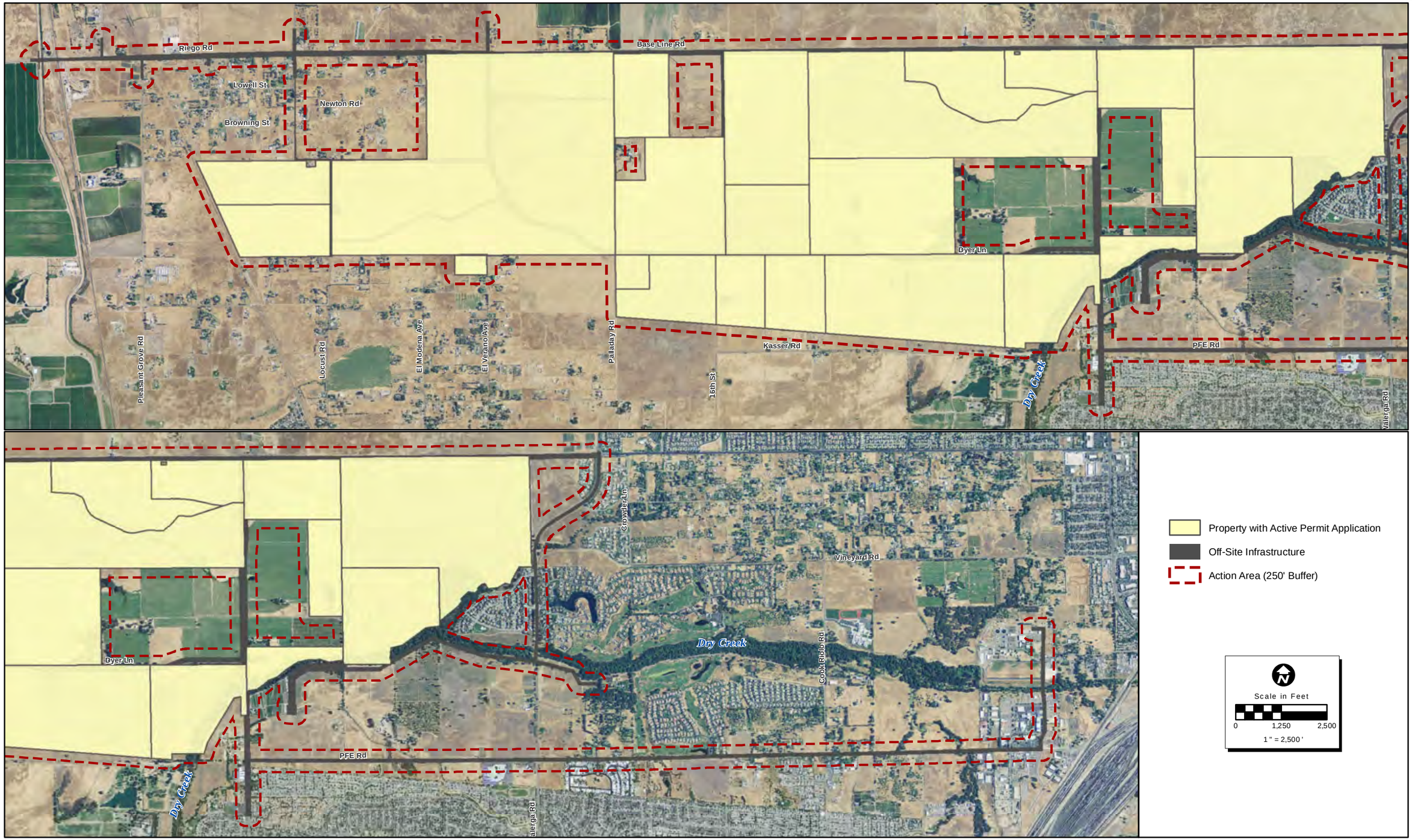
Indirect Effects

With respect to indirect effects, the analysis covers on-site areas that would not be developed but would be conserved as open space as well as adjacent off-site lands (within 250 feet [76 meters] of the project boundary and the alignments of all off-site infrastructure improvements) that could be indirectly affected. The following activities could result in indirect effects:

- Altering light and noise levels;
- Altering hydrology;
- Causing damage through toxicity associated with herbicides, pesticides, and rodenticides;
- Degradation of water quality in off-site drainages and wetlands, resulting from construction runoff containing petroleum products;
- Introducing pet and human disturbance (including trash dumping);
- Increasing habitat for native competitors or predators; and
- Introducing invasive nonnative species.

With respect to the Proposed Action, two scenarios are evaluated throughout this EIS. These include the Base Plan which is a lower density development plan and would provide for a community of about 33,000 persons, and the Blueprint scenario which is a higher density version that would accommodate up to 49,000 persons. The two scenarios represent the "bookends" of the range of development that could occur on the site. Although the Blueprint scenario would result in minor land use shifts within the plan area to accommodate the higher densities, the development footprint would remain essentially the same as under the Base Plan scenario. Consequently all of the direct (footprint) impacts of development, such as filling of wetlands or removal of listed species habitat, would be the same no matter whether the site developed at a lower density or at a higher density. Therefore, the discussion of footprint impacts below applies to both scenarios and any other development density between the two bookends. To the extent that any of the impacts are influenced by the size of the population that would be present on the site or the density of development, those impacts are discussed separately for each density scenario below.

With respect to the alternatives, all of which are modifications to the proposed land use plan to place additional areas in open space and avoid the filling of wetlands in certain portions of the project site, the analysis focuses on the change (decrease) in the development footprint and the reduction in wetland/habitat impacts as a result of the modified footprint.



SOURCE: ECORP Consulting, Inc., October 2012

FIGURE **3.4-4**

Project Study Area

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3.4.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact BIO-1 Loss and Degradation of Functions and Services of the Waters of the U.S. through Direct Removal, Filling, Hydrological Interruption or Other Means

No Action

A total of 176.7 acres (71.5 hectares) of waters of the U.S. have been identified on the project site. In addition, there are about 4.2 acres (1.7 hectares) of waters of the U.S. within the area that would be disturbed by off-site improvements that would be necessary to develop the project site.

Under the No Action Alternative, although the project site and off-site infrastructure would be developed, all wetland areas would be avoided and no fill would be placed within waters of the U.S. Furthermore, the site plan developed for the No Action Alternative would ensure no grading or other ground disturbance would occur within 50 feet (15 meters) of the on-site aquatic resources, thereby reducing the likelihood of indirect effects during the construction of new development under this alternative. There would be **no direct or indirect effects** to aquatic resources and no mitigation is required.

Proposed Action (Base Plan and Blueprint Scenario)

Implementation of the Proposed Action would result in direct impacts to 119.3 acres (48.2 hectares) of wetlands and other waters of the U.S. This is a **significant** effect of the Proposed Action. Mitigation is proposed to ensure no net loss of wetland values and functions. Due to the conceptual nature of the mitigation plan, the USACE cannot fully evaluate this effect and has therefore assumed that it remains potentially **significant**.

As noted above, a total of 176.7 acres (71.5 hectares) of waters of the U.S. have been identified on the project site. Loss of aquatic resources would occur as a result of grading in preparation for development, construction of roads and utility corridors, creation of storm water detention basins along stream corridors, and other ground-disturbing activities related to construction. As shown in **Table 3.4-7,** implementation of the Proposed Action would result in the loss of 115.1 acres (47 hectares) of wetlands and other waters of the U.S. on the project site and approximately 4.2 acres (1.7 hectares) off site, resulting in a total direct loss of 119.3 acres (48.2 hectares) of wetland area and functions. **Figure 3.4-5, Proposed Action – Waters of the U.S. On-Site Impacts**, shows the affected wetlands on the project site and **Figure 3.4-6, Waters of the U.S. Impacts – Off-Site Improvements,** shows the off-site affected aquatic resources. Approximately 104 acres (42 hectares) would be filled in association with the development on the parcels for which there are active DA permit applications, and an estimated 11.1 acres (4.5 hectares) would be filled in conjunction with the development of those areas for which there are no active DA permit applications at this time. This latter number is an estimate based on aerial photo interpretation as no wetland delineations have been performed or verified for those areas.

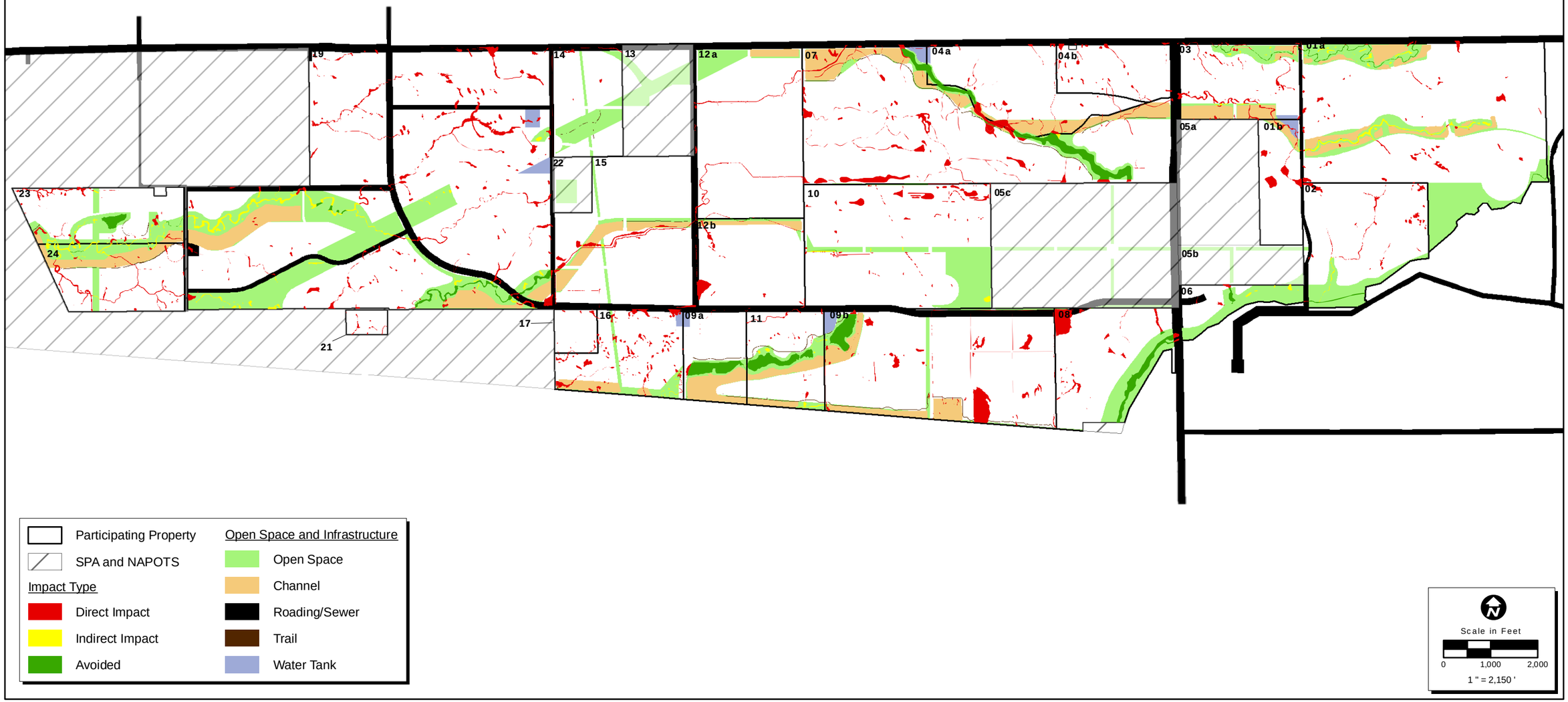
To minimize the impact on on-site aquatic resources, some portions of the project site containing vernal pools and other seasonal wetlands have been designated as open space in

the PVSP. Most of these open space preservation areas are aligned along drainage courses and include moderate concentrations of both vernal pools and seasonal wetlands located in proximity to these drainage courses. As a result of designating open space areas on the project site, filling of approximately 61.6 acres (25 hectares) of aquatic resources would be avoided within the project site as part of the Proposed Action.

Table 3.4-7
Proposed Action Impacts to Waters of the U.S. (acres)

Wetland Type	Waters of the U.S. on Project Site	Permit Area Impacts	Non-Permit Area Impacts*	Off-Site Impacts	Total Impact
Vernal Pool	32.6	27.5	0.0	0.2	27.7
Seasonal Wetland	42.8	39.6	1.4	2.2	43.2
Seasonal Wetland Swale	16.1	9.1	3.2	0.2	12.5
Seasonal Marsh	0.2	0.2	0.0	0.0	0.2
Pond	23.9	0.9	5.4	0.0	6.3
Ephemeral Stream	4.1	3.8	0.0	0.0	3.8
Intermittent Stream	17.8	4.0	0.0	0.2	4.2
Drainage Swale	2.1	2.0	0.0	0.0	2.0
Channel	1.5	0.1	0.0	0.1	0.2
Canal/Ditch	2.1	1.1	0.6	1.2	2.9
Creek	7.0	0.6	0.5	0.1	1.2
Riverine Seasonal Wetland	25.3	14.4	0.0	0.0	14.4
Riverine Seasonal Marsh	0.6	0.2	0.0	0.0	0.2
Riverine Perennial Marsh	0.6	0.5	0.0	0.0	0.5
Total	**176.7**	**104.0**	**11.1**	**4.2**	**119.3**

Source: ECORP, 2012b
** Includes Special Planning Area.*



SOURCE: ECORP Consulting, Inc., October 2012

FIGURE **3.4-5**

Proposed Action – Waters of the U.S. On-Site Impacts

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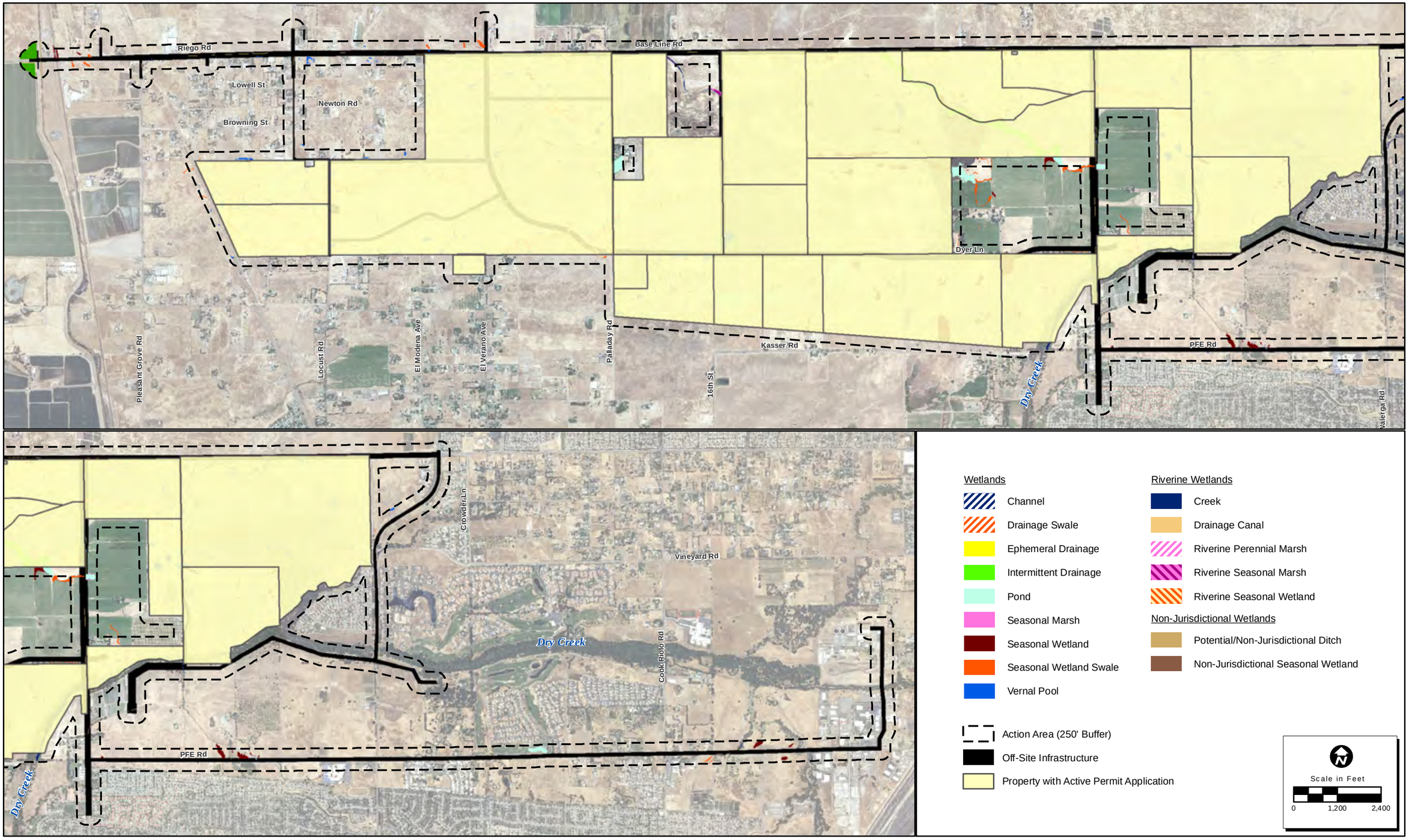

SOURCE: ECORP Consulting, Inc. – May 2012

FIGURE **3.4-6**

Waters of the U.S. Impacts – Off-Site Improvements

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Although some of the on-site vernal pools and other wetlands would be avoided, and some of the on-site vernal pools and seasonal wetlands that would be filled are of moderate quality as they have been previously disturbed due to disking, grazing, and cultivation, the Proposed Action would, nonetheless, result in the filling of a substantial acreage of aquatic resources, including about 71 acres (29 hectares) of vernal pools and seasonal wetlands. Due to the increasing rarity of vernal pool habitat, the value of vernal pools and seasonal wetlands to plants and wildlife, their hydrologic function, and their association with many special-status species, the filling of vernal pools and other waters of the U.S. is a significant effect of the Proposed Action.

To mitigate for the loss of wetlands and other waters of the U.S., the Applicants have submitted to the USACE a conceptual mitigation strategy which is described in detail in **Chapter 2.0** and consists of preservation, restoration, and establishment of wetlands at an off-site location(s) and/or purchase of wetland creation/restoration and preservation credits from an approved mitigation bank in western Placer County within the bank's approved service area. According to the conceptual mitigation strategy, the Applicants would provide compensatory mitigation at the following rates.

Vernal Pools. For each 1.00 acre (0.40 hectare) of vernal pool fill (including seasonal depressional wetlands), 1.00 acre (0.40 hectare) of vernal pool will be preserved. For each 1.00 acre (0.40 hectare) of vernal pool fill (including seasonal depressional wetlands), 1.25 acres (0.51 hectare) of compensatory wetlands will be restored, enhanced, or created. The compensatory wetlands will include a minimum of 0.75 acre (0.30 hectare) of vernal pool and no more than 0.50 acre (0.20 hectare) of other wetlands.

All Other Wetlands. For each 1.00 acre (0.40 hectare) of filling of any other wetland type, 1.00 acre (0.40 hectare) of any wetland type will be preserved without regard for in-kind mitigation. The preservation requirement for open water may be met through preservation of 1.00 acre (0.40 hectare) of open water or any wetland type for each 1.00 acre (0.40 hectare) of fill.

For each 1.00 acre (0.40 hectare) of fill of any other wetland type, the compensatory restoration, enhancement, and creation requirement may be met by restoring, enhancing, and/or creating 1.25 acres (0.51 hectare) of any wetland type without regard for in-kind mitigation. The compensatory requirement for open water may be met through restoration, enhancement, or creation of 1.25 acres (0.51 hectare) of open water or any wetland type for each 1.00 acre (0.40 hectare) of fill.

Table 3.4-9a reports the wetland mitigation ratios, and **Table 3.4-9b** presents the estimated acreage of compensatory mitigation that would be provided based on these ratios.

Table 3.4-9a
Summary of Applicant-Proposed Wetland Mitigation Ratios

Impacted Wetland Type	Mitigation Ratio	Mitigation Wetland Type
Vernal Pool	1:1	Preserved Vernal Pool
	0.75:1	Restored, Enhanced, Created Vernal Pool
	0.50:1	Restored, Enhanced, Created Wetland
Other Wetland	1:1	Preserved Wetland (any kind)
	1.25:1	Restored, Enhanced, Created Wetland (any kind)
Open Water	1:1	Preserved Open Water or Wetland (any kind)
	1.25:1	Restored, Enhanced, Created Open Water Wetland (any kind)

Table 3.4-9b
Proposed Action Impacts and Mitigation for Waters of the United States (acres)

Habitat Type	Permit Area Impacts	Non-Permit Area Impacts*	Off-Site Impacts	Total Impacts	Preservation[1]	Creation/ Restoration	Type of Compensatory Wetland
Vernal Pool	27.5	0.0	0.2	27.7	99.8	74.85[2]	Vernal Pool and Other Seasonal Wetlands
Seasonal Wetland	39.6	1.4	2.2	43.2			
Seasonal Wetland Swale	9.1	3.2	0.2	12.5			
Drainage Swale	2.0	0.0	0.0	2.0			
Riverine Seasonal Wetland	14.4	0.0	0.0	14.4			
Seasonal Marsh	0.2	0.0	0.0	0.2	19.4	74.1	Any Wetland Type
Pond	0.9	5.4	0.0	6.3			
Ephemeral Stream	3.8	0.0	0.0	3.8			
Intermittent Stream	4.0	0.0	0.2	4.2			
Channel	0.1	0.0	0.1	0.2			
Canal/Ditch	1.1	0.6	1.2	2.9			
Creek	0.6	0.5	0.1	1.2			
Riverine Seasonal Marsh	0.2	0.0	0.0	0.2			
Riverine Perennial Marsh	0.5	0.0	0.0	0.5			
Total	104	11.1	4.2	119.3	119.2	149.0	

Source: ECORP, 2012b
* *Includes Special Planning Area.*
[1] *1:1 for on- and off-site impacts*
[2] *0.75:1 for on- and off-site impacts*
[3] *Includes acreage mitigated at 1.25:1 for the listed categories of wetlands plus acreage associated with out-of-kind mitigation for vernal pool and seasonal wetland impacts at the rate of 0.5 acre for every acre of impacts to those types of wetlands.*

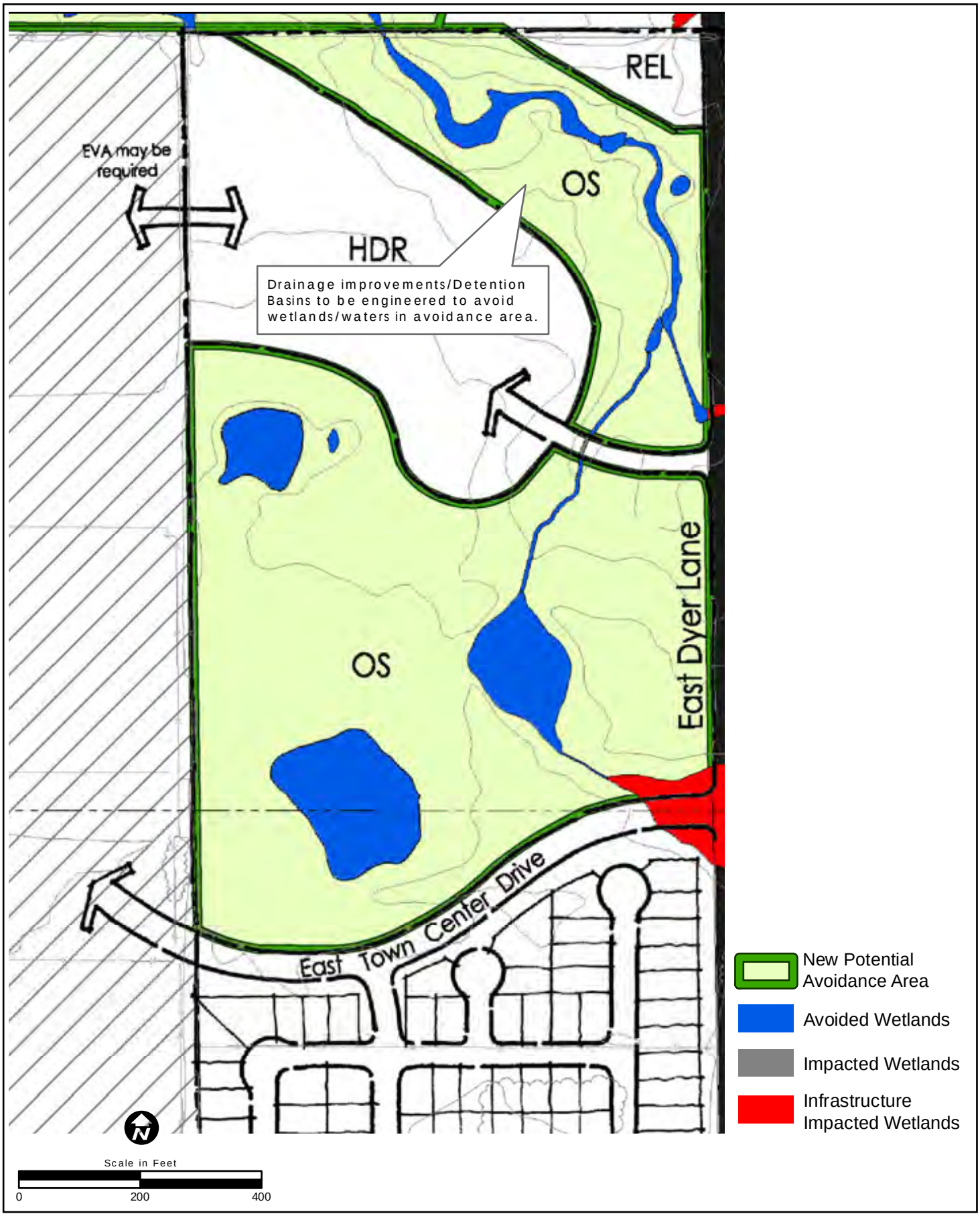
The mitigation strategy put forth by the Applicants is conceptual and subject to change. However, based on the USACE's evaluation of the mitigation strategy as proposed, the USACE has determined that it would not adequately mitigate the impacts of the Proposed Action as it would result in a net loss of wetland area and function. The Applicants propose to compensate for wetland area lost by enhancing, restoring (reestablishment), or creating (establishment) wetlands at a ratio of 1.25 acres (0.51 hectare) for every 1 acre (0.4 hectare) of wetland fill. However, enhancement would not result in new wetland area and thus there would be a net loss in wetland acreage. Vernal pool acreage lost would be compensated at the rate of 0.75 acre (0.30 hectare) for every 1 acre (0.4 hectare) of vernal pool filled with the balance (0.50 acre [0.2 hectare] for every acre [0.4 hectare] filled) of the compensatory acres provided out of kind. There would, therefore, be a net loss of vernal pool area and functions.

As the Applicant-proposed mitigation will not fully mitigate the Proposed Action's impact, **Mitigation Measure BIO-1** will be imposed by the USACE to further reduce the effect. However, because a revised mitigation strategy has not been submitted by the Applicants pursuant to **Mitigation Measure BIO-1**, the USACE cannot fully evaluate its effectiveness in reducing the impacts of the Proposed Action, and has therefore assumed that the impact would remain potentially **significant**.

Alt. 1 Alternative 1 presents a modified land use plan for Property 1B located in the eastern portion of the project site with land uses on the remainder of the project site unchanged from the Proposed Action. Under this alternative land use plan, 17 acres (7 hectares) located within Property 1B would be designated open space, as shown in **Figure 3.4-7, Alternative 1 (Property 1b) – Impact and Avoidance Areas**, and the filling of three large wetlands (approximately 4.1 acres [1.7 hectares]) present in this open space area would be avoided. As land development on the rest of the project site would remain the same as under the Proposed Action, wetland impacts on the rest of the project site would be the same as under the Proposed Action. As a result, this alternative would involve filling of 110.9 acres (44.9 hectares) of wetlands on the project site and 4.2 acres (1.7 hectares) of wetlands off-site for a total of 115.1 acres (46.6 hectares), as shown in **Table 3.4-8**. As with the Proposed Action and based on the significance criteria, the loss of these wetlands would be a **significant** effect of this alternative. Implementation of **Mitigation Measure BIO-1** would reduce effects to wetlands under Alternative A so that there would be no net loss of wetland area and functions. However without a detailed mitigation plan the USACE cannot fully evaluate this effect and has therefore assumed that it would remain potentially **significant**.

Alt. 2 Alternative 2 presents a modified land use plan for Property 3 located in the northeastern portion of the project site adjacent to Baseline Road with land uses on the remainder of the project site unchanged from the Proposed Action. Under this alternative land use plan, an additional 5 acres (2 hectares) located within Property 3 would be designated open space, as shown in **Figure 3.4-8, Alternative 2 (Property 3) – Impact and Avoidance Areas**, and the filling of wetlands (about 2.8 acres [1.1 hectares]) present in this expanded open space area would be avoided. As land development on the rest of the project site would remain the same as under the Proposed Action, wetland impacts on the rest of the project site would be the same as under the Proposed Action. As a result, this alternative would involve filling 112.2 acres (45.4 hectares) of wetlands on the project site and 4.2 acres (1.7 hectares) of wetlands off-site for a total of 116.4 acres (47.1 hectares), as shown in **Table 3.4-8**. As with the Proposed Action and based on the significance criteria, the loss of these wetlands would be a **significant** effect of this alternative. Implementation of **Mitigation Measure BIO-1** would reduce effects to wetlands under Alternative 2 so that there would be no net loss of wetland area and functions. However without a detailed mitigation plan the USACE cannot fully evaluate this effect and has therefore assumed that it would remain potentially **significant**.

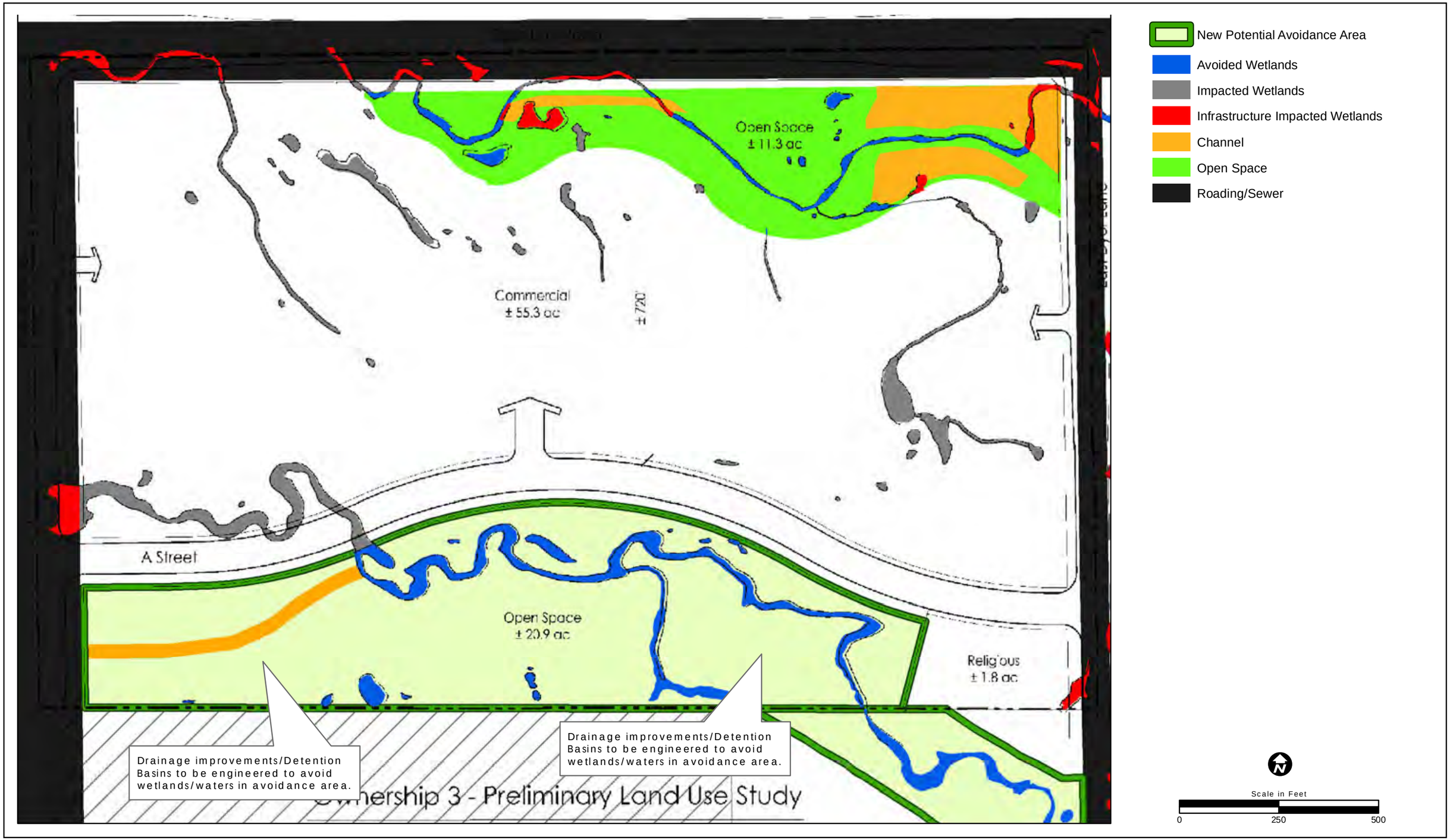
Alt. 3 Alternative 3 presents a modified land use plan for Property 16 located in the southwestern portion of the project site adjacent to Watt Avenue with land uses on the remainder of the project site unchanged from the Proposed Action. Under the alternative land use plan, an additional 48 acres (19.4 hectares) located within Property 16 would be designated open space, as shown in **Figure 3.4-9, Alternatives 3 and 4 (Properties 16 & 17) – Impact and Avoidance Areas**, and the filling of wetlands (approximately 4.9 acres [2.0 hectares]) present in this additional open space area would be avoided. Wetland impacts on the rest of the project site would be the same as under the Proposed Action. As a result, this alternative would involve filling 110.1 acres (44.6 hectares) of wetlands on the project site and 4.2 acres (1.7 hectares) of wetlands off-site for a total of 114.3 acres (46.3 hectares), as shown in **Table 3.4-8**. As with the Proposed Action and based on the significance criteria, the loss of these wetlands would be a **significant** effect of this alternative. Implementation of **Mitigation Measure BIO-1** would reduce effects to wetlands under Alternative 3 such that there would be no net loss of wetland area and functions. However without a detailed mitigation plan the USACE cannot fully evaluate this effect and has therefore assumed that it would remain potentially **significant**.



SOURCE: ECORP Consulting, Inc. – February 2012

FIGURE **3.4-7**

Alternative 1 (Property 1b) – Impact and Avoidance Areas

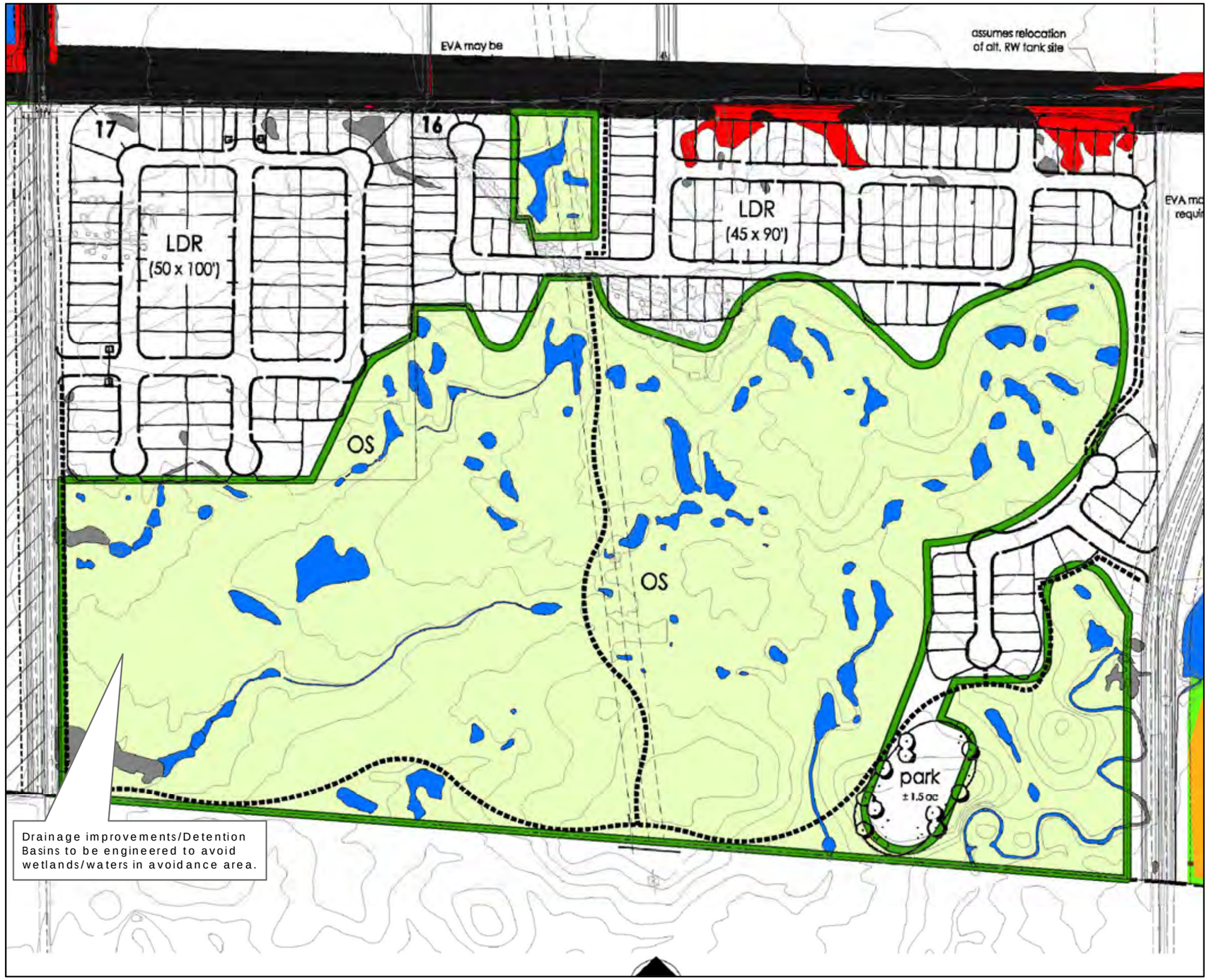


SOURCE: ECORP Consulting, Inc. – February 2012

FIGURE **3.4-8**

Alternative 2 (Property 3) – Impact and Avoidance Areas

1090-002•11/12



New Potential Avoidance Area
Avoided Wetlands
Impacted Wetlands
Infrastructure Impacted Wetlands
Channel
Open Space
Roading/Sewer
Trail

Scale in Feet
0 250 500

SOURCE: ECORP Consulting, Inc. – February 2012

FIGURE **3.4-9**

Alternatives 3 and 4 (Properties 16 & 17) – Impact and Avoidance Areas

1090-002•11/12

Alt. 4 Alternative 4 presents a modified land use plan for Property 17 located in the southwestern portion of the project site adjacent to Property 17 with land uses on the remainder of the project site unchanged from the Proposed Action. Under the alternate land use plan, an additional 2 acres (0.8 hectare) located within Property 17 would be designated as open space, as shown in **Figure 3.4-9, Alternatives 3 and 4 (Properties 16 & 17) – Impact and Avoidance Areas**, and the filling of wetlands (about 0.1 acre [0.04 hectare]) present in this additional open space area would be avoided. Wetland impacts on the rest of the project site would be the same as under the Proposed Action. As a result, this alternative would involve filling 114.9 acres (46.5 hectares) of wetlands on the project site and 4.2 acres (1.7 hectares) of wetlands off-site for a total of 119.1 acres (48.2 hectares), as shown in **Table 3.4-8**. As with the Proposed Action and based on the significance criteria, the loss of these wetlands would be a **significant** effect of this alternative. Implementation of **Mitigation Measure BIO-1** would reduce effects to wetlands under Alternative 4 such that there would be no net loss of wetland area and functions. However without a detailed mitigation plan the USACE cannot fully evaluate this effect and has therefore assumed that it would remain potentially **significant**.

Alt. 5 Alternative 5 presents a modified land use plan for Property 23 located in the western portion of the project site adjacent to Locust Road with land uses on the remainder of the project site unchanged from the Proposed Action. Under the modified land use plan, an additional 19 acres (8 hectares) located within Property 23 would be designated as open space, as shown in **Figure 3.4-10, Alternative E (Property 23) – Impact and Avoidance Areas**, and the filling of wetlands (about 2.0 acres [0.8 hectare]) present in this preserved area would be avoided. Wetland impacts on the rest of the project site would be the same as under the Proposed Action. As a result, this alternative would involve filling 113.0 acres (45.7 hectares) of wetlands on the project site and 4.2 acres (1.7 hectares) of wetlands off-site for a total of 117.2 acres (47.4 hectares), as shown in **Table 3.4-8**. As with the Proposed Action and based on the significance criteria, the loss of these wetlands would be a **significant** effect of this alternative. Implementation of **Mitigation Measure BIO-1** would reduce effects to wetlands under Alternative 5 such that there would be no net loss of wetland area and functions. However without a detailed mitigation plan, the USACE cannot fully evaluate this effect and has therefore assumed that it would remain potentially **significant**.

Combined Alts. 1 through 5 Should all five alternatives (Alternatives 1 through 5) be implemented (Alternatives 1 through 5 combined), in addition to the areas designated as open space under the Proposed Action, an additional 90 acres (36 hectares) of land on the project site would be preserved as open space. As a result of the reduced footprint and focused avoidance of wetlands on the five properties, this alternative would involve filling 102.2 acres (41.4 hectares) of wetlands on the project site and 4.2 acres (1.7 hectares) of wetlands off-site for a total of 106.4 acres (43.1 hectares), as shown in **Table 3.4-8**. As with the Proposed Action and based on the significance criteria, the loss of these wetlands would be a **significant** effect of this alternative. Implementation of **Mitigation Measure BIO-1** would reduce effects to wetlands under Alternatives 1 through 5 combined so that there would be no net loss of wetland area and functions. However without a detailed mitigation plan, the USACE cannot fully evaluate this effect and has therefore assumed that it would remain potentially **significant**.

Table 3.4-8
Proposed Action and Alternatives - Impacts to Waters of the United States (acres)

Alternative	Development Footprint	Open Space	On-Site Impacts	Off-Site Impacts	Total Direct Impact
Proposed Action	4,521	709	115.1	4.2	119.3
No Action Alternative	3,297	1,933	0	0	0
Alternative 1	4,504	726	110.9	4.2	115.1
Alternative 2	4,516	714	112.2	4.2	116.4
Alternative 3	4,473	757	110.1	4.2	114.3
Alternative 4	4,519	711	114.9	4.2	119.1
Alternative 5	4,502	728	113.0	4.2	117.2
Combined Alternatives 1 through 5	4,431	799	102.2	4.2	106.4

Source: ECORP, 2012b.

Mitigation Measure BIO-1: **Wetland Compensatory Mitigation**
(*Applicability – Proposed Action and Alternatives 1 through 5*)

The Applicants shall prepare and present to the USACE a detailed mitigation plan that incorporates permittee-responsible preservation and/or restoration at an off-site location or purchase of constructed wetland creation/restoration credits and preservation credits by the Applicants. The USACE will evaluate the specifics of this plan to determine the actual mitigation requirements based on a number of factors, including but not limited to functions, location (watershed), change in surface area, uncertainty, or risk of failure, and temporal loss of function. The final mitigation requirements will be incorporated into the permit conditions.

SOURCE: ECORP Consulting, Inc. – February 2012

FIGURE **3.4-10**

Alternative 5 (Property 23) – Impact and Avoidance Areas

1090-002•11/12

Impact BIO-2 **Effects on Listed Vernal Pool Invertebrates and Their Habitat**

No Action Suitable habitat for listed vernal pool invertebrates such as vernal pool fairy shrimp and vernal pool tadpole shrimp is present on the project site and in some of the areas affected by the off-site infrastructure improvements. Invertebrate habitat is recognized here as all basin wetlands with vernal pool hydrology. Because the line between vernal pools and seasonal wetlands is often obscure, it is reasonable to apply a geomorphic standard rather than a vegetation standard to determine whether or not a particular feature could support a breeding population of listed invertebrates. Vernal pool hydrology means those wetlands that fill with winter rains and dry by mid spring and do not receive any dry season supplemental water. On the project site, this includes vernal pools, seasonal wetlands, seasonal wetland swales, drainage swales, and riverine seasonal wetlands.

Under the No Action Alternative, no aquatic resources would be filled. In addition to avoiding all waters of the US, the land use plan for the No Action Alternative would create a 50-foot (15-meter) buffer around all aquatic resources that would further protect the avoided resources. Therefore, there would be no direct impacts to vernal pool invertebrate habitat from development under the No Action Alternative. However, should construction activities occur within 250 feet (76 meters) of vernal pools and wetlands, the habitat value of the pools could decline. Furthermore, mass grading, stormwater drainage improvements, and impervious surfaces would likely change the hydrology and geomorphology of the avoided aquatic resources and their catchment areas. Furthermore, the development of the site under the No Action Alternative would fragment the vernal pool habitat and substantially change the landscape context in which these pools occur. For all of these reasons, development of the No Action Alternative could result in indirect effects on vernal pool crustaceans and their habitat. The indirect effect on vernal pool crustaceans and their habitat under the No Action Alternative would be a **significant** effect.

Although **Mitigation Measure BIO-2a** is available to avoid and reduce any indirect impacts of the No Action Alternative on avoided aquatic resources, in the absence of any approval action for the No Action Alternative, the USACE has no jurisdiction to impose this mitigation measure on this alternative. Therefore the indirect effect of this alternative on invertebrate habitat would remain **significant and unavoidable**

Proposed Action (Base Plan and Blueprint Scenario) The Proposed Action would affect listed vernal pool invertebrates and their habitat, resulting in a **significant** impact on the species. Mitigation is proposed that would reduce the effect to a **less than significant** level.

The Proposed Action would directly affect vernal pool invertebrates and their habitat by grading and placing fill in these wetlands that provide suitable habitat for listed vernal pool species. Grading activities would result in invertebrate mortality and permanent loss of vernal pool species habitat. As shown below in **Table 3.4-10, Proposed Action Vernal Pool Invertebrate Aquatic Habitat Impacts**, of the 118.9 acres (48.1 hectares) of potential vernal

pool invertebrate aquatic habitat on the project site, the Proposed Action would directly affect about 97.2 acres (39.3 hectares) of potential aquatic habitat on-site and approximately 2.6 acres (1.1 hectares) off-site, for a total of about 100 acres (40.5 hectares) of impact. In addition, the Proposed Action would result in the removal of the existing land cover on the project site, including annual grassland areas within which the vernal pools and other seasonal wetlands and swales are embedded and are an element of the ecosystem that supports the vernal pool species.

Indirect effects include the alteration of natural topography and drainage patterns within the remaining open space within the project site, and perhaps wetlands on adjacent parcels. An increase in paved and other impermeable surfaces, summer irrigation, and changes in the rates of soil infiltration could potentially alter the hydrology of the open space area and adjacent parcels. Changing the average duration of inundation in seasonal wetlands adjacent to developed areas may adversely impact these areas. In addition, runoff from developed areas may result in contaminants and increased sedimentation in adjacent wetlands and/or waterways and cause a reduction in water quality.

Based on the above, the USACE has determined that the loss of listed vernal pool invertebrates or their habitat as a result of grading, filling, or indirect degradation would be a **significant** effect of the Proposed Action.

As discussed under **Impact BIO-1** above, the Applicants have put forth a conceptual mitigation strategy that is intended to address impacts to wetlands and other waters of the U.S. The mitigation strategy, which is summarized in **Chapter 2.0**, puts forth a landscape approach to mitigation for loss of habitat and will provide both aquatic habitat for vernal pool invertebrates as well as upland habitat that would support the aquatic habitat and would address impacts to the species. However, as stated in **Impact BIO-1**, the USACE has examined the conceptual mitigation strategy and has determined that it will not be adequate to fully mitigate the impacts of the Proposed Action on the waters of the U.S. The USACE has therefore included **Mitigation Measure BIO-1** which will be implemented to mitigate the direct effects of the Proposed Action on waters of the U.S., including vernal pools and other seasonal depressional wetlands that provide habitat for vernal pool invertebrates. Direct impacts to potential vernal pool invertebrate habitat will be mitigated through preservation, and/or restoration, enhancement or creation of vernal pools or similar wetlands. Therefore **Mitigation Measure BIO-1** would also mitigate the Proposed Action's effects on the aquatic habitat of listed vernal pool invertebrates.

In addition, the USACE has determined that **Mitigation Measure BIO-2b** is also required to mitigate the Proposed Action's effects on listed vernal pool invertebrates. The mitigation measure stipulates that the conditions of the USFWS Biological Opinion be incorporated into the terms and conditions of the DA permits. With the implementation of these mitigation measures, the impact would be reduced to **less than significant**.

Table 3.4-10
Proposed Action Vernal Pool Invertebrate Aquatic Habitat Impacts (acres)

Wetland Type	Waters of U.S. on Project Site	Permit Area Impacts	Non-Permit Area Impacts*	Off-Site Impacts	Total Impact
Vernal Pool	32.6	27.5	0.0	0.2	27.7
Seasonal Wetland	42.8	39.6	1.4	2.2	43.2
Seasonal Wetland Swale	16.1	9.1	3.2	0.2	12.5
Drainage Swale	2.1	2.0	0.0	0.0	2.0
Riverine Seasonal Wetland	25.3	14.4	0.0	0.0	14.4
Total	**118.9**	**92.6**	**4.6**	**2.6**	**99.8**

Source: ECORP, 2012b.
* *Includes Special Planning Area.*

Alt. 1 Under Alternative 1, an additional 17 acres (7 hectares) of open space would be designated on the project site, avoiding impacts to an additional 2.5 acres (1 hectare) of vernal pool invertebrate habitat on the project site as compared to the Proposed Action. As shown in **Table 3.4-11, Vernal Pool Invertebrate Aquatic Habitat Direct Impacts**, Alternative 1 would directly impact 94.7 acres (38.3 hectares) of vernal pool invertebrate aquatic habitat on the project site and 2.6 acres (1.1 hectares) off-site for a total of 97.3 acres (39.4 hectares). The loss of vernal pool invertebrates and their habitat as a result of grading, filling, or indirect degradation would be a **significant** effect of the alternative.

Mitigation Measures BIO-1 and **BIO-2b** would reduce impacts on vernal pool invertebrate habitat by providing replacement aquatic habitat and preserving wetlands, and by implementing other mitigation as required by the USFWS. The impact would be reduced to **less than significant** with mitigation.

Alt. 2 Under Alternative 2, an additional 5 acres (2 hectares) of open space would be preserved, avoiding impacts to an additional 2.0 acres (0.8 hectare) of vernal pool invertebrate habitat on the project site as compared to the Proposed Action. As shown in **Table 3.4-11, Vernal Pool Invertebrate Aquatic Habitat Direct Impacts**, Alternative 2 would directly impact 95.2 acres (38.5 hectares) of vernal pool invertebrate habitat on the project site and 2.6 acres (1.1 hectares) off-site for a total of 97.8 acres (39.6 hectares). The loss of vernal pool invertebrates and their habitat as a result of grading, filling, or indirect degradation would be a **significant** effect of the alternative.

Mitigation Measures BIO-1 and **BIO-2b** would reduce impacts on vernal pool invertebrate habitat by providing replacement aquatic habitat and preserving wetlands, and by implementing other mitigation as required by the USFWS. The impact would be reduced to

less than significant with mitigation.

Alt. 3 Under Alternative 3, an additional 48 acres (19 hectares) of open space would be preserved, avoiding impacts to an additional 4.1 acres (1.7 hectares) of vernal pool invertebrate habitat on the project site as compared to the Proposed Action. As shown in **Table 3.4-11, Vernal Pool Invertebrate Aquatic Habitat Direct Impacts**, Alternative 3 would directly impact 93.1 acres (37.7 hectares) of vernal pool invertebrate habitat on the project site and 2.6 acres (1.1 hectares) off-site for a total of 95.7 acres (38.7 hectares). The loss of vernal pool invertebrates and their habitat as a result of grading, filling, or indirect degradation would be a **significant** effect of the alternative.

Mitigation Measures BIO-1 and **BIO-2b** would reduce impacts on vernal pool invertebrate habitat by providing replacement aquatic habitat and preserving wetlands, and by implementing other mitigation as required by the USFWS. The impact would be reduced to **less than significant** with mitigation.

Alt. 4 Under Alternative 4, an additional 2 acres (0.8 hectare) of open space would be preserved, avoiding impacts to an additional 0.1 acre (0.04 hectare) of vernal pool invertebrate habitat on the project site as compared to the Proposed Action. As shown in **Table 3.4-11, Vernal Pool Invertebrate Aquatic Habitat Direct Impacts**, Alternative 4 would directly impact 97.1 acres (39.3 hectares) of vernal pool invertebrate habitat on the project site and 2.6 acres (1.1 hectares) off-site for a total of 99.7 acres (40.3 hectares). The loss of vernal pool invertebrates and their habitat as a result of grading, filling, or indirect degradation would be a **significant** effect of the alternative.

Mitigation Measures BIO-1 and **BIO-2b** would reduce impacts on vernal pool invertebrate habitat by providing replacement aquatic habitat and preserving wetlands, and by implementing other mitigation as required by the USFWS. The impact would be reduced to **less than significant** with mitigation.

Alt. 5 Under Alternative 5, an additional 19 acres (8 hectares) of open space would be preserved, avoiding impacts to an additional 4.1 acres (1.7 hectares) of vernal pool invertebrate habitat on the project site as compared to the Proposed Action. As shown in **Table 3.4-11, Vernal Pool Invertebrate Aquatic Habitat Direct Impacts**, Alternative 5 would directly impact 93.1 acres (37.7 hectares) of vernal pool invertebrate habitat on the project site and 2.6 acres (1.1 hectares) off site for a total of 95.7 acres (38.7 hectares). The loss of vernal pool invertebrates and their habitat as a result of grading, filling, or indirect degradation would be a **significant** effect of the alternative.

Mitigation Measures BIO-1 and **BIO-2b** would reduce impacts on vernal pool invertebrate habitat by providing replacement aquatic habitat and preserving wetlands, and by implementing other mitigation as required by the USFWS. The impact would be reduced to **less than significant** with mitigation.

Combined Alts. 1 through 5 With implementation of Alternatives 1 through 5 combined, an additional 90 acres (36 hectares) of open space would be created on the project site, avoiding impacts to an additional 12.8 acres (5.2 hectares) of vernal pool invertebrate habitat on the project site as compared to the Proposed Action. As shown in **Table 3.4-11, Vernal Pool Invertebrate Aquatic Habitat Direct Impacts**, Alternatives 1 through 5 combined would directly impact 84.4 acres (34.1 hectares) of vernal pool invertebrate aquatic habitat on the project site and 2.6 (1.1 hectares) acres off site for a total of 87 acres (35.2 hectares). The loss of vernal pool invertebrates or their habitat as a result of grading, filling, or indirect degradation would be a **significant** effect of these alternatives combined.

Mitigation Measures BIO-1 and **BIO-2b** would reduce impacts on vernal pool invertebrate habitat by providing replacement aquatic habitat and preserving wetlands, and by implementing other mitigation as required by the USFWS. The impact would be reduced to **less than significant** with mitigation.

Table 3.4-11
Vernal Pool Invertebrate Aquatic Habitat Direct Impacts[1] (acres)

Alternative	Development Footprint	Open Space	On-Site Direct Impacts	Off-Site Direct Impacts	Total Direct Impact
Proposed Action	4,521	709	97.2	2.6	99.8
No Action Alternative	3,297	1,933	0	0	0
Alternative 1	4,504	726	94.7	2.6	97.3
Alternative 2	4,516	714	95.2	2.6	97.8
Alternative 3	4,473	757	93.1	2.6	95.7
Alternative 4	4,519	711	97.1	2.6	99.7
Alternative 5	4,502	728	93.1	2.6	95.7
Combined Alternatives 1 through 5	4,431	799	84.4	2.6	87.0

Source: ECORP, 2012a; ECORP, 2012b

[1] *Habitat includes vernal pools, seasonal wetlands, seasonal wetland swales, drainage swales, and riverine seasonal wetlands.*

Mitigation Measure BIO-2a: Secure Take Authorization for Federally Listed Vernal Pool Invertebrates
(*Applicability – No Action*)

No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates or within adequate buffer areas (generally 250-feet from habitat) until a biological opinion (BO) and incidental take permit has been issued by USFWS.

Mitigation Measure BIO-2b: **Secure Take Authorization for Federally Listed Vernal Pool Invertebrates and Implement Permit Conditions (*Applicability – Proposed Action, Alternatives 1 through 5*)**

No project construction shall proceed in areas supporting potential habitat for federally listed vernal pool invertebrates or within adequate buffer areas (generally 250-feet from habitat) until a biological opinion (BO) and incidental take permit has been issued by the USFWS. The USACE will consult with the USFWS under Section 7 of the Endangered Species Act and if the USACE determines DA permits will be issued for impacts to habitat on the project site, the BO conditions shall be incorporated into the terms and conditions of the DA permits. The Applicants shall abide by permit conditions (including conservation and minimization measures) intended to be completed before on-site construction.

The Applicants will not be required to complete this mitigation measure for direct or indirect impacts that have already been mitigated to the satisfaction of the USFWS through another BO or mitigation plan.

Impact BIO-3 Effects on Federally Listed Plant Species

No Action Vernal pools on the project site represent potential habitat for five federally listed special-status plant species. Although focused special-status plant surveys were conducted on approximately 3,500 acres (1,416 hectares) of the project site during the blooming period for all special-status plant species likely to occur in the area, none of the federally listed plant species were observed on the project site. Furthermore, as discussed in **Subsection 3.4.2.7**, it is unlikely that vernal pool species such as slender orcutt grass, Sacramento Valley orcutt grass, and Hartweg's golden sunburst would occur on the project site because the habitat on the site is marginal and there are no known occurrences of the species in Placer County. Nonetheless, because a substantial portion of the project site has not been surveyed to confirm absence of these plant species, if the species are present on the unsurveyed properties, implementation of the No Action Alternative could result in a **significant** effect on federally listed plant species.

Although **Mitigation Measure BIO-3** is available to avoid and reduce any impacts of the No Action Alternative on federally listed plant species, in the absence of any approval action for the No Action Alternative, the USACE has no jurisdiction to impose this mitigation measure on this alternative. Therefore, the effect of this alternative on federally listed plant species would remain **significant and unavoidable.**

Proposed Action (Base Plan and Blueprint Scenario), Alts. 1 through 5

For reasons presented above, implementation of the Proposed Action or Alternatives 1 through 5 (individually or combined) would have a **significant** effect on federally listed plant species.

Mitigation Measure BIO-3 requires surveys of properties that have not been surveyed for the plant species and the provision of compensatory mitigation by the Applicants in the event that the plants are discovered and removed by the proposed development. Implementation of the mitigation measure would reduce the impact to a **less than significant** level.

Mitigation Measure BIO-3: **Mitigate for Loss of Federally Listed Plant Species (*Applicability –Proposed Action, Alternatives 1 through 5*)**

- *Prior to any ground disturbance on lands that have not been surveyed for federally listed plant species, a protocol survey will be completed by a qualified biologist during the blooming season to determine whether the species are present within the area of ground disturbance. If the species are not discovered, no further action is required.*
- *In the event that the species are discovered within the area to be disturbed and the population(s) cannot be avoided, the Applicants will comply with the conditions in the Biological Opinion (BO) issued by the USFWS.*

Impact BIO-4 Effects on Federally Listed Amphibians and Reptiles Species

No Action

California Red-legged Frog

Marginally suitable habitat for California red-legged frog occurs along Dry Creek and Curry Creek, and the project site is in the historic range of the species. Therefore, the species has a potential to occur on the site. However, this species has not been observed within the portions of the project site that would be developed under the Proposed Action. Furthermore, the species is unlikely to occur because the project site is outside the range of previously recorded observations of California red-legged frog. In addition, reproducing populations of California red-legged frog have not been documented on the floor of the Central Valley since around 1947, and are considered to be extirpated. The nearest documented occurrence of this species is approximately 13 miles (21 kilometers) east of the site. As a result, the likelihood of this species occurring within the project site and in the area of infrastructure improvements is very low. Therefore, No Action Alternative is not likely to adversely affect this species. The effect of the No Action Alternative on California red-legged frog would be **less than significant**. No mitigation is required.

California Tiger Salamander

Marginally suitable habitat for California tiger salamander occurs on the project site and the project site is in the historic range of the species. Therefore, the species has a potential

to occur on the site. However, this species has not been observed within the project site. Furthermore the project site is outside the range of previously recorded observations for this species and the nearest documented occurrence of California tiger salamander is approximately 20 miles (32 kilometers) southwest of the project site. As a result, the likelihood of this species occurring within the project site and in the area of infrastructure improvements is very low and the No Action Alternative is not likely to adversely affect this species. The effect of the No Action Alternative on California tiger salamander would be **less than significant**. No mitigation is required.

Giant Garter Snake

The project site has not been surveyed for this species. However, suitable habitat for giant garter snake occurs on the project site and adjacent to it and within off-site improvement areas, and the project site is in the historic range of the species. Although there are no documented occurrences on the site, the nearest documented occurrence of this species is located approximately 1.2 miles (1.9 kilometers) west of the project site in the Natomas Basin. As such, the species has a potential to occur on the site and in the area of off-site improvements. Development on the project site and in the off-site infrastructure areas under the No Action Alternative has the potential to affect the species.

Most infrastructure construction is temporary and surface conditions would generally be returned to their original condition. However, roadway and intersection improvements are expected to result in a small amount of potential habitat conversion. Similarly, some habitat conversion would also occur on the project site. Direct effects to giant garter snake due to the No Action Alternative could include loss of both potential breeding and aestivation habitat. The development of upland habitat could also cause direct mortality to aestivating snakes by the crushing and collapsing of burrows by construction machines. Indirect effects include increased sedimentation to their aquatic habitats, reduction in the quality of water, and changes in water temperature that may prohibit giant garter snake activity. In addition, increased human activity in the area may increase the likelihood of predators and other human-related disturbances (e.g., increased traffic-related mortalities) to giant garter snakes. This would be a **significant** effect.

Although **Mitigation Measure BIO-4a** is available to avoid and reduce any indirect impacts of the No Action Alternative on giant garter snake, in the absence of any approval action for the No Action Alternative, the USACE has no jurisdiction to impose this mitigation measure on this alternative. Therefore the indirect effect of this alternative on giant garter snake would remain **significant and unavoidable.**

Proposed Action (Base Plan and Blueprint Scenario)

As discussed above, although the project site contains marginally suitable habitat for California red-legged frog and California tiger salamander, both species have not been observed on the site and are not expected to occur there. Therefore, the Proposed Action would result in a **less than significant** impact on these two species. No mitigation is required.

With respect to giant garter snake, suitable habitat for the species occurs on-site and in drainages near the sites of roadway and intersection improvements as well as in Dry Creek. Therefore, construction of the Proposed Action, which includes on-site development as well as off-site infrastructure improvements, would have the potential to adversely affect giant garter snake. As with the No Action Alternative, the effect of the Proposed Action on this species would be **significant. Mitigation Measure BIO-4b** would mitigate impacts on giant garter snake to a **less than significant** level.

Alts. 1 through 5

As discussed above, California red-legged frog and California tiger salamander are not likely to occur on the project site or in the area of off-site infrastructure improvements. Therefore Alternatives 1 through 5 (individually or combined) would result in a **less than significant effect** on these species. No mitigation is required.

However, on-site development and off-site infrastructure improvements which would also be required for Alternatives 1 through 5 (individually or combined) have the potential to affect giant garter snake. Therefore, as with the No Action Alternative and the Proposed Action, the effect of Alternatives 1 through 5 on giant garter snake would be **significant. Mitigation Measure BIO-4b** would mitigate impacts on giant garter snake to a **less than significant** level.

Mitigation Measure BIO-4a: **Secure Take Authorization for Federally Listed Giant Garter Snake**
(*Applicability – No Action*)

No project construction shall proceed in areas supporting potential habitat for federally listed giant garter snake until a BO and incidental take permit has been issued by USFWS.

Mitigation Measure BIO-4b: **Secure Take Authorization for Federally Listed Giant Garter Snake and Implement Permit Conditions**
(*Applicability – Proposed Action, Alternatives 1 through 5*)

If a BO is required, no project construction shall proceed until a BO has been issued by the USFWS. The USACE will consult with the USFWS and incorporate the BO conditions into the terms and conditions of the DA permits. The Applicant(s) will abide by permit conditions (including conservation and minimization measures) intended to be completed before on-site construction.

Impact BIO-5 Effects on Valley Elderberry Longhorn Beetle

No Action The potential effects of the No Action Alternative on Valley elderberry longhorn beetle (VELB), a federally listed species, depend on the existence of elderberry shrubs within the project site. Focused field surveys conducted on approximately 935 acres of the project site have not detected any elderberry shrubs (ECORP 2012b). However, elderberry shrubs could occur on properties that have not been surveyed. Because the presence/absence of elderberry shrubs has not been determined on the un-surveyed portions of the site, development within these areas, which would occur under the No Action Alternative, could require the removal of elderberry shrubs and result in a **significant** effect on VELB and/or its habitat.

Although **Mitigation Measure BIO-5a** is available to avoid and reduce any indirect impacts of the No Action Alternative on VELB, in the absence of any approval action for the No Action Alternative, the USACE has no jurisdiction to impose this mitigation measure on this alternative. Therefore the indirect effect of this alternative on VELB would remain **significant and unavoidable.**

Proposed Action As noted above, elderberry shrubs could occur on properties that have not been surveyed. Because the presence/absence of elderberry shrubs has not been determined on the un-surveyed portions of the site, development within these areas could require the removal of elderberry shrubs and result in a **significant** effect on VELB if the species is present in the shrubs to be removed or by removing potential VELB habitat. **Mitigation Measure BIO-5b** would mitigate this effect to a **less than significant** level.

Alts. 1 through 5 For the same reasons presented above for the No Action Alternative and the Proposed Action, Alternatives 1 through 5 (individually or combined) could result in a significant effect on VELB and the same mitigation measure (**Mitigation Measur**e **BIO-5b**) would reduce the effect to a **less than significant** level.

Mitigation Measure BIO-5a: Secure Take Authorization for Federally Listed VELB (*Applicability – No Action*)

No project construction shall proceed in areas supporting habitat for federally listed valley elder berry longhorn beetle until a BO and incidental take permit has been issued by USFWS.

Mitigation Measure BIO-5b: Secure Take Authorization for Federally Listed VELB and Implement Permit Conditions (*Applicability – Proposed Action, Alternatives 1 through 5)*

If a BO is required, no project construction shall proceed until a BO has been issued by the USFWS. The USACE will consult with the USFWS and incorporate the BO conditions into the terms and conditions of the DA permits. The Applicant(s) will abide by permit conditions (including conservation and minimization measures) intended to be completed before on-site construction.

Impact BIO-6 Effects on Delta Smelt

No Action

Delta smelt occurs in open surface waters and shoal areas of rivers. Except for a small section of Dry Creek, potential habitat for Delta smelt is not present on the project site. No occurrences of Delta smelt are reported from the Dry Creek watershed and the nearest documented occurrence is about 29 miles from the project site. Therefore, the development of the project site under the No Action Alternative would not result in any direct effects to Delta smelt. The impact would be **less than significant**. Indirect effects on fish species are discussed below under Impact BIO-12 and BIO-13.

Proposed Action (Base Plan and Blueprint Scenario), Alts. 1 through 5

For the same reasons presented above for the No Action Alternative, implementation of the Proposed Action or Alternatives 1 through 5 (individually or combined) would have a **less than significant** direct effect on Delta smelt. No mitigation is required.

Impact BIO-7 Effects on State Special-Status Plant and Wildlife Species

No Action

Special-Status Plants

As discussed in **Section 3.4.2.10**, vernal pools on the project site represent potential habitat for special-status plant species. Although focused special-status plant surveys were conducted during the blooming period for all special-status plant species likely to occur in the area, no state special-status plant species were observed on the project site. As there are no state special-status plant species known to or likely to occur on the project site, implementation of the No Action Alternative would not affect state special-status plant species. The effect of the No Action Alternative on state special-status plant species would be **less than significant.** No mitigation is required.

Western Pond Turtle

No western pond turtles were found during surveys of the project site. However, potential habitat for western pond turtle likely occurs on the properties surveyed and could occur on properties requiring additional resource identification. However, the No Action Alternative would not result in development in areas with aquatic resources that could support western pond turtles. The effect on the species would be **less than significant**. No mitigation is required.

Proposed Action (Base Plan and Blueprint Scenario)

Special Status Plants

As there are no state special-status plant species known to or likely to occur on the project site, implementation of the Proposed Action would not affect state special-status plant species. The effect would be **less than significant**. No mitigation is required.

Western Pond Turtle

As noted above, no pond turtles were found during surveys of the project site. However, potential habitat for western pond turtle likely occurs on the properties surveyed and could occur on properties requiring additional resource identification. Removal of habitat for this species would be a **significant** effect of the Proposed Action. **Mitigation Measure 4.4-4** in the PVSP EIR was adopted by Placer County at the time of the approval of the PVSP (Proposed Action Base Plan scenario) to address this impact and will be enforced by the County. Although the Blueprint scenario was evaluated for its impacts in the PVSP EIR by the County, that scenario was not approved by the County and therefore **Mitigation Measure 4.4-4** was not imposed by the County on that scenario. The USACE assumes that Placer County would impose the same mitigation measure on the Proposed Action Blueprint scenario to address this effect.

The mitigation measure requires a focused survey to determine the presence or absence of this species. If pond turtles are found on the properties surveyed, locations of these occurrences shall be mapped and a detailed mitigation/conservation plan that provides for "no net loss" of individuals of the species or its habitat shall be developed and implemented. Placer County concluded that with this mitigation, the effect will be reduced to a less than significant level. The USACE agrees with the conclusion in the PVSP EIR and finds that this effect would be reduced to **less than significant**.

Alts. 1 through 5

Special Status Plants

As discussed above, the project site does not support state special-status plant species. Therefore the effect of Alternatives 1 through 5 (individually or combined) on state special-status plant species would be **less than significant.** No mitigation is required.

Western Pond Turtle

Alternatives 1 through 5 (individually or combined) would result in similar direct and indirect impacts on western pond turtle habitat as described above for the Proposed Action. Based on the significance criteria and for the reasons presented above, the effect on western pond turtle would be **significant**. **Mitigation Measure 4.4-4** would mitigate the effect. As noted above, this mitigation measure was adopted by Placer County at the time of the approval of the PVSP. The USACE assumes that Placer County would impose the same mitigation measure on Alternatives 1 through 5 individually or combined to address this effect. Placer County concluded in the case of the Proposed Action that with this mitigation, the effect will be reduced to a less than significant level. The USACE

agrees with the conclusion in the PVSP EIR and finds that this effect of Alternatives 1 through 5 individually or combined would similarly be reduced to **less than significant**.

PVSP EIR Mitigation Measure 4.4-4: Western Pond Turtle
(*Applicability – Proposed Action, Alternatives 1 through 5*)

Construction shall be designed to avoid impacts to potential habitat for western pond turtle, if feasible. If construction is required in areas of potential habitat, then a focused survey for this species shall be conducted prior to approval of engineering plans. The survey is required to determine the presence or absence of this species on the properties surveyed. If pond turtles are found on the properties surveyed, locations of these occurrences shall be mapped.

A detailed mitigation/conservation plan that provides for "no net loss" of individuals of the species or its habitat shall be developed upon confirming the presence of this species on the properties surveyed. If this species is not found on the properties surveyed, no further studies are necessary.

*The replacement of western pond turtle habitat required by this measure could be partially or entirely included within **Mitigation Measure 4.4-1**, to the extent that the mitigation area includes areas appropriate for western pond turtle.*

Impact BIO-8 Effects on Protected Raptor Species and Other Nesting Birds

No Action Ground disturbing activities and tree removal under the No Action Alternative would affect potential nesting habitat of protected bird species. Construction disturbance as part of the project site development could result in active nest abandonment, removal of an active nest, or otherwise injure a raptor or nesting birds. This would be a **significant** effect. However, with mitigation the effect would be **less than significant**.

Grassland and trees within the project site provide suitable foraging habitat and nesting sites for several protected raptor species. Disturbance resulting in active nest abandonment or removal of an active nest or otherwise injuring, pursuing, or killing a protected raptor is prohibited under the Federal Migratory Bird Treaty Act, the California Endangered Species Act, and/or the California Fish and Game Code. The potential effects on nesting birds are presented below.

Burrowing Owl

Burrowing owl has not been recorded within the properties surveyed, but potential foraging and nesting habitat for burrowing owls is present on the project site. Burrowing owl nests could be established in the future. Burrowing owls nest in burrows, so site preparation activities could destroy or damage a nest, or disturb nesting owls. The disruption of nesting burrowing owls would be a **significant** effect.

Mitigation Measure 4.4-5 in the PVSP EIR was adopted by Placer County at the time of the approval of the PVSP to address the Proposed Action Base Plan's effect on burrowing owls.

The USACE assumes that Placer County would impose the same mitigation measure on the No Action Alternative to address this effect. The mitigation measure requires a pre-construction survey for burrowing owl nests, and if active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. The mitigation measure also provides for passive relocation of burrowing owls and compensatory mitigation for loss of habitat. Placer County concluded that with this mitigation, the effect will be reduced to a less than significant level. The USACE agrees with the conclusion in the PVSP EIR and finds that this effect would be reduced to **less than significant**.

Swainson's Hawk

Although no Swainson's hawk nests have been observed within the project site, they have been recorded within 1 mile (2 kilometers) of the project site. Swainson's hawks are known to nest within 10 miles (16 kilometers) of foraging habitat. Since the majority of the project site would be considered potential foraging habitat, development of the No Action Alternative would eliminate grassland foraging habitat for this species. Removal of potential foraging habitat and nesting trees for Swainson's hawk would be a **significant** effect. CDFW recommends that projects that result in the loss of potential habitat for Swainson's hawk (which includes grasslands) within 10 miles (16 kilometers) of an active nest site provide mitigation for that loss. **Mitigation Measure 4.4-1b** in the PVSP EIR was adopted by Placer County at the time of the approval of the PVSP to address the Proposed Action Base Plan's effect on Swainson's hawk habitat. This mitigation measure has been incorporated by the Applicants in their proposed mitigation strategy. The USACE assumes that Placer County would impose the same mitigation measure on the No Action Alternative to address this effect. The mitigation measure requires preservation of off-site foraging habitat at ratios recommended by the CDFW: 1:1 for each acre lost within 1 mile (2 kilometers) of a nest, 0.75:1 for each acre lost within 1 to 5 miles (2 to 8 kilometers) of a nest, and 0.5:1 for each acre lost within 5 to 10 miles (8 to 16 kilometers) of a nest. It also requires that any Swainson's hawk nesting trees that are removed be replaced at a 15:1 ratio in areas suitable for Swainson's hawk foraging and nesting. This measure would ensure that there is "no net loss" of nesting trees over time. Placer County concluded that with this mitigation, the effect will be reduced to a less than significant level. The USACE agrees with the conclusion in the PVSP EIR and finds that the effect of the No Action Alternative on Swainson's hawk would be reduced to a **less than significant** level with mitigation.

Other Raptors and Nesting Birds

Raptors, including red-tailed hawk, white-tailed kite, and great horned owl, are likely to nest within the project site. Special-status species surveys within the project site documented the presence of one potentially active raptor nest in a small tree along the seasonal marsh area in the south-central portion of the project site. Other nests could be established over time. If an active nest is located in a tree slated for removal or pruning, the

nest could be lost and any eggs or young could be destroyed. The No Action Alternative could result in removal of nest trees. As mentioned above, all raptors are protected under the Federal Migratory Bird Treaty Act and Section 3503.5 of the California Fish and Game Code. In addition, construction activities near active nests could disturb nesting raptors, and result in the abandonment of a nest. Consequently, construction near trees containing active nests could result in a **significant** effect. Similarly, Tricolored blackbird and Loggerhead shrike, while not observed on-site, could nest and forage within sections of the project site. Ground disturbing activities and tree removal for project implementation would affect potential nesting habitat of protected bird species. Construction disturbance as part of the project site development could result in active nest abandonment, removal of an active nest, or otherwise injure a raptor or nesting birds. This would be a **significant** effect. **Mitigation Measures 4.4-7** and **4.4-8** in the PVSP EIR were adopted by Placer County at the time of the approval of the PVSP to address the Proposed Action Base Plan's effects on raptors and nesting birds. The USACE assumes that Placer County would impose the same mitigation measure on the No Action Alternative to address this effect. Placer County concluded that with this mitigation, the effect will be reduced to a less than significant level. The USACE agrees with the conclusion in the PVSP EIR and finds that the effect on raptors would be reduced to a **less than significant** level with mitigation.

Proposed Action (Base Plan and Blueprint Scenarios)

Ground disturbing activities, which would remove approximately 3,520 acres (1,425 hectares) of grassland foraging habitat, and tree removal for the development of the Proposed Action (both scenarios) would also affect potential nesting habitat of protected bird species in a manner described above for the No Action Alternative. These would be **significant** effects of the Proposed Action.

Mitigation Measures 44.4-1b, 4.4-5, 4.4-7 and **4.4-8** in the PVSP EIR were adopted by Placer County at the time of the approval of the PVSP to address the Proposed Action Base Plan's effect on burrowing owls, Swainson's hawk, other raptors, and nesting birds. These measures require avoidance and protection of active nest sites. The USACE assumes that Placer County would impose the same mitigation measures on the Proposed Action Blueprint scenario to address these effects. Placer County concluded that with these mitigation measures, the effects will be reduced to a less than significant level. The USACE agrees with the conclusion in the PVSP EIR and finds that the effect on burrowing owls, Swainson's hawk, other raptors, and nesting birds would be reduced to a **less than significant** level with mitigation.

Alts. 1 through 5

Ground disturbing activities and tree removal for the development of Alternatives 1 through 5 (individually or combined) would also affect potential nesting habitat and foraging habitat of protected bird species in a manner described above for the No Action Alternative. These would be **significant** effects. The USACE assumes that Placer County would impose the same mitigation measures (**Mitigation Measures 4.4-1b, 4.4-5, 4.4-7,** and **4.4-8**) on these alternatives to address these effects. Placer County concluded that with this

mitigation, the effect will be reduced to a less than significant level. The USACE agrees with the conclusion in the PVSP EIR and finds that the effects of Alternatives 1 through 5, individually or combined, on burrowing owls, Swainson's hawk, other raptors, and nesting birds would be reduced to a **less than significant** level with mitigation.

PVSP EIR Mitigation Measure 4.4-5: Burrowing Owl
(*Applicability – Proposed Action and All Alternatives*)

When construction is proposed during the burrowing owl breeding season (April- September), a focused survey for burrows shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify any active burrows. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Burrows that must be removed as a result of Specific Plan implementation shall be removed during the non-breeding season (October to March). If no active nests are found during the focused survey, no further mitigation will be required.

If burrows are removed as a result of implementation and there is suitable habitat on-site, on-site passive relocation shall be required. Owls will be encouraged to move from occupied burrows to alternate natural or artificial burrows that are beyond 50 meters from the impact zone and that are within or contiguous to a minimum of 6.5 acres of foraging habitat for each pair of relocated owls. Relocation of owls should only be implemented during the non-breeding season. On-site habitat shall be preserved in a conservation easement and managed to promote burrowing owl use of the site.

If there is not suitable habitat on-site, off-site passive relocation shall be required. Off-site habitat must provide suitable burrowing owl habitat. Land shall be purchased and/or placed in a conservation easement in perpetuity and managed to maintain suitable habitat. Off-site mitigation shall use one of the following ratios:

1. *Replacement of occupied habitat with occupied habitat: 1.5 times 6.6 (9.75) acres per pair or single bird.*
2. *Replacement of occupied habitat with habitat contiguous to currently occupied habitat: 2 times 6.5 (13.0) acres per pair or single bird.*
3. *Replacement of occupied habitat with suitable unoccupied habitat: 3 times 6.5 (19.5) acres per pair or single bird.*

The replacement of burrowing owl habitat required by this measure could be partially or entirely included within Mitigation Measure 4.4-1, to the extent that the mitigation area includes areas appropriate for burrowing owl.

PVSP EIR Mitigation Measure 4.4-1b: Swainson's Hawk
(*Applicability – Proposed Action and All Alternativ*es)

Swainson's hawk foraging habitat shall be mitigated according to California Department of Fish and Game Guidelines: 1 acre for each acre lost within 1 mile of a nest, 0.75 acre for each acre lost within one to 5 miles of a nest, and 0.5 acre lost within 5 to 10 miles of a nest, unless otherwise addressed through the Placer County Conservation Plan (PCCP). Additionally, the applicant shall be required to obtain a CESA take permit for any nest tree that may be removed as part of any proposed construction under the Specific Plan. Additional mitigation measures for the loss of active nest trees shall include planting of suitable nest trees at a 15:1 ratio on suitable foraging habitat areas within west Placer County.

PVSP EIR Mitigation Measure 4.4-7 and

PVSP EIR Mitigation Measure 4.4-8: Other Bird Species, including Raptors, Loggerhead shrike and Tricolored blackbird
(*Applicability – Proposed Action and All Alternatives*)

Non Raptor Species: *Prior to construction activities, a focused survey for non-raptor special status bird nests and/or nesting colonies shall be conducted by a qualified biologist within 30 days prior to the beginning of construction activities in order to identify active nests within the construction area. If active nests are found, no construction activities shall take place within 500 feet of the nest and/or nesting colony until the young have fledged. The biologist shall consult with the CDFW, particularly with respect to vegetation removal as a result of project construction. If no active nests and/or nesting colonies are found during the focused survey, no further mitigation will be required.*

This measure would ensure that nests and/or nesting colonies are avoided when active, so that eggs and young would be protected. Once the young have fledged their nests, the nests can be removed without harm to the birds.

Raptor Species: When *construction is proposed during the raptor breeding season (March to early September), a focused survey for raptor nests shall be conducted within 30 days prior to the beginning of construction activities by a qualified biologist in order to identify active nests on-site. If active nests are found, no construction activities shall take place within 500 feet of the nest until the young have fledged. Trees containing nests shall be removed during the non-breeding season (late September to March). If no active nests are found during the focused survey, no further mitigation will be required. This measure will ensure that active nests are not moved or substantially disturbed during the breeding season, so that raptor eggs and young are not destroyed or abandoned as a result of construction.*

Impact BIO-9 Effects on Special-Status Bats

No Action, Proposed Action, Alts. 1 through 5

No Action Alternative, Proposed Action and Alternatives 1 through 5 (individually or combined) could result in a **significant** effect on special-status bat species. However, with mitigation the effect would be **less than significant**.

Three special-status bats potentially occur on the project site, including pallid bat,

Townsend's big-eared bat, and Yuma myotis, which are all state species of special concern. Pallid bat occurs primarily in shrubland, woodlands, and forested habitats, but can also occur in grasslands. Townsend's bat occurs in a variety of woodland and open habitats, and the Yuma bat occurs primarily in forests and woodlands. All three species roost in mines, caves, large hollow trees, and occasionally in large open buildings that are usually abandoned or infrequently inhabited. These species of bats could occupy structures (such as bridges) located within the project site or in the area of off-site infrastructure improvements. Construction activities could destroy roosting sites and/or disturb roosting bats, which would be a **significant** effect. **Mitigation Measure 4.4-9** in the PVSP EIR was adopted by Placer County at the time of the approval of the PVSP to address the Proposed Action Base Plan's effect on special-status bat species. The USACE assumes that Placer County would impose the same mitigation measure on the No Action Alternative, the Proposed Action Blueprint scenario, or Alternatives 1 through 5 (individually or combined) to address this effect. The mitigation measure requires a pre-construction survey for bat roosts, and if roosts are found, implementation of appropriate steps to avoid impacts. Placer County concluded that with this mitigation, the effect will be reduced to a less than significant level. The USACE agrees with the conclusion in the PVSP EIR and finds that the effect on special-status bats would be reduced to a **less than significant** level with mitigation.

PVSP EIR Mitigation Measure 4.4-9: Roosting Bats
(*Applicability – Proposed Action and All Alternatives*)

Prior to construction, a qualified biologist shall survey any affected structures for evidence of bat roosts (e.g., bat guano). If roosts are found, they shall be removed in April, September, or October in order to avoid the hibernation and maternity seasons. Appropriate exclusion methods will be used, as needed, during habitat removal.

The initial assessment will involve looking for bats or bat signs such as guano, urine staining, and culled food parts, and will identify those specific locations that represent potential habitat (i.e., which specific buildings, trees, bridges could support roosting bats). If no potential habitat is identified or no potential habitat will be affected (i.e., removed), no further measures are required.

Bat habitat can be removed with minimal impact to the resident bat population if it is done outside of the hibernation season (November through March) and outside of the maternity season (May through August). During the removal period, a roost exit survey shall be conducted prior to habitat removal. If bats are detected, standard humane exclusion methods shall be implemented (e.g., placing plastic over roost entrance areas such that bats can exit the roost but not return). Exclusion shall be conducted for two nights prior to habitat removal and habitat removal shall occur immediately following implementation of these exclusion measures. If there is a delay, then the exclusion measures shall be repeated. During the maternity season (May through August), habitat removal may occur following a roost exit survey that confirms no bats are present; however, if bats are detected they may not be excluded until the end of the maternity season. During the hibernation season (November through March), bats do not exit the roost, so exit surveys cannot be used to assess presence and removal shall be delayed to the end of this period.

If bats must be excluded, the project proponent shall work with a qualified biologist to determine if any additional steps (such as installation of alternative roost habitat in the form of bat boxes) are appropriate for the particular habitat. Determination of these additional measures will depend on the species present and their specific ecological preferences/requirements. Other steps could include improvement of other avoided bat habitat or design of new project elements such as bridges to be "bat-friendly."

Impact BIO-10 Effects on Wildlife Movement

No Action, Proposed Action (Base Plan and Blueprint Scenario), Alts. 1 through 5

Development of the No Action Alternative could impede the movement of wildlife by disturbing and/or blocking local movement corridors. Similarly, site development under the Proposed Action and Alternatives 1 through 5 would also have the potential to impede wildlife movement. The effect would be **significant**. However, with mitigation the effect would be **less than significant**.

Wildlife movement activities generally fall into one of three movement categories: (1) dispersal (e.g., of juvenile animals from natal areas or individuals extending range distributions), (2) seasonal migration, and (3) movement related to home range activities (foraging for food or water, defending territories, or searching for mates, breeding areas, or cover).

Wildlife corridors link areas of suitable wildlife habitat that are otherwise separated by changes in vegetation or human disturbance. The fragmentation of open space areas by urbanization creates isolated islands of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, some wildlife species, especially the larger and more mobile mammals, would not likely persist over time because fragmentation prohibits the infusion of new individuals and genetic information. Corridors mitigate the effects of this fragmentation by (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange, (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events, and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, and other needs.

Development of the project site under any of the alternatives could impede the movement of wildlife by disturbing and/or blocking local movement corridors. Additionally, many of those species that would normally use the grasslands as a foraging area would not as easily move across the future urbanized landscapes. Wildlife species that are adapted to live in grasslands or that move between isolated pockets of water would not easily move across the future urbanized landscapes and would be displaced, and/or concentrate their movements within the remaining open space. With development of the site, wildlife would be naturally restricted to the remaining areas of designated

open space such as streams and the transmission line corridors. Thus, the creeks and the transmission corridors would become wildlife corridors through the urbanized landscape.

The introduction of outdoor lighting can also have a negative effect on wildlife by interfering with nocturnal movement and causing disorientation, making individuals more vulnerable to predation or making it more difficult for them to capture prey. Passive recreational use along nature or bicycle trails may also have indirect impacts such as interfering with foraging, breeding, or movement.

The direct and indirect effects on wildlife movement would be **significant** effects. **Mitigation Measure BIO-10** would reduce the effect on wildlife movement to a **less than significant** level.

Mitigation Measure BIO-10: **Wildlife Movement Protection Policies (*Applicability –Proposed Action, and All Alternatives*)**

To protect the long-term habitat of the stream channels and the transmission line corridors and their potential use by wildlife as movement corridors, the Applicant(s) shall ensure that movement corridors are not obstructed and human intrusion into the corridor is minimized. These measures shall include, but not be limited to: the use of either bridges or culverts large enough that wildlife have enough space to pass through road crossings without having to travel over the road surface, the implementation of bank stabilization measures, and/or restoration and revegetation of stream corridor habitat that has been damaged due to the project's construction. Furthermore, the recreational trails shall be lined by post and cable fence and signage shall be used to direct trail users to stay within the designated trail corridor and discourage access to the riparian habitat by humans and pets. The trails shall be closed after dark and exterior lighting on the trail shall be minimized to the extent acceptable to the County.

Impact BIO-11 Loss of Riparian Habitat

No Action The No Action Alternative would not result in the removal of riparian habitat as no activities that would affect waters of the U.S. would occur under this alternative on the project site or in the area of off-site infrastructure improvements. Any removal of riparian habitat would be minimal. The effect on riparian habitat would be **less than significant**. No mitigation is required.

Proposed Action (Base Plan and Blueprint Scenario) Riparian habitat occurs along some minor streams and along Dry Creek. No direct adverse effects are anticipated within the project site because the riparian habitat associated with Dry Creek, the riverine seasonal marsh/riparian system in the southern portion of the project site (i.e., Property 19), and the intermittent stream/riparian unit between Properties 4 and 7 would all be located in areas designated open space and therefore these riparian areas would not be altered or removed. The Proposed Action development footprint avoids impacts to Dry Creek riparian habitat by designating open space adjacent to the riparian corridor and is consistent with the 100-foot (30-meter)

setback from perennial streams required by the General Plan. The Proposed Action includes approximately 35 acres (14 hectares) of oak woodland to be preserved along the upstream portion of its adjacency with Dry Creek. This oak woodland would represent a wide node of high quality wildlife habitat in the Dry Creek corridor that would provide migratory linkage with other nodes, both upstream and downstream. Given these considerations, indirect effects resulting from encroachment of the Proposed Action would be **less than significant**.

Impacts could, however, occur in infrastructure areas, including widening associated with the Watt Avenue bridge at Dry Creek. Construction of stream crossings such as the Watt Avenue bridge could result in the disturbance of stream channels and loss of riparian habitat. Both the State of California (FGC 1601) and the Placer County General Plan have identified streams and riparian areas as important natural resources (see General Plan Policies 6.C.1, 6.C.5, 6.C.9, 6.D.3, 6.D.7, 6.D.14, 6.E.1, and 6.E.2). This would be a **significant** effect. **Mitigation Measures 4.4-12a** and **4.4-12b** in the PVSP EIR were adopted by Placer County at the time of the approval of the PVSP to address the Proposed Action Base Plan's impact on riparian habitat. The USACE assumes that Placer County would impose the same mitigation measure on the Proposed Action Blueprint scenario to address this effect. The mitigation measures require that a streambed alteration agreement be obtained for any work in the streams and compliance with permit conditions. Placer County concluded that with this mitigation, the effect will be reduced to a less than significant level. The USACE agrees with the conclusion in the PVSP EIR and finds that the effect on riparian habitat would be reduced to a **less than significant** level with mitigation.

Alts. 1 through 5

Implementation of Alternatives 1 through 5, individually or combined, would result in similar effects to riparian habitat as discussed above for the Proposed Action. These alternatives would not directly affect on-site riparian habitat, but construction of stream crossings at Dry Creek would result in a **significant** effect. As noted above, **Mitigation Measures 4.4-12a** and **4.4-12b** in the PVSP EIR were adopted by Placer County at the time of the approval of the PVSP to address this effect. The USACE assumes that Placer County would impose the same mitigation measure on the alternatives to address this effect. Placer County concluded that with this mitigation, the effect will be reduced to a less than significant level. The USACE agrees with the conclusion in the PVSP EIR and finds that the effect on riparian habitat would be reduced to a **less than significant** level with mitigation.

PVSP EIR Mitigation Measure 4.4-12a and

PVSP EIR Mitigation Measure 4.4-12b: Riparian Habitat

(*Applicability – Proposed Action, Alternatives 1 through 5*)

Prior to the issuance of a grading permit, a Streambed Alteration Agreement shall be obtained from CDFW, pursuant to Section 1600 et seq. of the California Fish and Game Code, for each stream crossing and any other activities affecting the bed, bank, or associated riparian vegetation of the stream. If required, the project applicant shall coordinate with CDFW in developing appropriate mitigation, and shall abide by the conditions of any executed agreements. All stream crossings shall be performed using a "jack and bore" construction technique, unless otherwise specified by CDFW. Streambed Alteration Agreement measures to protect the channel bank of a stream from erosion and related effects of construction shall be included in all related construction contracts.

*Implement EIR **Mitigation Measure 4.4-1** as it pertains to riparian habitat. **Mitigation Measure 4.4-1** requires replacement of all riparian trees removed to accommodate development. New trees and shrubs must be planted within existing riparian areas or improved drainage corridors. The replacement ratios exceed 1:1 in order to ensure that over the long-term the value of new riparian habitat equals or exceeds the value of the habitat that was lost. As an alternative, once the Placer County Conservation Plan is adopted, project applicants may participate in the PCCP, to the extent that it provided adequate mitigation for impacts on riparian areas.*

Additional steps shall be taken for properties that require more detailed resource identification prior to development, including: wetlands delineated and submitted to the USACE, habitat types mapped, and special-status species determined to be or potentially be within the Plan area with protocol surveys conducted if required.

Impact BIO-12 Effects on Special-Status Fish Species

No Action The No Action Alternative would not result in removal of fish habitat as no discharge of dredged or fill material into waters of the U.S. would occur under this alternative. The effect on fish species would be **less than significant**. No mitigation is required.

With respect to indirect effects on fish species through discharge of site stormwater, those effects are also expected to be less than significant. About 600 acres of the Plan area currently drain to Dry Creek. Of these 600 acres, a small portion would be developed with residential and commercial uses under the No Action Alternative with the majority of the area remaining as open space along Dry Creek, and in other parts of the site. To comply with Placer County requirements, it would be required that runoff from the developed land be treated by stormwater treatment facilities such as oil/grit separators, water quality basins, grassy swales, and other structural BMPs before discharge into the creek, all of which would reduce the pollutants including sediment present in the runoff so that water quality in the creek would not be adversely affected. Similarly, construction activities would be subject to applicable federal and state water quality protection requirements, contained in the state NPDES permit for stormwater discharges associated with construction activities. The indirect effect would be **less than significant**. No mitigation is required.

Proposed Action (Base Plan and Blueprint Scenario)

On-Site

The portion of Dry Creek located along the southeastern boundary of the project site provides potential habitat for Chinook salmon and steelhead. The listed Chinook salmon (spring- and winter-run) do not occur in Dry Creek**.** The Proposed Action includes an open space buffer along the portion of the creek within the project site and would not involve any construction within or adjacent to the creek that could remove habitat potentially occurring there. Therefore, direct effects to fish species from on-site development would be less than significant. No mitigation is required.

With respect to indirect effects on fish species through discharge of site stormwater, those effects are also expected to be less than significant. Of the 600-acre portion of the Plan area that drains to Dry Creek, about 462 acres are planned for residential and commercial development under the Proposed Action with the remaining area (about 138 acres) remaining as open space along Dry Creek, a park, and religious/public services. Runoff from the developed land would have the potential to affect water quality in Dry Creek. However, in compliance with Placer County requirements, urban runoff generated by the new development would be treated via stormwater treatment facilities such as oil/grit separators, water quality basins, grassy swales, and other structural BMPs before it would be discharged into the creek, all of which would reduce the pollutants present in the runoff, including sediment, so that water quality in the creek would not be adversely affected.

With respect to water quality effects from construction-site runoff, construction activities would be subject to applicable federal and state water quality protection requirements, contained in the state NPDES permit for stormwater discharges associated with construction activities. The indirect effect would be **less than significant**. No mitigation is required.

A low dam is located within Dry Creek and water is intermittently withdrawn from the creek to irrigate pastureland on the north side of Dyer Lane. Upon conversion of the pastureland to urban use, the current practice of using Dry Creek flows for irrigation would cease within the project site and this dam along with the pump, intake structure, and pipeline conveying the water, would no longer be required. Although removal of the dam is not proposed as part of the Proposed Action, **PVSP EIR Mitigation Measure 4.3.2-3f,** which has been adopted and imposed on the Proposed Action by Placer County, requires removal of the dam from Dry Creek. The removal of the dam would have a beneficial effect on fisheries.

Off-Site

The Proposed Action would involve utility line crossings of Dry Creek and the removal and replacement of the Watt Avenue Bridge across Dry Creek. Jack and bore techniques would be used in conjunction with utility line crossings to avoid any direct impacts to

fish species in Dry Creek. With respect to the bridge replacement, the new bridge would be designed to clear span the creek and no piers or bridge foundations would be located in the creek. Nonetheless, some work within and adjacent to Dry Creek would occur and could remove habitat for special-status fish species potentially occurring there. Potential construction-related effects to Chinook salmon and steelhead include temporary modification of edgewater habitat associated with bridge-widening activities (installation of in-channel footing) and removal of a low rock dam in Dry Creek at the Watt Avenue crossing. Utility line crossings would be constructed using jack and bore construction techniques and would have no direct impact on edgewater habitat.

Edgewater habitat is important to both upstream-migrating adults and downstream-migrating (i.e., emigrating) juvenile Chinook salmon and steelhead as foraging habitat and cover (i.e., protection from predators). Modification to edgewater habitat may include localized loss of food-producing habitat and associated prey items. In addition, installation of bridge support piles would remove localized benthic resources associated with the river substrate. This would be a **significant** effect. **Mitigation Measure 4.4-30** in the PVSP EIR which was adopted by Placer County at the time of the approval of the PVSP would address the effect of the Proposed Action Base Plan on fish species. The USACE assumes that Placer County would impose the same mitigation measure on the Proposed Action Blueprint scenario to address this effect. The mitigation measure requires that special-status fish species be protected during construction in the creeks. Placer County concluded that with this mitigation, the effect will be reduced to a less than significant level. The USACE agrees with the conclusion in the PVSP EIR and finds that the effect on fish species would be reduced to a **less than significant level** with mitigation.

Alts. 1 through 5

Implementation of Alternatives 1 through 5, individually or combined, would result in similar effects on fish species and their habitat as discussed above for the Proposed Action. The beneficial effect on fisheries from the removal of the dam in Dry Creek would also occur under Alternatives 1 through 5 with the implementation of **PVSP EIR Mitigation Measure 4.3.2-3f.** As with the Proposed Action, these alternatives would also involve construction of stream crossings at Dry Creek, which would result in a **significant** effect on fish species. As noted above, **Mitigation Measure 4.4-30** in the PVSP EIR was adopted by Placer County at the time of the approval of the PVSP to address the effect on fish species. The USACE assumes that Placer County would impose the same mitigation measure on Alternatives 1 through 5 (individually or combined) to address this effect. The mitigation measure requires that special-status fish species be protected during construction in the creeks. Placer County concluded that with this mitigation, the effect will be reduced to a less than significant level. The USACE agrees with the conclusion in the PVSP EIR and finds that the effect on fish species would be reduced to a **less than significant** level with mitigation.

PVSP EIR Mitigation Measure 4.4-30: Fish Habitat
(*Applicability – Proposed Action, Alternatives 1 through 5*)

4.4-30a *Implement EIR **Mitigation Measures 4.4-12a** and **4.4-12b**.*

4.4-30b *A qualified fish biologist shall be present on-site during any dewatering activities at construction sites to minimize impacts to special-status species (i.e., prevent stranding of special-status species). Individual fish collected during dewatering shall be identified and released in an uninterrupted waterway adjacent to the area of disturbance.*

4.4-30c *Chinook salmon and steelhead resources shall be protected from potential construction-related activities by adherence to a construction window, whereby construction activities would be precluded from October 15 through June 15. This window corresponds to the time when both adult and juvenile Chinook salmon and steelhead are expected to migrate through the area. Further measures to protect salmon resources include use of Best Management Practices (BMPs) to minimize and localize siltation and other water quality impacts and to provide for riparian restoration activities. Such BMPs may include the use of cofferdams and other structures during dewatering and construction activities. Water quality monitoring shall also be performed to ensure that state and federal water quality standards are met.*

Impact BIO-13 Effects on Fish Habitat from Water Diversions

Proposed Action (Base Plan and Blueprint Scenario)

As described in **Section 3.15, Utilities and Service Systems,** water demand for the Proposed Action would result in the total surface water supply need of approximately 11,723 acre-feet per year (afy) under the Base Plan and 14,539 afy under the Blueprint scenario at buildout.

The following discussion provides a summary of the potential effects to riverine fisheries from the implementation of the Proposed Action based on the analysis in the American River Pump Station EIS/EIR (PCWA 2002). This analysis was incorporated into the 2006 PVSP EIR, and as part of the EIR analysis, the County evaluated the effects on fisheries from likely changes in water flows and temperatures in the American River as a result of the diversion of water under the Proposed Action's initial surface water supply proposal and from the Sacramento River under the Proposed Action's long-term surface water supply proposal (Placer County 2006).

Effects of the Initial Surface Water Supply

Fall-Run Chinook Salmon and Steelhead in the Lower American River

Minimal potential differences in lower American River flows and water temperatures under the Proposed Action's initial surface water supply, relative to the existing conditions, would not be expected to adversely affect fall-run Chinook salmon and steelhead immigration, spawning and incubation, or juvenile rearing and emigration

(PCWA 2002). Flow- and temperature-related impacts to fall-run Chinook salmon and steelhead would be **less than significant**.

Splittail in the Lower American River

The long-term average flow at Watt Avenue during the February through May period would be essentially equivalent to or slightly greater than the existing condition. Using flows at Watt Avenue, the long-term average amount of riparian habitat inundated in the studied reaches of the river under the Proposed Action's initial surface water supply would remain unchanged. In addition, flow changes resulting from the Proposed Action's initial surface water supply would have little, if any, effect on the availability of in-channel spawning habitat. Ultimately, these flow changes would not be expected to be of sufficient magnitude or frequency to have a significant adverse effect on the long-term population trends of lower American River splittail (PCWA 2002).

Monthly mean temperatures at Watt Avenue under the Proposed Action's initial surface water supply would be essentially equivalent to the existing condition (PCWA 2002). Therefore, water temperature-related impacts to splittail spawning would be **less than significant**.

American Shad in the Lower American River

The long-term average flow at the American River mouth during May and June would be reduced by 0.4 percent or less relative to the existing conditions. Flow reductions in May and June under the Proposed Action's initial surface water supply could potentially reduce the number of adult shad attracted into the river during a few years (PCWA 2002). However, American shad spawn opportunistically where suitable conditions are found; therefore, production of American shad within the Sacramento River system would likely remain unaffected. Flow-related impacts to American shad would be **less than significant**. In addition, analysis was performed to determine the probability that lower American River flows at the mouth in May and June would be at least 3,000 cubic feet per second (cfs), the flow level defined by CDFW as that which would be sufficient to maintain sport fishery for American shad. The simulations showed no difference in the number of years that the flow at the mouth would be below 3,000 cfs in May and June (PCWA 2002).

The frequency with which monthly mean water temperatures in May and June would be within the preferred range for American shad spawning of 60 °F to 70 °F would not change under the Proposed Action's initial surface water supply. Monthly mean water temperatures in May and June at the mouth of the lower American River would be within the reported preferred range for American shad spawning in one fewer year under the Proposed Action's initial surface water supply, relative to the existing conditions (PCWA 2002). As the frequency of suitable temperatures for American shad spawning would not substantially change under the Proposed Action, temperature-related impacts to American shad would be **less than significant**.

Striped Bass in the Lower American River

The flow-related impact assessment conducted for fall-run Chinook salmon and steelhead addressed potential flow-related impacts to striped bass juvenile rearing, which occurs during the months of May and June. In addition, analysis was performed to determine the probability that lower American River flows at the mouth would be below 1,500 cfs, the flow level defined by CDFW as that which would be sufficient to maintain sport fishery for striped bass. Under the Proposed Action's initial surface water supply, monthly mean flows in the lower American River would be below the 1,500 cfs attraction flow index during May and June in 17 of the 140 years. Moreover, 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 (PCWA 2002). Substantial changes in the strength of the striped bass fishery would not be expected to occur when May and/or June monthly mean flows fall below 1,500 cfs, and therefore, flow-related impacts to the striped bass fishery that could potentially occur under the Proposed Action's initial surface water supply would be **less than significant**.

The number of years that monthly mean water temperatures would be within the reported preferred range for striped bass spawning of 59 °F to 68 °F would not change below Nimbus Dam or at the mouth during May and June. Thus, the frequency of suitable temperatures for juvenile striped bass rearing in the lower American River would remain essentially unchanged and temperature-related impacts to juvenile striped bass rearing would be **less than significant**.

Long-Term Surface Water Supply

As discussed above, the long-term surface water supply for the Proposed Action would be drawn from the Sacramento River. The analysis in the 2002 American River Pump Station Project EIS/EIR evaluated the potential for future impacts to fisheries and aquatic habitat associated with the Sacramento River, Sacramento-San Joaquin Delta, as well as the fisheries resources of the Folsom Reservoir.

Chinook Salmon in the Sacramento River

The minimum flow objective for Keswick Dam releases stipulated in the NOAA Biological Opinion (1993, as revised in 1995) for the protection of winter-run Chinook salmon rearing and downstream passage is 3,250 cfs between October 1 and March 31. Based on modeling results, the Proposed Action would not result in reductions below 3,250 cfs (PCWA 2002).

Changes in Sacramento River flows from implementation of the Proposed Action would not be of sufficient frequency or magnitude to adversely affect attraction into or passage of adults immigrating into the Sacramento River, result in a reduction in winter-, spring-, fall-, or late fall-run Chinook salmon spawning habitat, or affect the success of juvenile salmonid emigration (PCWA 2002). Therefore, the Proposed Action's long-term surface

water supply is not likely to adversely affect immigration, spawning, or initial rearing of winter-, spring-, fall-, or late fall-run Chinook salmon in the Sacramento River and the impact would be **less than significant**.

Small temperature changes in the Sacramento River resulting from the Proposed Action's long-term surface water supply would not be of sufficient frequency or magnitude to result in adverse effects to adult immigration, spawning, incubation success, or juvenile emigration of winter-, spring-, fall-, or late fall-run Chinook salmon (PCWA 2002). Therefore, potential water temperature impacts to winter-, spring-, fall-, or late fall-run Chinook salmon spawning and incubation in the Sacramento River resulting from the implementation of the Proposed Action's long-term surface water supply would be **less than significant**.

Steelhead in the Sacramento River

The effects on steelhead survival under the Proposed Action's long-term surface water supply cannot be estimated because a steelhead mortality model has not been developed for the Sacramento River. However, since changes in late fall-run Chinook salmon survival under the Proposed Action's long-term surface water supply would be negligible, it is not anticipated that detectable decreases in average early life stage steelhead survival would occur under the Proposed Action's long-term surface water supply (PCWA 2002).

Overall, there would be no detectable changes to monthly mean flows or water temperatures in the upper or lower Sacramento River under the Proposed Action's long-term surface water supply. Consequently, flow- and temperature-related changes during the steelhead adult immigration, spawning, and incubation period represent a **less than significant** impact.

Splittail in the Sacramento River

Under the Proposed Action's long-term surface water supply, the long-term average flow at Freeport during the period of February through May would be essentially equivalent to flows under existing conditions (PCWA 2002). Therefore, flow reductions that could potential reduce the availability of inundated habitat for splittail spawning would be unlikely to occur under the Proposed Action.

During the February through May period, water temperatures at Freeport would not rise above 68 °F, the upper end of the reported preferred range for splittail spawning, more frequently as a result of the Proposed Action, relative to the existing conditions. Overall, potential flow and water temperature changes resulting from the implementation of the Proposed Action would not be of sufficient frequency or magnitude to result in adverse effects to splittail spawning (PCWA 2002). Therefore, impacts to splittail in the Sacramento River under the Proposed Action would be **less than significant**.

American Shad in the Sacramento River

Under the Proposed Action's long-term surface water supply, the long-term average flow in the Sacramento River at Freeport would not differ substantially from long-term average flows under the existing condition in May and June. Similarly, monthly mean flows under the Proposed Action's long-term surface water supply during May and June would be essentially equivalent to those under the existing conditions. While flow reductions could potentially reduce the number of adult shad attracted into the river, the Proposed Action's long-term surface water supply would not result in detectable reductions in flows during May or June (PCWA 2002).

The number of years that monthly mean water temperatures at Freeport in May and June would be within the reported preferred range for American shad spawning of 60 °F to 70 °F would not differ under the Proposed Action, relative to the existing conditions. Therefore, the frequency with which suitable temperatures for American shad spawning would occur would not change under the Proposed Action. Overall, changes in flows and water temperatures at Freeport in the lower Sacramento River would not be of sufficient frequency or magnitude to result in adverse effects to American shad spawning (PCWA 2002). Therefore, impacts to American shad in the Sacramento River would be **less than significant**.

Striped Bass in the Sacramento River

The long-term average flow in the Sacramento River at Freeport would not differ substantially from long-term average flows under the existing condition in the March through June period. Similarly, monthly mean flows under the Proposed Action's long-term surface water supply during March through June would be essentially equivalent to those under the existing conditions (PCWA 2002).

The frequency that monthly mean water temperatures would be within the reported preferred range for striped bass spawning and initial rearing of 59 °F to 68 °F would not differ under the Proposed Action's long-term surface water supply, relative to the existing condition, throughout the May through June period. Therefore, water temperatures in Sacramento River under the Proposed Action's long-term surface water supply would not adversely affect striped bass spawning and initial rearing. Overall, changes in flows and water temperatures at Freeport in the Sacramento River would not be of sufficient frequency or magnitude to result in adverse effects to striped bass spawning and initial rearing (PCWA 2002). Therefore, impacts to striped bass in the Sacramento River would be **less than significant**.

Folsom Reservoir Fisheries

Hydrologic conditions under the Proposed Action's long-term surface water supply would result in a minimal difference in the long-term average water surface elevations in the Folsom Reservoir during the March through September period (when warmwater fish spawning and initial rearing occurs) and the April through November period (when the reservoir thermally stratifies). The average monthly elevations would be essentially equivalent to the existing conditions in all months of the warmwater and coldwater fishery periods (PCWA 2002).

Anticipated reductions in reservoir storage that would occur under the Proposed Action's long-term surface water supply would not be of sufficient magnitude to adversely affect the reservoirs' long-term availability of warmwater or coldwater habitat (PCWA 2002). Therefore, reductions in water surface elevations would result in a **less than significant** impact to Folsom Reservoir warmwater and coldwater fish rearing.

Delta Fish Populations

Delta outflow is considered to have a substantial effect on a number of fish species relying on Delta habitats for one or more of their life stages. A maximum reduction of up to 8 cfs in the long-term average Delta outflow for any given month could occur under the Proposed Action's long-term surface water supply. Delta outflow during the period of February through June is believed to be of greatest concern for potential effects to spawning and rearing habitat and downstream transport flows for delta smelt, longfin smelt, splittail, striped bass, salmonids, and other aquatic species in the Delta (PCWA 2002).

The decreases in Delta outflow under the Proposed Action's long-term surface water supply would not be of sufficient frequency or magnitude to adversely affect Delta fish resources and impacts to Delta fish populations would, therefore, be **less than significant**.

Nimbus Fish Hatchery

CVP operations of Folsom Dam and Reservoir associated with the Proposed Action's long-term surface water supply would have very little effect on the temperature of water entering the Nimbus Fish Hatchery from Lake Natoma during the May through September period. Furthermore, there would not be substantial differences in the frequency with which water temperatures exceed the water temperature indices of 60 °F, 65 °F and 68 °F. The small and infrequent differences in water temperature which could occur during the May through September period (when hatchery temperatures reach annual highs) would not be of sufficient frequency or magnitude to affect hatchery operations and resultant fish production (PCWA 2002). Therefore, implementation of the Proposed Action's long-term surface water supply would result in a **less than significant** impact on the hatchery.

In summary, all effects would be **less than significant** and no mitigation is required.

No Action, Alts. 1 through 5

As described above, water demand for the Proposed Action would result in the total surface water supply need of approximately 11,723 afy under the Base Plan and 14,539 afy under the Blueprint scenario at buildout. The total demand under the No Action Alternative would be approximately 7,209 afy at buildout and Alternatives 1 through 5 (singly or combined) would demand a similar or slightly lower volume of surface water as the Proposed Action Base Plan. It is anticipated that the water supply sources for the No Action Alternative and Alternatives 1 through 5 would be similar to the Proposed Action and similar volumes of water would be diverted. Therefore, all of the analysis of potential impacts on fisheries from project-related water diversion described above is applicable to the No Action Alternative and Alternatives 1 through 5 (singly or combined). For reasons presented above, the effects of water diversion would be **less than significant**. No mitigation is required.

Impact BIO-14 Indirect Effects to Biological Resources from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5

The construction and operation of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which may be used by the Proposed Action was evaluated in the Second Partial Draft EIR for PVSP (Placer County 2007) prepared by Placer County. The analysis in the EIR concluded that construction activities associated with the water pipeline infrastructure would have the potential to impact wetlands (including vernal pools) and other jurisdictional aquatic features, riparian habitat, nesting habitat for raptors and other migratory birds, and elderberry shrubs providing habitat for the Valley elderberry longhorn beetle. The off-site water pipelines could cross several streams and listed fish species could occur in those streams. The effect to biological resources was determined to be potentially **significant**. The PVSP EIR noted that mitigation measures included in the EIR to address off-site infrastructure impacts (Mitigation Measures 4.4-15 through 4.4-30c) could reduce the impacts of the water pipeline infrastructure, but that impacts to jurisdictional waters, raptors, migratory birds, the Valley elderberry longhorn beetle and listed fish species may not be reduced to a less than significant level. The USACE concurs with the analysis and finds that some impacts could remain **significant even after mitigation**.

Construction of off-site water pipeline infrastructure for No Action Alternative, and Alternatives 1 through 5 would result in similar effects as described above for the Proposed Action and the same types of mitigation measures would be required.

The USACE notes that at this time, the PCWA has not submitted an application to the USACE for a DA permit for the pipeline infrastructure project, and therefore at the present time, USACE does not have a mechanism to impose any mitigation measures on the project.

3.4.6 RESIDUAL SIGNIFICANT IMPACTS

A study conducted by the State Water Resources Control Board of Section 401 permit files and permit-related mitigation projects throughout the state of California found that of the 143 permits that were evaluated, the results showed that "no net loss" of acreage was being achieved overall although in the case of about 39 percent of individual files, net acreage losses were identified. The study further suggested that permittees were, for the most part, meeting their mitigation obligations, but the ecological condition of the resulting mitigation projects was not optimal and that a net loss of wetland function did occur for the wetlands included in this study (SWRCB 2007).

As stated in the Memorandum of Agreement between the USACE and USEPA for the determination of mitigation under the Clean Water Action Section 404(b)(1) Guidelines,

> *the Clean Water Act and the Section 404(b)(1) Guidelines set forth a goal of restoring and maintaining existing aquatic resources. The Corps will strive to avoid adverse impacts and offset unavoidable adverse impacts to existing aquatic resources, and for wetlands, will strive to achieve a goal of no overall net loss of values and functions… The determination of what level of mitigation constitutes "appropriate" mitigation is based solely on the values and functions of the aquatic resource that will be impacted. "Practicable" is defined at Section 230.3(q) of the Guidelines. However, the level of mitigation determined to be appropriate and practicable under Section 230.10(d) may lead to individual permit decisions which do not fully meet this goal because the mitigation measures necessary to meet this goal are not feasible, not practicable, or would accomplish only inconsequential reductions in impacts. Consequently, it is recognized that no net loss of wetlands functions and values may not be achieved in each and every permit action. However, it remains a goal of the Section 404 regulatory program to contribute to the national goal of no overall net loss of the nation's remaining wetlands base.*

Consequently, the USACE's compensatory mitigation program has been designed to ensure to the maximum extent practicable that each project that will fill wetlands provide compensatory mitigation that takes into account not just the acreage of wetlands affected but also their functions and values. The USACE's compensatory mitigation program requires mitigation in kind and in amounts (ratios) that take into account temporal loss as well as risk of failure. Based on the above, if a proposed project, after avoidance and minimization, provides mitigation that meets the USACE's requirements for compensatory mitigation, it is presumed that such a project would not result in a net loss of wetlands.

As noted above under **Impact BIO-1**, because the mitigation strategy put forth by the Applicants is conceptual and a detailed plan has not been submitted to the USACE pursuant to **Mitigation Measure BIO-1**, the USACE cannot fully evaluate the effectiveness of the mitigation strategy to reduce the Proposed Action's impact on the waters of the U.S. to less than significant, and has therefore assumed that the effect would remain potentially **significant**.

3.4.7 REFERENCES

ECORP. 2012a. "404 Permit Impacts and New Potential Avoidance Areas."

ECORP. 2012b. "Revised U.S. Fish and Wildlife Service Biological Assessment to Support Section 7 Consultation for the Placer Vineyards Specific Plan Project Placer County, California (USFWS ID# 81420-2008-TA-0983-1), May 18, 2012." Placer Vineyards Development Group, LLC.

Federal Register / Vol. 64, No. 127 / Friday, July 2, 1999 / Notices, #36033.

Placer County Water Agency (PCWA). 2002. American River Pump Station Project EIS/EIR.

Placer Vineyards Owners Group. 2008. "National Oceanographic and Atmospheric Administration, National Marine Fisheries Service Endangered Species Act Consultation, Biological Assessment for Placer Vineyards Specific Plan Project, Placer County, California, July 7, 2008."

Placer Vineyards Development Group. 2012. "Placer Vineyards Mitigation Strategy."

Placer County. 2006. "Placer Vineyards Specific Plan Environmental Impact Report."

U.S. Bureau of Reclamation (USBR). 2009. "Folsom Dam." http://www.usbr.gov/projects. Accessed October 12, 2011.

U.S. Fish and Wildlife Service. 2005a. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Portland, Oregon. xxvi +606 pages.

U.S. Fish and Wildlife Service. 2005b. Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Evaluation of Economic Exclusions From August 2003 Final Designation; Final Rule.

Water Forum. 2005. "Lower American River State of the River Report."

3.5 CLIMATE CHANGE

3.5.1 INTRODUCTION

This section covers the topic of global climate change and greenhouse gas emissions, describes existing conditions at and surrounding the project site, summarizes relevant regulations and policies, and analyzes the potential effects of implementing the Proposed Action and its alternatives on global climate.

Sources of information used in this analysis include:

- Placer Vineyards Specific Plan Second Partially Recirculated Revised EIR prepared by the Placer County (March 2007); and
- Draft National Environmental Policy Act (NEPA) Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions prepared by the Council on Environmental Quality (February 2010).

3.5.2 AFFECTED ENVIRONMENT

3.5.2.1 Background

Global climate change refers to any significant change in climate measurements, such as temperature, precipitation, or wind, lasting for an extended period (i.e., decades or longer) (U.S. EPA 2008a). Climate change may result from:

- natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- natural processes within the climate system (e.g., changes in ocean circulation, reduction in sunlight from the addition of greenhouse gases (GHG) and other gases to the atmosphere from volcanic eruptions); and
- human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, desertification).

According to some scientists, human activities have resulted in a change in global climate. The primary manifestation of global climate change has been a rise in the average global tropospheric temperature of 0.2 degree Celsius (°C) per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling using 2000 emission rates shows that further warming is likely to occur, which would induce further changes in the global climate system during the current century (IPCC 2007). Changes to the global climate system and ecosystems, and to California, could include:

- summer warming projections in the first 30 years of the 21st century ranging from about 0.5 °C to 2 °C (0.9 °F to 3.6 °F) and by the last 30 years of the 21st century, from about 1.5 °C to 5.8 °C (2.7 °F to 10.5 °F) (Cal EPA 2006);
- declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures (IPCC 2007);

- rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets (model-based projections of global average sea level rise at the end of the 21st century [2090–2099] range from 0.59 foot to 1.94 feet or 0.18 meter to 0.59 meter) (IPCC 2007);

- changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones (IPCC 2007);

- declining Sierra snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years (Cal EPA 2006);

- increasing the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas located in the Southern California area and the San Joaquin Valley by the end of the 21st century (Cal EPA 2006);

- increasing the potential for erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Delta and associated levee systems due to the rise in sea level (Cal EPA 2006);

- increasing pest infestation, making California more susceptible to forest fires (Cal EPA 2006); and

- increasing the demand for electricity by 1 to 3 percent by 2020 due to rising temperatures resulting in hundreds of millions of dollars in extra expenditures (Cal EPA 2006).

The natural process through which heat is retained in the troposphere[1] is called the "greenhouse effect." The greenhouse effect traps heat in the troposphere through a threefold process as follows: (1) short-wave radiation in the form of visible light emitted by the Sun is absorbed by the Earth as heat; (2) long-wave radiation is re-emitted by the Earth; and (3) GHGs in the upper atmosphere absorb or trap the long-wave radiation and re-emit it back towards the Earth and into space. This third process is the focus of current climate change actions because increased quantities of GHGs in the Earth's atmosphere causing more of the long-wave radiation to be trapped in the atmosphere.

Greenhouse Gases

Water vapor and carbon dioxide (CO_2) are the most abundant GHGs. In addition, there are other GHGs that occur in smaller amounts in the atmosphere but have a greater ability than CO_2 to absorb and re-radiate long-wave radiation. To gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-emit long-wave radiation over a specific period. The GWP of a gas is determined using CO_2 as the reference gas, which has a GWP of 1 over 100 years (IPCC 1996).[2] For example, a gas with a GWP of 10 is 10 times more potent than CO_2

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1 The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface from 6 to 7 miles (10 to 11 kilometers).

2 All Global Warming Potentials are given as 100-year values.

over 100 years. The use of GWP allows GHG emissions to be reported using CO_2 as a baseline. The sum of each GHG multiplied by its associated GWP is referred to as "carbon dioxide equivalents" (CO_2e). This essentially means that 1 metric ton of a GHG with a GWP of 10 has the same climate change impacts as 10 metric tons of CO_2.

GHGs of most concern include the following compounds:

- **Carbon Dioxide (CO_2)**. Anthropogenic carbon dioxide emissions are primarily generated by fossil fuel combustion from stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources over the past 250 years, the concentration of carbon dioxide in the atmosphere has increased 35 percent (U.S. EPA 2008b). Carbon dioxide is also generated by natural sources such as cellular respiration, volcanic activity, decomposition of organisms, and forest fires. Carbon dioxide is the most widely emitted GHG and is the reference gas (GWP of 1) for determining the GWP of other GHGs. In 2004, 82.8 percent of California's GHG emissions were carbon dioxide (California Energy Commission 2007).
- **Methane (CH_4)**. Methane is emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three sources of methane are landfills, natural gas systems, and enteric fermentation (U.S. EPA n.d.[a]). Methane is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The GWP of methane is 21.
- **Nitrous Oxide (N_2O)**. Nitrous oxide is produced by natural and human-related sources. Primary human-related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of nitrous oxide is 310.
- **Hydrofluorocarbons (HFCs)**. HFCs typically are used as refrigerants in both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing particularly as the continued phase-out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The GWP of HFCs ranges from 140 for HFC-152a to 6,300 for HFC-236fa.
- **Perfluorocarbons (PFCs)**. Perfluorocarbons are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. Perfluorocarbons are potent GHGs with a GWP several thousand times that of carbon dioxide, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years) (Energy Information Administration 2007). The GWPs of PFCs range from 5,700 to 11,900.
- **Sulfur Hexafluoride (SF_6)**. Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent GHG that has been evaluated by the Intergovernmental Panel on Climate Change with a GWP of 23,900. However, its global warming contribution is not as high as the GWP would indicate due to its low mixing ratio, as compared to carbon dioxide (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm] of CO_2) (U.S. EPA n.d.[b]).

Contributions to Greenhouse Gas Emissions

Global

Worldwide anthropogenic (man-made) GHG emissions are tracked for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Man-made GHG emissions for Annex I nations are available through 2007. Manmade GHG emissions for Non-Annex I nations are available through 2005. The sum of these emissions totaled approximately 42,133 million metric tons of CO_2 equivalents ($MMTCO_2e$).[3] It should be noted that global emissions inventory data are not all from the same year and may vary depending on the source of the emissions inventory data.[4] The top five countries and the European Union accounted for approximately 55 percent of the total global GHG emissions according to the most recently available data (See **Table 3.5-1, Top Five GHG Producer Countries and the European Union (Annual)**). The GHG emissions in more recent years may differ from the inventories presented in **Table 3.5-1**; however, the data is representative of currently available global inventory data.

Table 3.5-1
Top Five GHG Producer Countries and the European Union (Annual)

Emitting Countries	GHG Emissions ($MMTCO_2e$)
China	7,250
United States	7,217
European Union (EU), 27 Member States	5,402
Russian Federation	2,202
India	1,863
Japan	1,412
Total	**25,346**

Source: World Resources Institute, "Climate Analysis Indicators Tool (CAIT)," http://cait.wri.org/. 2010.
Excludes emissions and removals from land use, land-use change, and forestry (LULUCF).
Note: Emissions for Annex I nations are based on 2007 data. Emissions for Non-Annex I nations (e.g., China, India) are based on 2005 data).

3 The CO_2 equivalent emissions commonly are expressed as "million metric tons of carbon dioxide equivalent ($MMTCO_2E$)." The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP, such that $MMTCO_2E$ = (million metric tons of a GHG) x (GWP of the GHG). For example, the GWP for methane is 21. This means that the emission of one million metric tons of methane is equivalent to the emission of 21 million metric tons of CO_2.

4 The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2005 data, the UNFCCC data for the most recent year were used. United Nations Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF," http://unfccc.int/ghg_emissions_data/ghg_data_from_unfccc/time_series_annex_i/ items/3841.php and "Flexible GHG Data Queries" with selections for total GHG emissions excluding LULUCF/LUCF, all years, and non-Annex I countries, http://unfccc.int/di/FlexibleQueries.do. n.d.

United States

As noted in **Table 3.5-1**, the United States was the number two producer of global GHG emissions. The primary GHG emitted by human activities in the United States was CO_2, representing approximately 84 percent of total GHG emissions (U.S. EPA 2008a). Carbon dioxide from fossil fuel combustion, the largest source of GHG emissions, accounted for approximately 80 percent of U.S. GHG emissions.[5]

State of California

CARB compiles GHG inventories for the State of California. Based on the 2008 GHG inventory data (i.e., the latest year for which data are available), California emitted 474 $MMTCO_2e$, including emissions resulting from imported electrical power in 2008 (CARB 2010). Based on the CARB inventory data and GHG inventories compiled by the World Resources Institute, California's total statewide GHG emissions rank second in the United States (Texas is number one) with emissions of 417 $MMTCO_2e$, excluding emissions related to imported power (CARB 2010).

The primary contributors to GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources, industry, agriculture and forestry, and other sources, which include commercial and residential activities. **Table 3.5-2, GHG Emissions in California**, provides a summary of GHG emissions reported in California in 1990 and 2008 separated by categories defined by the United Nations Intergovernmental Panel on Climate Change (IPCC).

Between 1990 and 2008, the population of California grew by approximately 7.3 million (from 29.8 to 37.9 million) (U.S. Census Bureau 2010). This represents an increase of approximately 27.2 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from $788 billion in 1990 to $1.8 trillion in 2008 representing an increase of approximately 128 percent (over twice the 1990 gross state product) (California Department of Finance 2009). Despite the population and economic growth, California's net GHG emissions only grew by approximately 11 percent. The California Energy Commission (CEC) attributes the slow rate of growth to the success of California's renewable energy programs and its commitment to clean air and clean energy (California Energy Commission 2006).

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5 The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2005 data, the UNFCCC data for the most recent year were used. United Nations Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF," http://unfccc.int/ghg_emissions_data/ghg_data_from_unfccc/time_series_annex_i/ items/3841.php and "Flexible GHG Data Queries" with selections for total GHG emissions excluding LULUCF/LUCF, all years, and non-Annex I countries, http://unfccc.int/di/FlexibleQueries.do. n.d.

Table 3.5-2
GHG Emissions in California

Source Category	1990 ($MMTCO_2e$)	Percent of Total	2008 ($MMTCO_2e$)	Percent of Total
ENERGY	**386.41**	**89.2%**	**413.80**	**86.6%**
Energy Industries	157.33	36.3%	171.23	35.8%
Manufacturing Industries & Construction	24.24	5.6%	16.67	3.5%
Transport	150.02	34.6%	173.94	36.4%
Other (Residential/Commercial/Institutional)	48.19	11.1%	46.59	9.8%
Non-Specified	1.38	0.3%	0.00	0.0%
Fugitive Emissions from Oil & Natural Gas	2.94	0.7%	3.28	0.7%
Fugitive Emissions from Other Energy Production	2.31	0.5%	2.09	0.4%
INDUSTRIAL PROCESSES & PRODUCT USE	**18.34**	**4.2%**	**30.11**	**6.3%**
Mineral Industry	4.85	1.1%	5.35	1.1%
Chemical Industry	2.34	0.5%	0.06	0.0%
Non-Energy Products from Fuels & Solvent Use	2.29	0.5%	1.97	0.4%
Electronics Industry	0.59	0.1%	0.80	0.2%
Substitutes for Ozone Depleting Substances	0.04	0.0%	13.89	2.9%
Other Product Manufacture and Use	3.18	0.7%	1.66	0.3%
Other	5.05	1.2%	6.39	1.3%
AGRICULTURE, FORESTRY, & OTHER LAND USE	**19.11**	**4.4%**	**24.42**	**5.1%**
Livestock	11.67	2.7%	16.28	3.4%
Land	0.19	0.0%	0.19	0.0%
Aggregate Sources & Non-CO_2 Sources on Land	7.26	1.7%	7.95	1.7%
WASTE	**9.42**	**2.2%**	**9.41**	**2.0%**
Solid Waste Disposal	6.26	1.4%	6.71	1.4%
Wastewater Treatment & Discharge	3.17	0.7%	2.70	0.6%
EMISSIONS SUMMARY				
Gross California Emissions	433.29		477.74	
Sinks from Forests and Rangelands	-6.69		-3.98	
Net California Emissions	426.60		473.76	

Sources:
[1] *California Air Resources Board, "California Greenhouse Gas 1990-2004 Inventory by IPCC Category - Summary," http://www.arb.ca.gov/cc/inventory/archive/archive.htm. 2010.*
[2] *California Air Resources Board, "California Greenhouse Gas 2000-2008 Inventory by IPCC Category - Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm. 2010.*

Global Ambient CO_2 Concentrations

Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of carbon dioxide, methane, and nitrous oxide from before the start of

industrialization, around 1750, to over 650,000 years ago. For that period, carbon dioxide concentrations ranged from 180 ppm to 300 ppm. For the period from around 1750 to the present, global carbon dioxide concentrations increased from a pre-industrialization period concentration of 280 ppm to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range (California Energy Commission 2006a). Global methane and nitrous oxide concentrations show similar increases for the same period (see **Table 3.5-3, Comparison of Global Pre-Industrial and Current GHG Concentrations**).

Table 3.5-3
Comparison of Global Pre-Industrial and Current GHG Concentrations

Greenhouse Gas	Early Industrial Period Concentrations	Natural Range for Last 650,000 Years	2005 Concentrations
Carbon Dioxide (CO_2)	280 ppm	180 to 300 ppm	379 ppm
Methane (CH_4)	715 ppb	320 to 790 ppb	1774 ppb
Nitrous Oxide (N_2O)	270 ppb	NA	319 ppb

Source: Intergovernmental Panel on Climate Change, Climate Change 2007: The Physical Science Basis, Summary for Policymakers, (2007).
ppm=parts per million
ppb=parts per billion

3.5.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

3.5.3.1 Intergovernmental Panel on Climate Change

The World Meteorological Organization (WMO) and United Nations Environmental Program (UNEP) established the Intergovernmental Panel on Climate Change (IPCC) in 1988. The goal of the IPCC is to evaluate the risk of climate change caused by human activities. Rather than performing research or monitoring climate, the IPCC relies on peer-reviewed and published scientific literature to make its assessment. While not a regulatory body, the IPCC assesses information (i.e., scientific literature) regarding human-induced climate change and the impacts of human-induced climate change, and recommends options to policy makers for the adaptation and mitigation of climate change. The IPCC reports its evaluations in special reports called "assessment reports." The latest assessment report (i.e., Fourth Assessment Report, consisting of three working group reports and a synthesis report based on the first three reports) was published in 2007. In its 2007 report, the IPCC stated that global temperature increases since the mid-20th century were "very likely" attributable to man-made activities (greater than 90 percent certainty) (IPCC 2007).

3.5.3.2 Federal

The U.S. Environmental Protection Agency (U.S. EPA) adopted a mandatory GHG reporting rule in September 2009. The rule would require suppliers of fossil fuels or entities that emit industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions to submit annual reports to the U.S. EPA beginning in 2011 (covering the 2010 calendar year emission). Vehicle and engine manufacturers would begin reporting GHG emissions for model year 2011.

On September 15, 2009, the U.S. EPA and the Department of Transportation's (DOT) National Highway Traffic Safety Administration (NHTSA) issued a joint proposal to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. The proposed standards would be phased in and would require passenger cars and light-duty trucks to comply with a declining emissions standard. In 2012, passenger cars and light-duty trucks would have to meet an average emissions standard of 295 grams of CO_2 per mile and 30.1 miles per gallon. By 2016, the vehicles would have to meet an average standard of 250 grams of CO_2 per mile and 35.5 miles per gallon (U.S. EPA 2009). The final standards were adopted by the U.S. EPA and DOT on April 1, 2010.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.

- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

While these findings do not impose additional requirements on industry or other entities, this action is a prerequisite to finalizing the U.S. EPA's proposed GHG emissions standards for light-duty vehicles, which were jointly proposed by the U.S. EPA and the NHTSA. On April 1, 2010, the U.S. EPA and NHTSA issued final rules requiring that by the 2016 model-year, manufacturers must achieve a combined average vehicle emission level of 250 grams CO_2 per mile, which is equivalent to 35.5 miles per gallon as measured by U.S. EPA standards.

3.5.3.3 State

The State of California has implemented legislation targeting GHG emissions. Chief among these is the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32). AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance. AB 32 requires the State of California to reduce its emissions to 1990 levels by 2020. AB 32 establishes key deadlines for certain actions the State must take in order to achieve the reduction

target. The first action under AB 32 resulted in California Air Resources Board's (CARB) adoption of a report listing three specific early action GHG reduction measures on June 21, 2007. On October 25, 2007, CARB approved an additional six early action GHG reduction measures under AB 32.

As required under AB 32, on December 6, 2007, CARB approved the 1990 greenhouse gas emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 million metric tons of carbon dioxide equivalents ($MMTCO_2e$). The inventory revealed that in 1990, transportation, with 35 percent of the state's total emissions, was the largest single sector generating CO_2; followed by industrial emissions, 24 percent; imported electricity, 14 percent; in-state electricity generation, 11 percent; residential use, 7 percent; agriculture, 5 percent; and commercial uses, 3 percent (figures are based on the 1990 inventory). AB 32 does not require individual sectors to meet their individual 1990 GHG emissions inventory; the total statewide emissions are required to meet the 1990 threshold by 2020.

In addition to the 1990 emissions inventory, on December 6, 2007, CARB adopted regulations requiring the mandatory reporting of GHG emissions for large facilities. The mandatory reporting regulations require annual reporting from the largest facilities in the state, which account for approximately 94 percent of greenhouse gas emissions from industrial and commercial stationary sources in California. About 800 separate sources fall under the new reporting rules and include electricity generating facilities, electricity retail providers and power marketers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and industrial sources that emit over 25,000 tons of CO_2 each year from on-site stationary combustion sources. Transportation sources, which account for 38 percent of California's total greenhouse gas emissions as of the 2002–2004 GHG inventory conducted by CARB, are not covered by these regulations but will continue to be tracked through existing means (CARB 2009). Affected facilities began tracking their emissions in 2008, and reported them beginning in 2009, with a phase-in process to allow facilities to develop reporting systems and train personnel in data collection. Emissions for 2008 could be based on best available emission data. Beginning in 2010, however, emissions reporting requirements became more rigorous and subject to third-party verification. Verification will take place annually or every three years, depending on the type of facility.

In December 2008, CARB adopted a Climate Change Scoping Plan indicating how emission reductions will be achieved from significant sources of GHGs via regulations, market mechanism, and other actions. The Climate Change Scoping Plan identifies 18 recommended strategies the state should implement to achieve AB 32.

CARB has identified ongoing programs and has adopted regulations for a number of individual measures to reduce GHG emissions in accordance with the *Climate Change Scoping Plan* strategies. Key elements of the *Climate Change Scoping Plan* include the following recommendations:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable energy mix of 33 percent;

- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation.

Under the *Climate Change Scoping Plan*, approximately 85 percent of the state's emissions are subject to a cap-and-trade program where covered sectors are placed under a declining emissions cap. Emission reductions will be achieved through regulatory requirements and the option to reduce emissions further or purchase allowances to cover compliance obligations. It is expected that emission reductions from the cap-and-trade program will account for a sizeable portion of the reductions required by AB 32. The program has an enforceable compliance obligation beginning in 2013 for covered entities (i.e., cement, iron, and steel producers, electricity providers, petroleum refiners, and other stationary sources with greater than 25,000 metric tons of CO_2 equivalents [$MTCO_2e$] per year).

3.5.3.4 Regional

Placer County Air Pollution Control District

The Placer County Air Pollution Control District (PCAPCD) is the primary authority for regulating GHG emissions in the project area. The PCAPCD has adopted thresholds of significance for determining the potential impact for criteria pollutants and other air quality issues but not for GHG. However, the PCAPCD[6] has indicated that thresholds adopted by other air districts within California would be acceptable. The PCAPCD must also ensure compliance with AB 32 reduction targets, and therefore has GHG reporting requirements similar to other air districts within California.

Placer Vineyards Specific Plan

The Placer Vineyards Specific Plan (PVSP) includes policies and guidelines that would have an impact on GHG emissions from the Proposed Action. Generally these are measures meant to increase energy efficiency and alternative transportation (i.e., bicycles, walking, and mass transit). Both would reduce GHG emissions through reducing fossil fuel consumption for electricity production, personal transportation, and heating. Specific elements contained in the PVSP that address these issues are:

- Mixed use development, providing commercial services within close proximity to residences and thereby reducing vehicle traffic;
- Inclusion of Class I bicycle facilities, encouraging bicycle use and avoidance of vehicle use; and
- Installation of transit facilities along transit corridors and right of way provisions for transit.

6 Personal communication with Angel Rinker, Associate Planner at the PCAPCD, on February 10, 2011.

3.5.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.5.4.1 Significance Thresholds

NEPA does not specify significance thresholds that may be used to evaluate the effects of a proposed action on global climate. The appropriate approach to evaluating a project's impact on global climate under NEPA is still under development. In February 2010, the Council on Environmental Quality (CEQ) released draft NEPA guidance on the consideration of the effects of greenhouse gas emissions and climate change in NEPA documents. The CEQ guidance states that the "CEQ proposes to advise federal agencies to consider, in scoping their NEPA analysis, whether analysis of the direct and indirect GHG emissions from their proposed actions may provide meaningful information to decision makers and the public. Specifically, if a proposed action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of CO_2-equivalent GHG emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public." The guidance further notes that "CEQ does not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of GHGs."

The guidance recommends 25,000 $MTCO_2e$ of direct emissions[7] as a presumptive threshold for analysis and disclosure within NEPA documents. The guidance suggests that if a proposed action would result in direct emissions below this threshold, the emissions would not need to be discussed within a NEPA analysis. The guidance further notes that "When a proposed federal action meets an applicable threshold for quantification and reporting, CEQ proposes that the agency should also consider mitigation measures and reasonable alternatives to reduce action related GHG emissions." As the Proposed Action is expected to result in direct emissions that exceed 25,000 $MTCO_2e$ on an annual basis, the direct and indirect emissions associated with the Proposed Action are quantified and reported below and mitigation measures and reasonable alternatives are evaluated to reduce the GHG emissions.

The CEQ guidance also notes that land management techniques, including land use changes (such as those involved in the Proposed Action) lack any established federal protocol for assessing the effect of their GHG emissions at a landscape scale. In these instances, the guidance suggests that the federal agency should use NEPA's provisions for inter-agency consultation with available expertise to identify and follow the best available protocols for evaluating comparable activities. Consistent with this guidance, the USACE examined both State of California and local guidance and protocols related to the effects of GHG emissions to select a threshold of significance to use to evaluate the effect.

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7 The CEQ guidance does not define direct emissions. However, in commonly-used GHG accounting protocols such as the GHG Protocol from the World Resources Institute and the protocols developed by the California Climate Action Registry (now The Climate Registry), direct emissions are defined to include all sources that are within the organizational control of the property/facility owner, and often comprise sources such as on-site stationary sources, fleet, and fugitive and process emissions.

At the state level, CARB has not yet put forth significance thresholds for use to evaluate projects in California. However, CARB has commenced the implementation of a mandatory GHG reporting program that requires large industrial GHG emitters to report their GHG emissions. Large stationary combustion facilities that emit greater than or equal to 25,000 $MTCO_2e$ per year are subject to the reporting requirements. While CARB's reporting program and the CEQ's draft NEPA guidance do not provide significance thresholds, the 25,000 $MTCO_2e$ reporting threshold can be seen as a dividing line for major GHG emitters, which could have the potential to result in an adverse impact on the environment.

At the local level, as noted above, the PCAPCD has not adopted any numeric thresholds of significance for determining the significance of the effect of a project's GHG emissions. However, the PCAPCD has indicated that thresholds adopted by other air districts within California would be acceptable. The following four air districts have put forth thresholds of significance:

- The San Joaquin Valley Air Pollution Control District (SJVAPCD) adopted the *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* (the California Environmental Quality Act) in late 2009. According to the guidance, the SJVAPCD recommends the use of best performance standards to assess the significance of GHG emissions. The SJVAPCD expects that compliance with the recommended best performance standards would reduce a project's GHG emissions by a target of 29 percent or more, compared to 'business as usual' (BAU) conditions. The 29 percent reduction target is based on the goal of AB 32, which is to reduce the state's GHG emissions to 1990 levels by 2020.
- The Sacramento Metropolitan Air Quality Management District (SMAQMD) has also adopted guidance recommending that a project achieve a 29 percent reduction from BAU conditions.
- The Bay Area Air Quality Management District (BAAQMD) has adopted thresholds[8] for both land use and stationary source projects. The land use threshold is further divided into three metrics: compliance with a qualified GHG Reduction Strategy; annual emissions less than 1,100 MTCO2e; or annual emissions less than 4.6 MTCO2e per service population (i.e., project residents plus employees). At present there are no qualified GHG reduction strategies applicable to the Proposed Action or alternatives. The 1,100 MTCO2e is intended for smaller projects with limited emissions, whereas the 4.6 MTCO2e per service person is an efficiency metric intended for large projects such as the Proposed Action.
- The South Coast Air Quality Management District (SCAQMD) recommends a tiered approach. The Tier 3 threshold requires that a project's incremental increase in GHG emissions should be below or mitigated to less than the significance screening level (10,000 $MTCO_2e$ per year for industrial projects; 3,500 $MTCO_2e$ for residential projects; 1,400 $MTCO_2e$ for commercial projects; 3,000 $MTCO_2e$ for mixed-use or all land use projects). The Tier 4 threshold requires that projects achieve a 29 percent reduction from a base case scenario, including land use sector reductions

8 The significance thresholds contained in the BAAQMD CEQA Guidelines were challenged by the CA Building Industry Association. On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds contained in the BAAQMD CEQA Guidelines. The court issued a writ of mandate ordering the District to set aside the thresholds and cease dissemination of them until the District had complied with CEQA. The BAAQMD accordingly is not recommending the use of the 2010 significance thresholds to determine the significance of air quality impacts. Instead, the BAAQMD recommends that the lead agency should "determine appropriate air quality thresholds of significance based on substantial evidence in the record."

from AB 32 (total emissions not to exceed 25,000 $MTCO_2e$) or achieve a project-level efficiency target of 4.8 $MTCO_2e$ per service population per year (total emissions not to exceed 25,000 $MTCO_2e$ per year). The proposed plan-level significance threshold is an efficiency target of 6.6 $MTCO_2e$ per service population per year by 2020.

None of the air districts provide a significance threshold for evaluating the effect of a project's construction-phase GHG emissions, but the BAAQMD guidance does state that "the Lead Agency should quantify and disclose GHG emissions that would occur during construction."

This EIS uses 25,000 $MTCO_2e$ of direct emissions as a threshold for evaluating the significance of the estimated emissions. The EIS also evaluates the Proposed Action and alternatives relative to their consistency with AB 32.

3.5.4.2 Analysis Methodology

The methodology used to estimate GHG emissions is summarized below.

The study used the URBEMIS2007 Environmental Management Software version 9.2.4 to estimate construction emissions and operational emissions from area and mobile sources associated with the Proposed Action. Default assumptions for construction equipment are included in the URBEMIS software, and were used for this study.

Mobile emissions during operation were estimated using default URBEMIS2007 values and trip generation rates provided by the traffic study. Emissions from area sources were also estimated using default URBEMIS2007 values. These emissions are primarily associated with combustion of natural gas and operation of landscape maintenance equipment.

The resulting URBEMIS files were then used as input for the BAAQMD's Greenhouse Gas Model (BGM). This model was developed by the BAAQMD to determine both direct and indirect GHG emissions using project-specific data developed in the URBEMIS model. Emissions from indirect sources include electricity use, water use, solid waste disposal, and wastewater treatment. Residential and commercial electricity use was estimated based on BGM default assumptions and provision of power by PG&E. Both water use and wastewater treatment produce emissions due to energy consumption during treatment and transport. Electricity use for both was based on reports to the CEC. Solid waste emissions were estimated based on methane generation at landfills from the decomposition of the waste. GHG emissions rates for solid waste are estimates developed by CARB for landfills in California.

As noted earlier, Clean Air legislation defines direct emissions as those emitted by sources that are within the organizational control of the property/facility owner. The GHG emissions that would be produced following the occupancy of the Proposed Action would not be under the organizational control of the USACE or the Applicants. Therefore, none of the emissions produced by the Proposed Action would be defined as direct emissions. However, for purposes of analysis, all GHG emissions generated by the homes and other land uses built on the site, such as area sources and mobile sources, are categorized as direct emissions or Scope 1 emissions. All other emissions such as those from generation of electricity, solid waste, etc., are categorized as indirect emissions or Scope 2 and 3 emissions.

3.5.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact GHG-1 GHG Emissions due to Construction

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), Alts. 1 through 5

Construction of the No Action Alternative, Proposed Action (Base Plan and Blueprint scenario), and Alternatives 1 through 5 (individually or combined) would result in one-time emissions of GHGs, which would be a **significant** effect. **PVSP EIR Mitigation Measures 4.8-1a** through **4.8-1e** would be implemented but the effect would remain **significant.**

The primary GHGs generated during construction are CO_2, CH_4, and nitrogen dioxide (N_2O). These emissions are the result of fuel combustion by construction equipment and motor vehicles. The other GHGs such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are typically associated with specific industrial sources and processes and would not be emitted during construction of the Proposed Action and alternatives.

Construction activities associated with the Proposed Action and alternatives would occur over a number of years, with portions of the area being developed in phases. However, the exact timing and duration of these phases is not currently known as they would be determined by market conditions and other factors that are unpredictable over the course of development. The estimated period in which build out of the Proposed Action (or any of the alternatives) would occur is from 2012 through 2030 or 2040. Depending on conditions, construction may be delayed or reduced so that the year of full build out could be well past that year.

The URBEMIS2007 Environmental Management Software was used to estimate the construction-related CO_2 emissions of the Proposed Action. The default construction equipment and vehicle mixes generated by URBEMIS2007 were assumed for grading and building construction. All construction was assumed to occur over the period of a single year, using the same general estimates of duration of construction phases that were used in preparation of the EIR. This provided a rough estimate of total GHG emissions from construction regardless of actual construction schedule. The total GHG emissions during construction would be approximately 29,000 MTCO2e for the Base Plan scenario and 40,000 MTCO2e for the Blueprint scenario. These values exceed the general major source threshold of 25,000 MTCO2e. Consequently, the effect from construction emissions would be **significant**.

Construction emissions are roughly proportional to the land area to be graded as well as the total building area. The URBEMIS model estimates construction emissions based on various parameters related to the amount of specific land use types to be constructed. Residential development emission estimates are based on number of dwelling units whereas retail and commercial development estimates are based on building square footage. The variation in these parameters between the No Action Alternative and the Proposed Action and Alternatives 1 through 5 is relatively small, especially in comparison

to the likely margin of error in the construction emissions estimate. Therefore, although the construction emissions were not estimated for any of the alternatives, they are expected to be similar to the estimated emissions of the Proposed Action, and none of the alternatives would result in emissions lower than the major source threshold of 25,000 $MTCO_2e$. Therefore, the effect from construction emissions under all alternatives would be **significant.**

PVSP EIR Mitigation Measures 4.8-1a through **4.8-1e** would be implemented to address the effect related to GHG emissions due to construction. These measures were adopted by Placer County at the time of the approval of PVSP (Base Plan) and will be enforced by the County. The USACE assumes that Placer County would impose the same mitigation measures on any development on the project site pursuant to Proposed Action Blueprint scenario, No Action Alternative, and Alternatives 1 through 5 (individually or combined) to address this impact. These measures would require a Placer County Air Pollution Control District (PCAPCD) approved construction emission/dust control plan and compliance with the construction vehicle air pollutant control strategies developed by the PCAPCD. The EIR states that these mitigation measures would significantly reduce construction-related GHG impacts but not fully mitigate the effect which would remain significant and unavoidable. The USACE also finds that the mitigation measures described above would not fully mitigate the effect of the Proposed Action and all alternatives, and this effect would remain **significant**.

PVSP EIR Mitigation Measure 4.8-1a through
PVSP EIR Mitigation Measure 4.8-1e: **Minimize GHG Emissions during Construction**
(Applicability – Proposed Action and All Alternatives)

Would require a PCAPCD-approved construction emission/dust control plan and compliance with the construction vehicle air pollutant control strategies developed by the PCAPCD. The full text of the mitigation measures is available in ***Appendix 3.0****.*

Impact GHG-2 GHG Emissions due to Operation/Occupancy

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), Alts. 1 through 5

The GHG emissions due to operation/occupancy from the No Action Alternative, Proposed Action, and Alternatives 1 through 5 would result in a **significant** effect. **PVSP EIR Mitigation Measures 4.13-1a** through **4.13-1p** would reduce the effect but the effect would remain **significant.**

Upon occupancy, the Proposed Action would generate GHG emissions - primarily CO_2, CH_4, and N_2O - from a number of sources that include (1) area sources (natural gas consumption), (2) motor vehicles, (3) indirect sources (electricity consumption, water, and wastewater), and (4) stationary sources. **Table 3.5-4, Estimated Operational GHG Emissions – Proposed Action,** presents the total estimated GHG emissions from occupancy and operation of the Proposed Action. Changes in carbon sequestration (the storage of carbon in biomass) from the Proposed Action are assumed to be negligible as the site is primarily grassland, with no significant sources of carbon sequestration. The Proposed Action's direct (Scope 1) emissions would exceed 25,000 $MTCO_2e$.

Table 3.5-4 also presents the indirect emissions that would be produced as a result of the occupancy of the Proposed Action. As the table shows, the Proposed Action's total emissions (Scope 1, 2, and 3) would exceed 25,000 $MTCO_2e$.

Table 3.5-4
Estimated Operational GHG Emissions – Proposed Action

Scope	GHG Emissions Source	Emissions (Metric Tons CO_2e/year)	
		Base Plan	Blueprint
Scope 1	Transportation (Mobile Sources)	279,851	342,069
	Area Sources	45,365	63,802
Scope 2	Electricity	49,046	60,945
Scope 3	Solid Waste	33,043	39,489
	Water & Wastewater	2,604	3,565
Total Scope 1/Direct Emissions		**325,216**	**405,871**
CEQ Threshold for Analysis		**25,000**	**25,000**
Exceeds Threshold?		YES	YES
Total Operational GHG Emissions		**409,771**	**509,666**

*Source: Impact Sciences, Inc. Emissions calculations are provided in **Appendix 3.5**.*

The basis for GHG emissions thresholds in California is AB 32, which requires a general state-wide reduction in emissions of 29 percent from BAU. The operational emissions shown in **Table 3.5-4** do not include any GHG reductions or other efficiency or sustainability measures and would therefore be considered BAU. Given the magnitude of these emissions and the fact that they result from BAU, the Proposed Action's effect on global climate would be **significant.**

Emissions from both area and mobile sources are generally proportional to the level of

development, specifically the number of residential units to be constructed and the total amount of commercial or other building space to be built on the site. While the No Action Alternative would reduce the overall development footprint and the size of the proposed community, Alternatives 1 through 5 primarily vary in the acreage committed to residential, public, commercial and other land uses, while holding the actual amount of both residential units and commercial space to be developed constant. Consequently, emissions from the various alternatives would be very similar to those of the Proposed Action. While increased density would result in some minor reductions in emissions from vehicles, the reductions would not significantly change the total emission estimates. Therefore, all alternatives would result in GHG emissions that would be substantially over the threshold suggested by CEQ and because they would be BAU emissions, the emissions from the operation of all alternatives would result in a **significant** effect on global climate.

PVSP EIR Mitigation Measures 4.13-1a through **4.13-1p** would be implemented to address the effect from GHG emissions due to operation and occupancy. These mitigation measures were adopted by Placer County at the time that it approved PVSP (Base Plan) and will be enforced by the County. The USACE assumes that Placer County would impose the same mitigation measures on any development on the project site pursuant to Proposed Action (Blueprint Scenario), No Action Alternative, and Alternatives 1 through 5 (individually or combined) to address this impact. These measures would require the implementation of a variety of methods to reduce GHG emissions, such as promoting bicycle and transit use, prioritizing electric, hybrid or alternative fuel vehicles as well as ride sharing. Other methods include implementing measures to reduce residential energy consumption and requiring waste diversion and recycling. Placer County concluded that these mitigation measures would significantly reduce operational GHG impacts but not fully mitigate the effect, which would remain significant and unavoidable (Placer County 2007). The USACE also finds that the mitigation measures described above would not fully mitigate the effect of the Proposed Action and all alternatives, and this effect would remain **significant** after mitigation.

PVSP EIR Mitigation Measure 4.13-1a through
PVSP EIR Mitigation Measure 4.13-1p: **Minimize GHG Emissions during Operation/Occupancy (*Applicability – Proposed Action and Alternatives*)**

Would require a variety of methods to reduce GHG emissions, such as promoting bicycle and transit use, prioritizing electric, hybrid or alternative fuel vehicles as well as ride sharing. Other methods include implementing measures to reduce residential energy consumption and requiring waste diversion and recycling. The full text of the mitigation measure is available in ***Appendix 3.0****.*

Impact GHG-3 Indirect Effects on Climate Change from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5

The construction of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which may be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5, would likely result in **less than significant** effects to climate change. The duration and extent of construction is unknown. However because construction emissions would be short term and very small compared to the operational emissions of any development project or the construction emissions of the Proposed Action, and mitigation measures that are routinely implemented to reduce criteria pollutant emissions from construction equipment, would also reduce GHG emissions, the impact from construction emissions associated with pipeline infrastructure would be less than significant. There would be no operational air quality emissions related to maintenance of the off-site water pipelines.

3.5.6 RESIDUAL SIGNIFICANT IMPACTS

PVSP EIR Mitigation Measures 4.8-1a through **4.8-1e** would reduce construction-phase GHG emissions, but would be insufficient to reduce the emissions significantly. The Proposed Action and the alternatives would have a residual **significant** effect due to GHG emissions during construction.

PVSP EIR Mitigation Measures 4.13-1a through **4.13-1p** would reduce emissions, but would be insufficient to reduce the emissions significantly. The Proposed Action and the alternatives would have a residual **significant** effect due to GHG emissions during operation and occupancy.

3.5.7 REFERENCES

California Air Resources Board. 2010. "California Greenhouse Gas 2000-2008 Inventory by Scoping Plan Category - Summary," http://www.arb.ca.gov/cc/inventory/data/data.htm.

California Department of Finance. 2010. "Financial & Economic Data: Gross Domestic Product, California," http://www.dof.ca.gov/HTML/FS_DATA/LatestEconData/FS_Misc.htm. Amounts are based on current dollars as of the data of the report (June 2, 2009).

California Energy Commission. 2006. "Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004."

Placer County. 2006. "Placer Vineyards Specific Plan Revised Draft EIR." Quad Knopf.

Placer County. 2007. "Placer Vineyards Specific Plan Second Partially Recirculated Revised Draft EIR." Quad Knopf.

Council on Environmental Quality. 2010. "Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions Council on Environmental Quality."

Bay Area Air Quality Management District. 2010. "Air District's CEQA Guidelines."

U.S. Census Bureau. 2010. "Data Finders," http://www.census.gov/.

California Department of Finance. 2009. "E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2008, with 2000 Benchmark," http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2009/.

U.S. Environmental Protection Agency (U.S. EPA). 2009. "EPA and NHTSA Propose Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks," http://www.epa.gov/oms/climate/documents/420f11038.pdf.

3.6 CULTURAL RESOURCES

3.6.1 INTRODUCTION

Cultural resources include: historic and prehistoric archaeological sites, deposits and features; historic and prehistoric districts; and built environment resources, including, but not necessarily limited to, buildings, structures, and objects. They also include traditional cultural properties and sacred sites, including cemeteries, human remains, and features or sites associated with significant events or practices in the traditional culture of an ethnic group. The term "historic property" is used in this section to denote properties or sites identified as eligible for listing in the National Register of Historic Places (NRHP). To avoid confusion, the term "participating parcel" is used instead of participating properties to denote the properties for which DA applications have been received by the U.S. Army Corps of Engineers (USACE). This section describes work undertaken to: identify any cultural resources that may be present within the project area and its vicinity; evaluate the significance of each identified resource, in order to identify those which appear to qualify as historic properties under the National Historic Preservation Act (NHPA); and assess the potential direct and indirect effects of the Proposed Action and alternatives on these resources, including potential visual effects on the setting of significant cultural resources. This section also assesses the potential for undiscovered resources, such as buried archaeological deposits or human remains, to be present within the project area and identifies measures to avoid adverse effects to any such resources that could be affected by the Proposed Action or the alternatives.

The information presented in this section is derived from a series of literature reviews, records searches, and archaeological and historical surveys of the project area or portions of the project area undertaken in support of cultural resources assessment for the Placer Vineyards Specific Plan (PVSP), in compliance with the California Environmental Quality Act (CEQA) in 2005 (Windmiller *et al.* 2005). That cultural resources assessment was updated by further cultural resources technical work in 2009 in support of Clean Water Act Section 404 permit applications and compliance with the National Environmental Policy Act (NEPA).

In the course of archaeological assessment of the Proposed Action, consultants contacted the California Native American Heritage Commission (NAHC) for a search of its Sacred Lands Files to determine whether there are recorded Sacred Sites (traditional resources of concern to the Native American community) within the project area. In addition, consultants contacted local Native American individuals and groups identified by the NAHC, and local historical societies, to solicit any concerns about potential effects of the Proposed Action and alternatives on traditional cultural properties, historical resources, or historic properties. Further updates of records searches and Native American consultations were undertaken in 2012 (Windmiller *et al*. 2012).

The cultural resources studies conducted through 2009, and updated with a new records search and site visits in 2012, provide some baseline information on cultural resources on the 22 land parcels within the PVSP area that are currently participating in the 404 permit application process, which together comprise 3,744 acres (1,515 hectares) of the 5,230 acres (2,116 hectares) covered by the PVSP. The

"non-participating" parcels (the remaining 1,486 acres [601 hectares] of the PVSP area) have not been subjected to comprehensive cultural resources inventories, as access for archaeological survey was not granted in most cases. On this account, no determination can be made at this time as to whether historic properties are present on these parcels, or the effects of the Proposed Action on any historic properties that might be present. Similarly, as summarized in Windmiller's 2009 and 2012 reports, although the locations of all of the proposed on- and off-site infrastructure elements associated with the proposed PVSP have been subjected to records searches and to some level of archaeological inventory, in most cases archaeological survey was limited to existing road rights- of-way because of access constraints for adjacent private properties, and did not encompass the entire Area of Potential Effects (APE) for infrastructure elements. Therefore, as discussed below, the measures to complete the identification, evaluation of significance, and resolution of adverse effect (mitigation of significant impacts) to significant cultural resources will be stipulated through the development and execution of a Programmatic Agreement (PA) with a programmatic Historic Property Management Plan (HPMP).

Methods and results of cultural resources inventory and assessment are summarized in this section and are presented in detail in the reports listed at the end of this section (Windmiller *et al*. 2005, 2009, and 2012; Wohlgemuth 2008; ECORP 2010). Results of archaeological records search inquiries and Native American consultation efforts (updated in 2012) are summarized below.

This section, and all archaeological work described herein was conducted by or under the direct supervision of archaeologists who meet the Secretary of the Interior's Professional Qualification Standards for prehistoric and historical archaeology. Architectural history assessments were undertaken by qualified architectural historians and historians who also meet the applicable Secretary of the Interior's Professional Qualification Standards.

3.6.2 AFFECTED ENVIRONMENT

3.6.2.1 Study Area and Project Area of Potential Effects (APE)

The Proposed Action consists of the implementation of a Specific Plan that would develop the project area with a mixed use, mixed density community. The PVSP proposes extensive residential and commercial development, parks and other open space, and associated infrastructure. It is anticipated that the Specific Plan would be implemented over a period of about 30 to 40 years, depending upon market conditions. The Specific Plan is a land use plan that designates the general character and location of types of development within the project area, but does not include detailed development plans such as proposed building footprints or exact extent and depth of excavation or other ground disturbance that might be required for the various components of development. Development details, such as specific building footprints, excavation depths and pipeline routes, will be developed as individual developments are brought forward, during each phase of Specific Plan implementation.

As noted in **Chapter 1.0**, the proposed federal action is the issuance of permits under Section 404 of the Clean Water Act by the USACE. As this action would enable the development of the PVSP project area, for ease of reference the entire development project is called the "Proposed Action" in this EIS. It must be assumed that the entire Specific Plan area would potentially be subject to subsurface disturbance under

the PVSP, although further permitting and environmental analysis would be required before some of the non-participating parcels would be able to develop. For purposes of analysis under Section 106 of the NHPA, for historic properties, the APE of the Proposed Action has been defined as coinciding with the boundaries of the 22 participating parcels in the Specific Plan area plus related infrastructure improvements, such as sewer and water line connections and roadways, described below.

The viewshed of the Specific Plan area consists of a mixed-use rural residential development on the northwestern and southwestern corners of the Specific Plan area, scattered rural residences north and south of the middle of the plan area, and new residential subdivisions on the southeast and northeast. The oldest concentration of buildings within the PVSP vicinity is in the community of Riego, which includes about 180 substantial buildings, only about 20 of which date to 1950 or earlier. Because this community is outside of the plan area and does not include a substantial concentration of older buildings, the effect of PVSP development on the viewshed is not anticipated to be adverse, and the APE therefore has not been extended to include additional viewshed areas outside of the 22 participating parcels.

The Proposed Action also would include some off-site improvements, as detailed in the Project Description (**Chapter 2.0** of this EIS). These would include widening of Baseline Road along the northern margin of the project area and for distances of about 1,000 feet (305 meters) east and west of the project area; improvements to Watt Avenue for about 1,000 feet (305 meters) south of the project area; expansion of several intersections; and installation of underground utilities along several roadway corridors. The horizontal APE for infrastructure improvements included in USACE Section 404 permit applications consists of the construction rights-of-way of each of the infrastructure elements detailed in **Chapter 2.0** of this EIS. Generally, the construction rights-of-way consist of a corridor about 200 feet (61 meters) wide along each affected roadway or utility alignment. Therefore, for linear infrastructure elements, the APE includes the footprint of each proposed infrastructure element, plus a 200-foot-wide (61-meter-wide) corridor along each linear facility alignment.

The Specific Plan area consists of gently rolling terrain with elevations that range from approximately 40 feet (12 meters) to 100 feet (30 meters) above median sea level. The existing average slope across the project area from east to west is approximately 0.5 percent. Therefore, limited cuts and fills would be necessary to construct the project. Grading for building pads, recreational facilities, roads, and infrastructure would require average cuts and fills over the site of approximately 1.0 to 2.0+ feet (30 to 61+ centimeters). Limited portions of the APE would have cuts and fills up to approximately 6.0+ feet (1.8+ meters). Backbone utilities within the roads would have trenches that range in depth from 3.0 to 25.0+ feet (0.9 to 7.6+ meters) from future finished grade. For purposes of analysis in this EIS, it is assumed that in most cases the depth of excavation on the project area (the vertical APE) would be less than 6 feet (1.8 meters) below ground surface. With respect to the infrastructure improvements, the maximum vertical APE along could be as much as 9 feet (2.7 meters), to accommodate deep utility trenching as needed; however, subsurface excavation along utility corridors generally would extend to no more than 6 feet (1.8 meters) below surface.

The Specific Plan area is located west of Roseville, in Placer County near the eastern margin of the Sacramento Valley. The Specific Plan area consists of gently rolling topography vegetated primarily in

open non-native grasslands. Curry Creek, a perennial watercourse, traverses the northern portion of the project site, and Dry Creek, another perennial, runs along the southwestern margin of the site. There is dense riparian vegetation in some areas along these creeks including willows, cottonwoods and a few oaks. There is a stand of (non-native) eucalyptus trees on the southeastern part of the site. The site also includes the several intermittent stream courses, and scattered vernal pools, ponds and other seasonal wetlands. The majority of the Specific Plan area is undeveloped and historically has been used primarily for dry farming and cattle grazing operations, with associated rural residences, although some areas have been graded and diked for rice cultivation. The western area of the site, where there are two large areas comprising the non-participating parcels, is characterized by substantial semi-rural residential development, most postdating the 1950s.

For the purpose of compliance with Section 106 of the NHPA, the horizontal APE is hereby defined as the 5,230-acre (2117-hectare) specific plan area plus approximately 235 acres (95 hectares) of infrastructure improvements. The vertical APE extends from approximately 35 feet (11 meters) above the surface (for the construction of structures) and 6 feet (1.8 meters) below the surface, to allow for the deep installation of buried utilities and infrastructure. The APE, as defined herein, is set forth in the USACE's request for consultation to the California State Historic Preservation Officer (SHPO), dated October 22, 2012.

3.6.2.2 Regional Prehistory, Ethnography and History

Regional Prehistory, Ethnography and Prehistoric and Contact Period Archaeology

The cultural chronology described below draws upon data summaries for the project area provided in Windmiller's cultural resources inventory and evaluation report (Windmiller 2009: pp 15-30), prepared in support of Section 404 permitting for the PVSP, and on the cultural resources overview (ECORP 2007: pp 6-10) prepared in support of the Sierra Vista Specific Plan EIR, which addresses a proposed project adjacent to the north of the Specific Plan area.

Early Prehistoric Occupation

Central California was occupied at least 10,000 years ago, but archaeological evidence of this earliest occupation is sparse. The earliest California residents probably hunted late-Pleistocene big game. Evidence of early occupation in central California, commonly in the form of buried archaeological deposits, is most often found near the shores of the large pluvial lakes that were present in the Great Basin and the southern San Joaquin Valley. No such pluvial features were present prehistorically in the project area; however, Windmiller reports that stone tools found along the eastern margin of the Sacramento Valley may date to as early as 5,000 to 10,000 BC. A single, deeply buried deposit on the bank of Arcade Creek, north of Sacramento, which contained grinding tools and large, stemmed projectile points, represents the earliest known occupation in the general project region, with an estimated occupation date between about 6,000 and 3,000 BC

The earliest prehistoric culture that is well represented in the central California archaeological record in the general region of the Proposed Action is evidenced by sites of the Windmiller Tradition, dating from about 3,500 BC to 1,000 BC in the Sacramento Valley, in particular the Sacramento Delta region.

Assemblages from these sites include well-finished projectile points; an array of shell beads and ornaments; milling stone, mortars and pestles; fishing implements; well-finished "charmstones," often found in graves (and which may have served as net weights, spindle whorls, or for hunting magic or other unknown ritual functions); and distinctive burial patterns that included extended burials with heads oriented to the west and the extensive use of red ochre. The archaeological assemblage suggests a diverse subsistence practice that included hunting of deer and other game, salmon fishing and use of both hard seeds and of acorns. The Windmiller culture may be ancestral to the Penutian-speaking Nisenan, the ethnographic occupants of the project area. There are no known Windmiller sites in the project vicinity.

Later Prehistoric Occupations

The Consumnes Tradition (1700 BC to AD 500) appears to be an outgrowth of the Windmiller Tradition After about 1,000 BC; archaeological sites in the Delta region indicate an increased subsistence focus on acorns and salmon. Like the Windmiller people, the Cosumnes people continued to occupy knolls and similar high spots above the floodplain of the Sacramento River and the terraces of the Sacramento tributaries. Populations increased and villages became more numerous, and there is an increase in milling tools and specialized equipment for hunting and fishing in archaeological deposits. Trade goods such as shell ornaments and beads and obsidian became more common as burial associations, which suggest an increase in inter-regional trade. Burial styles became more varied, with the addition of flexed interments along with the extended ones of the Windmiller period. Projectile points found embedded in the bones of excavated skeletons suggest that warfare was on the rise, possibly as a result of increased competition over available resources and trade.

Assemblages associated with the Hotchkiss Tradition, which succeeds the Cosumnes Tradition, appeared around AD 500 in archaeological deposits in the project region and persisted into historic times. Subsistence during this time focused on acorns and salmon, and also included the use of deer, waterfowl, hard seeds, and a range of other plant and animal resources. Archaeologically, the Hotchkiss Tradition is represented by numerous large village sites on the lower Sacramento and San Joaquin rivers and their tributaries, and throughout the Delta region. The number and density of archaeological sites suggests that population continued to increase. Trade goods continue to increase. Increased diversity in the number and variety of grave goods has been suggested to indicate social stratification. The artifact inventory includes large numbers and a wide variety of bone tools, but fewer milling tools and polished "charmstones." Groundstone pipes become abundant, and fired and unfired clay objects appear. Shell beads provide fine chronological stratification during this period.

Local Prehistoric Archaeology

Palumbo (1966) studied 32 prehistoric archaeological sites along Dry Creek between Roseville, on the east, and the American Basin on the west. Four of the sites studied by Palumbo are located within the PVSP area: CA-PLA-46, -47, -80 and -82. She concluded that these and 24 other sites she studied in the drainage represented temporary/seasonal camps, while four other sites, none of which is on the PVSP

project area, appear to represent permanent villages. Palumbo noted that site density apparently was greater in the upper (eastern) part of the Dry Creek drainage than in its lower reaches.

Archaeological evidence suggests that sedentary villages were established in the western Sierra by around AD 1. Utian populations appear to have occupied the Sacramento Delta and the hills on the eastern and western sides of the Sacramento Valley as much as 2,000 years prior to this time. The Berkeley Pattern, a cultural florescence sometimes referred to as the Middle Horizon, apparently grew out of cultural interchange or fusion between Utian speakers and the Hokan and Yukian speakers resident around San Francisco Bay. Palumbo suggested that large stemmed projectile points found at Dry Creek sites may represent a Late Period cultural trait that persisted from Middle Horizon times. These dating inferences are somewhat speculative, however, as there has been little substantive archaeological investigation in the project vicinity during the past several decades, and no absolute dating of any of the Dry Creek sites.

Project Area Ethnography

At the time of Spanish contact (ca. AD 1800), the Specific Plan area was within the southwestern part of the territory of the Nisenan, or Southern Maidu cultural group. The Dry Creek drainage lies at the ecotone (edge area) between the Valley and the Foothill Nisenan territories. Archaeological and linguistic evidence suggests that the Valley Nisenan arrived in the central Sacramento Valley around AD 500 to 600, and used the region at increasing intensity after around AD 1200 and into the contact period. Interregional trade also expanded greatly during this time.

Settlement patterns appear to have varied between foothill and the valley Nisenan. The foothill Nisenan were mobile hunter-gatherers who did not focus on year-round "permanent" villages. Instead, each tribelet, a loosely organized political unit, used dozens of small camps, with a few larger villages as tribelet centers. In contrast, the Valley Nisenan lived in large sedentary or semi-sedentary villages along the major river courses, including the American, Yuba, and Sacramento Rivers. The Nisenan — both the Valley Nisenan, and the Southern and Northern Foothill Nisenan, who lived in the Sierra foothills, to the east — used the grassy plains between the river and the Sierra foothills, probably including the Specific Plan area, mainly for foraging. Hunting and foraging practices were varied and a wide range of resources were used. Woodlands yielded acorns, a primary staple. In the grasslands, hard seeds were gathered, and hunters pursued rabbits and deer. Rivers, streams and marshes were exploited for fish and waterfowl. The Nisenan also participated in an extensive trade network through which goods were traded throughout California and beyond. Obsidian for projectile points and marine shell beads were important trade commodities, for which the Nisenan may have served as "middlemen."

Regional History and Historic Built Environment

Spanish explorers entered the Central Valley by about 1769 but did not establish any settlements there. In 1833, a great epidemic, possibly malaria, killed as much as 75 percent of the aboriginal population of central California.

The first substantial non-native population incursions into the region were triggered by the discovery of gold in the Sierra foothills in 1848, at which time the City of Sacramento was laid out and a major population influx into the region began. During the Gold Rush, numerous claims were worked along the American River, 5 miles east of the Specific Plan area. However, the streams running through the Specific Plan area were not exploited because they did not cross gold-bearing deposits; for this reason, the Roseville area did not experience the population boom that occurred in Sacramento and extended into the Sierra foothills. The Roseville area provided some agricultural support of the burgeoning Gold Rush population, but thin soils and a paucity of water supported only marginal farming and ranching in the project area. During this period, much of the land that makes up the Specific Plan area was given by the United States government to the (new) State of California, or to the railroads. There was some private settlement of these areas by the 1860s, however. The project vicinity was used primarily for grazing and dry farming of crops such as wheat and hay. The historic archaeological record for this area would be expected to include a relatively sparse scattering of late 19th and 20th century residences, farm and ranch support buildings, and ancillary features such as privy pits, wells, windmills, cisterns, fence lines and corrals.

The development of regional and interstate railroads was very important in the history of the Roseville area as early as 1855. Railroad development spurred other economic activity, particularly after the Southern Pacific Railroad reached Roseville in 1887 and, after the turn of the 20th century, established freight yards there. The Sacramento Northern Railroad, an electric interurban line (the route of which forms part of the western boundary of the Specific Plan area) was established around 1905 to provide service between Sacramento and Chico and was later extended into the San Francisco Bay area. The line carried passengers until about 1940, and freight into the 1950s. After this time, the line operated as a series of branch lines, most only sporadically or seasonally, and some segments were removed entirely (Groff 2008). The railroad alignment lies along the western margin of Parcels 23 and 24 in the project APE. Although traces of the berm can be found, most of its remnants have been substantially altered by past grading (Windmiller *et al*. 2005). Other important industries in this part of the Sacramento Valley have included granite and gravel extraction and the development of large-scale reclamation and irrigation projects. However, there is no evidence of mineral extraction activities or large-scale reclamation or irrigation activities within or adjacent to the Specific Plan area.

The Western Area Power Administration (WAPA), a federal agency, constructed an extensive network of high voltage power lines throughout the Sacramento Valley, starting in the 1930s, to carry hydroelectric power generated at the Northern California dams of the Central Valley Project throughout the region. The Elverta-Roseville line, constructed in 1955, runs across the western end of the Specific Plan area (Parcels 23 and 24). The WAPA facilities are continuously maintained and upgraded to modern standards and do not retain historic characteristics.

Many roadways in the Sacramento Valley follow routes established as early as the 1850s. Baseline Road, which runs along the northern edge of the Specific Plan area, appears on the 1892 and 1929 GLO Plats but, on these maps, the roadway extends westward from Roseville only to Fiddyment Road, at the northeastern corner of the Specific Plan area (Windmiller *et al*. 2005). Baseline Road now continues along

the northern boundary of the Specific Plan area and is a modern paved road. Several roads that cross or extend into the Specific Plan area north to south run along historic road routes, but all have been fully modernized and exhibit no historic characteristics except for the routes themselves.

3.6.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

3.6.3.1 Federal

National Historic Preservation Act, Section 106

The NHPA established the NRHP, and defined federal criteria for determining the historical significance of archaeological sites, historic buildings and other resources. Under Section 106 of the NHPA, the lead federal agency is required to define the APE for its undertaking (equivalent to the boundaries of "the Proposed Action" here); to identify any potential historic properties within the APE; to apply the National Register criteria of significance to determine whether any of the identified properties qualify as historic properties (that is, cultural resources that meet the significance criteria that determine their eligibility for listing on the NRHP); and determine whether the undertaking's effects on eligible historic properties would be adverse. The effort to identify potential historic properties must include not only archival research and archaeological and architectural surveys, but also outreach to the public and efforts to include potentially interested parties. These may include Native American and other ethnic groups, and historical societies, which may have information about the presence of potential historic properties.

To be determined eligible for the NRHP, a historic property must meet one of four historical significance criteria (listed below), and also must possess sufficient deposition, architectural or historic integrity to retain the ability to convey the resource's historic significance. Resources determined to meet these criteria are eligible for listing in the NRHP and are termed "historic properties." A resource may be eligible at the local, state, or national level of significance.

A property is eligible for the NRHP if it meets one or more of the following criteria and possesses integrity of location, design, setting, materials, workmanship, feeling, and association:

(a) is associated with events that have made a significant contribution to the broad patterns of our history;

(b) is associated with the lives of a person or persons significance in our past;

(c) embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master, or possesses high artistic value, or represents a significant and distinguishable entity whose components may lack individual distinction; or

(d) has yielded or may be likely to yield information important in prehistory or history.

A resource that lacks historic integrity or does not meet one of the NRHP criteria of eligibility is not considered a historic property, and effects to such a resource are not considered significant under the NHPA. However, Section 106 requires the federal lead agency to assess the significance of the effects of its actions upon those resources that are determined to be historic properties. Section 106 also establishes

a consultation process under which the federal lead agency must consult with the Advisory Council on Historic Preservation to take these effects into account in federal decision prior to the undertaking. A process is also established for resolving adverse effects on historic properties.

USACE Responsibility for Section 106 Relative to Clean Water Act Section 404

A project that requires a federal permit, such as a Clean Water Act Section 404 permit to address potential effects to the Waters of the U.S., is considered a federal undertaking under Section 106 of the NHPA. In considering whether or not to issue a Section 404 permit, the USACE, as the federal lead agency under Section 106 of the NHPA, has a responsibility to take into account the direct and indirect effects the undertaking will have on historic properties.

The USACE complies with the NHPA through implementing procedures set forth at 33 CFR Part 325, Appendix C, and the Interim Guidance (33 CFR Part 325). The USACE drafted Appendix C in 1981 (with revisions in 1990) as the historic properties review procedure for USACE permits. A copy of these regulations can be found at http://www.usace.army.mil/cw/cecwo/reg/33cfr325.htm.

3.6.3.2 State

California Environmental Quality Act

Under the *State CEQA Guidelines*, Section 15064.5, a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. This section defines cultural resources as including both historical and archaeological properties, establishes the California Register of Historical Resources (CRHR), sets forth criteria for establishing the significance of historical resources, and finds that cultural resources that meet the criteria of eligibility for the CRHR are significant historical resources.

For the purposes of CEQA review, the *State CEQA Guidelines* define "historical resources" to include any resource that (1) is listed in or has been determined eligible for listing in the CRHR by the State Historical Resources Commission; (2) is included in a local register of historical resources, as defined in Public Resources Code 5020.1(k); (3) has been identified as significant in a historical resources survey, as defined in Public Resources Code 5024.1(g); or (4) is determined to be historically significant by the CEQA lead agency [14 Cal. Code Regs, § 15064.5(a)]. In determining whether something qualifies as a historical resource, the CEQA lead agency usually applies the CRHR eligibility criteria.

The criteria for eligibility of resources to the CRHR closely mirror the NRHP and are found at Title 14, California Code of Regulations, Section 4852(b). In addition, the resource must retain integrity. Like the NRHP, integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [14 Cal. Code Regs § 4852(c)].

Although the significance criteria for inclusion in the NRHP and CRHR are similar, a resource may meet the criteria for the CRHR but not the NRHP. In such a case, a significant cultural resource could be an "historical resource" but not an "historic property." However, any resource that meets the NRHP

eligibility criteria and retains integrity is automatically eligible for inclusion in the CRHR. Evaluations of significance relative to the CRHR were addressed separately in the EIR.

California Health and Safety Code 7050.5 and Public Resources Code 5097.98

Under the California Health and Safety Code, the intentional disturbance, mutilation, or removal of interred human remains is a misdemeanor. The code requires that, upon discovery of human remains outside of a dedicated cemetery, the County Coroner must be notified and further ground disturbance must cease until the County Coroner makes a report determining whether the find represents a crime scene or a Native American burial. If the Coroner recognizes the remains to be those of a Native American, he must contact the Native American Heritage Commission (NAHC) within 24 hours. Public Resources Code 5097.98 sets forth procedures by which the NAHC may identify a Native American Most Likely Descendant, who may inspect the remains and consult with the landowner to provide for the respectful treatment and/or reinterment of the remains.

3.6.3.3 Local

Placer County General Plan

In addition to cultural resources as recognized by Section 106 of the NHPA and CEQA, the Placer County General Plan contains the following policies to address cultural resources:

Policy 5.D.1. The County shall assist the citizens of Placer County in becoming active guardians of their community's cultural resources.

Policy 5.D.2. The County shall solicit the cooperation of the owners of cultural and paleontological resources, encourage those owners to treat these resources as assets rather than liabilities, and encourage the support of the general public for the preservation and enhancement of these resources.

Policy 5.D.3. The County shall solicit the views of the Native American Heritage Commission and/or the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.

Policy 5.D.4. The County shall coordinate with the cities and municipal advisory councils in the County to promote the preservation and maintenance of Placer County's paleontological and archaeological resources.

Policy 5.D.5. The County shall use, where feasible, incentive programs to assist private property owners in preserving and enhancing cultural resources.

Policy 5.D.6. The County shall require that discretionary development projects identify and protect from damage, destruction, and abuse, important historical, archaeological, paleontological, and cultural sites and their contributing environment. Such assessments shall be incorporated into a Countywide cultural resource data base, to be maintained by the Department of Museums.

Policy 5.D.7. The County shall require that discretionary development projects are designed to avoid potential impacts to significant paleontological or cultural resources whenever possible. Unavoidable impacts, whenever possible, shall be reduced to a less than significant level and/or shall be mitigated by extracting maximum recoverable data. Determinations of impacts, significance, and mitigation shall be made by qualified archaeological (in consultation with recognized local Native American groups), historical, or paleontological consultants, depending on the type of resource in question.

Policy 5.D.8: The County shall, within its power, maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts.

Policy 5.D.9. The County shall use the State Historic Building Code to encourage the preservation of historic structures.

Policy 5.D.10. The County will use existing legislation and propose local legislation for the identification and protection of cultural resources and their contributing environment.

Policy 5.D.11. The County shall support the registration of cultural resources in appropriate landmark designations (i.e., National Register of Historic Places, California Historical Landmarks, Points of Historical Interest, or Local Landmark). The County shall assist private citizens seeking these designations for their property.

Policy 5.D.12. The County shall consider acquisition programs as a means of preserving significant cultural resources that are not suitable for private development. Organizations that could provide assistance in this area include, but are not limited to, the Archaeological Conservancy, The Nature Conservancy, and the Placer Land Trust.

Placer Vineyards Specific Plan Implementation Policy 9.1

Policy 9.1 of the PVSP Implementation Plan requires "subsequent conformity review," which includes the requirement that prior to any activity that may result in ground disturbance, and before a grading permit may be issued, the proposed project area must be inspected by a qualified archaeologist to determine whether any Native American cultural places are present. If such a site is identified, the archaeologist is to recommend to the County potentially feasible mitigation measures that would preserve the integrity of the site or minimize impacts to it. These may include recommendations for avoidance, preservation, and/or enhancement of the site through an open space or habitat easement, or other measures consistent with the PVSP policies and land use assumptions. The County will then consult with the appropriate Native American group and the applicant to assess the feasibility of the recommendations and determine what measures will apply.

3.6.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.6.4.1 Significance Thresholds

Under the NHPA, the federal Lead Agency, in this case, the USACE, is required to take into account the effects of its undertakings on historic properties. If historic properties are present within the project APE, the Lead Agency must determine whether its actions would adversely affect the significance of the historic properties and take steps to resolve any adverse effects.

Under federal regulations, a project has an effect on a historic property when the undertaking could alter the characteristics of the property that may qualify the property for inclusion in the NRHP. An undertaking may be considered to have an adverse effect on a historic property when it may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to,

- physical destruction, alteration, or removal of all or part of the property;
- change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- introduction of visual, audible, or atmospheric elements that diminish the integrity of the property's significant historic features;
- neglect of a property resulting in its deterioration; or
- the transfer, lease, or sale of the property out of federal ownership (36 CFR 800.9).

3.6.4.2 Analysis Methods

Under the NHPA, identification of cultural resource impacts is a three-step process, as described under "Regulatory Setting" above: (1) identification; (2) assessment of resource integrity and significance; and (3) effects assessment. This section describes the methods through which the environmental effects of the Proposed Action and alternatives on cultural resources were assessed, and results of this process.

A number of cultural resources surveys for archaeological and architectural resources were carried out at varying levels of intensity and completeness for various portions of the project area. These previous

studies were conducted between 1965 and 2012, and provide the baseline cultural context and potential for historic properties and/or historical resources within the project area. These include:

- Palumbo, 1965: site recording along Dry Creek for Master's Thesis research
- Peak and Associates, 1979: survey of the transmission line route that crosses properties 12A, 13, 14, and 19
- Peak and Associates, 1982: survey of property 2
- Far Western Anthropological Research Group, 1986: survey of the transmission line right of way, including areas not surveyed by Peak and Associates in 1979
- Foothill Archaeological Services, 1988: inspection of property 19
- Derr, 1991
- Windmiller, 1999-2000: inspection of properties 7, 9, 10, 11, 15, 16, 17, 19, and 21
- Windmiller, 2001: inspection of properties 12A and 12B
- Peak and Associates, 2004: inspection of property 8
- Windmiller, 2005: inspection of properties 1A, 1B, 3, 5C, 6, 23, and 24
- Far Western Anthropological Research Group, 2006: inspection of portions of property 7 during a PG&E corridor survey
- Windmiller, 2009 and 2012: revisits to previously documented sites (not all sites were revisited due to lack of access rights)

The previous studies included various records searches, literature reviews, Native American consultation efforts, and either pedestrian or vehicular survey. Some efforts included archaeological excavation and site recording. Methods and coverage varied between researchers, and are summarized below.

Records Searches

Several records searches for the Specific Plan area and associated off-site infrastructure improvements were conducted at the North Central Information Center, California State University, Sacramento in 1999, 2005, and 2008. Record searches for the off-site infrastructure improvements APE in Sutter County were conducted in 2005, 2008, and 2012 at the Northeast Information Center, California State University, Chico. As required by USACE regulations, the complete records search was repeated in 2012 in support of this EIS (Windmiller *et al*. 2012). The purpose of the record searches was to determine the extent and findings of previous cultural resources inventories and assessments within the project area and vicinity. In addition to the official records and maps of archaeological sites and surveys in Placer and Sutter counties, the following historic references were reviewed:

- The NRHP;
- California Historical Landmarks (1996 and updates);
- California Points of Historical Interest (1992 and updates);

- Directory of Properties in the Historical Resources Inventory (1999);
- Caltrans Historic Bridge Inventory (1987, 2000, 2006); and
- Historic Spots in California (1990).

As of 2009, archaeological and historic built environment surveys had been completed of all of the 22 participating parcels within the Specific Plan area, and a number of these areas were examined more than once. Identified resources were reinspected in 2012, as required by USACE regulations. Several additional surveys covered the portions of the APE for proposed off-site improvements, for which property access permissions were available or were not required. Cultural resources identified within the APE, and the USACE's assessment as to whether each previously recorded resource meets NRHP criteria to qualify as a historic property, are detailed in subsequent sections below.

Native American Consultation

In conjunction with each of the prior cultural resources inventories for the Proposed Action, consultants (on behalf of the USACE) contacted the NAHC first in 1999 to conduct searches of their Sacred Lands Files for Sacred Sites and/or Traditional Cultural Properties in California. In each case, the NAHC indicated that no sacred lands or traditional cultural properties have been identified in the project APE. The NAHC also supplied a list of appropriate Native American tribal and cultural group contacts for the Specific Plan area. As part of each resource identification effort, letters were written to each identified Native American contact, inquiring about any concerns for the Specific Plan area with respect to potential traditional cultural properties, burial sites, and/or archaeological sites. Each letter was followed up with a phone call.

In 2009, consultants contacted 15 Native American groups or individuals by mail and phone. Five of the contacts responded. Two had no specific comments regarding cultural resources that could be affected by the PVSP; one indicated that he would like to visit the project area, but that it was outside his group's traditional territory; two respondents expressed concerns about potential to affect Native American cultural resources and requested copies of archaeological technical reports and site records, and that a tribal monitor be funded by the project to be present during future cultural resources studies and during ground breaking activities.

In 2012, the consultants again contacted the NAHC to request a Sacred Lands File search and an updated list of Native American contacts for Placer and Sutter counties. The search did not indicate the presence of Native American cultural resources in the project vicinity. The NAHC provided a list of eight Native American contacts (**Table 3.6-1, Native American Organizations and Individuals Contacted in 2012**). The consultants contacted each organization or individual by letter and phone, described the project, and asked for any information on known or suspected sites of Native American importance. Four of the contacts responded. One requested information on how to formally request Consulting Party status with the USACE and one requested that the Shingle Springs Band of Miwok Indians be included as a Consulting Party for the project under NHPA Section 106. One respondent asked that, if any Native American human remains or grave goods are found, they be treated in accordance with California law. The United Auburn Indian Community of the Auburn Rancheria (UAIC) requested to receive any

archaeological reports on the project so that the Tribe could determine whether the proposed project could affect cultural resources of importance. The Tribe also requested to receive project environmental documents so that the Tribe may comment. The Tribe stated that the Tribe's Preservation Committee has identified cultural resources in the project area and requested a project area visit to confirm the location of such sites (Windmiller *et al*. 2012). As a result, the USACE contacted the UAIC on June 14, 2012, and received another request to review relevant cultural resources reports. The UAIC also requested a coordination meeting. The USACE met with representatives of the UAIC on September 21, 2012 and provided them with the requested materials. Consultation is ongoing.

Table 3.6-1
Native American Organizations and Individuals Contacted in 2012

Name	Organization
Mr. Nicholas Fonseca Chairperson	Shingle Springs Band of Miwok Indians Shingle Springs
Mr. John Tayaba Formerly, Vice Chair	Shingle Springs Band of Miwok Indians Shingle Springs
Mr. Daniel Fonseca Director of Cultural Resources	Shingle Springs Band of Miwok Indians Shingle Springs
Mr. David Keyser Chairperson	United Auburn Indian Community of the Auburn Rancheria Auburn
Mr. Marcos Guerrero, R.P.A. Tribal Preservation Committee	United Auburn Indian Community of the Auburn Rancheria Auburn
Mr. Gregory S. Baker Tribal Administrator	United Auburn Indian Community of the Auburn Rancheria Auburn
Ms. Rose Enos Auburn	None
Ms. April Wallace Moore Colfax	None

Source: Windmiller et al. 2012.

Archaeological Surveys

Results of previous cultural resources records searches, inventories, and evaluations between 1965 and 2009 are summarized in a technical report published in 2009 (Windmiller *et al*. 2009). Records of cultural resource sites identified within the PVSP participating parcels were updated in 2012, as detailed in an updated report by Windmiller (Windmiller *et al*. 2012). Archaeological surveys within the past 10 years have covered the entire area of the 22 participating parcels at varying transect intervals. Surface visibility within these parcels ranged from poor to good, with some areas obscured by agricultural crops or other vegetation. Nearly the entire ground surface in the project area has been disturbed to some extent by cultivation. In most areas, survey was confined to surface examination. However, terrace areas along

creeks and stream banks were considered likely to be sensitive for the presence of prehistoric archaeological resources. In these areas, archaeologists periodically scraped the ground surface in an effort to identify obscured deposits. Details regarding survey coverage and time spent in the survey of each participating parcel are provided in Windmiller's 2009 technical report. In 2009 and again in 2012, Windmiller field-verified and updated the location and condition of each identified resource for which access permissions could be obtained. Each is described below.

Proposed infrastructure improvement locations are described in detail and mapped in **Chapter 2.0** of this EIS. Proposed off-site improvement routes/locations were subjected to archaeological inspections either in 2005 or in 2008 (Windmiller *et al*. 2009), as summarized in **Table 3.6-2, Cultural Resources Assessment of Proposed Infrastructure Improvement Locations**, below. For some of the proposed off-site improvement locations, archaeological surveys were confined to existing roadway rights-of-way (ROW), as access permission for survey of the entire APE had not been granted. In other cases, all or part of the proposed improvement location lies within one or more of the participating parcels and could be inspected completely.

Table 3.6-2
Cultural Resources Assessment of Proposed Infrastructure Improvement Locations

Proposed Improvement	Survey Coverage	Survey Limitations
Intersection Improvements		
Riego/E. Natomas	Levee and some adjacent field margins (Windmiller et al. 2005, 2012)	Confined to levee in part of area; access limitations
Baseline Road/Pleasant Grove Road (north)	Inspected both sides of Pleasant Grove Road and portions of Baseline (Windmiller et al. 2005, 2012)	No access outside of existing ROW; Baseline Road inspection limited by road hazard
Baseline Road/Pleasant Grove Road (south)	Inspected both sides of Pleasant Grove Road and portions of Baseline Road (Windmiller et al. 2005, 2012)	No access outside of existing ROWs; Baseline Road inspection limited by road hazard
Baseline Road/Elder Street	Inspected along Elder Street (Windmiller et al. 2009, 2012)	Baseline Road hazardous; Elder Street residential yards fenced
Baseline Road/Locust Street	Completely inspected (Windmiller et al. 2005, 2012)	Limited ground visibility Baseline E of Locust
Baseline Road/Newton Street	Completely inspected (Windmiller et al. 2009, 2012)	W side of Newton fenced
Baseline Road/Brewer Road	Completely inspected (Windmiller et al. 2009, 2012)	Dry grass obscured ground surface in many locations
Road Widening		
Baseline Road	Most of extent inspected within 200-foot ROW (Windmiller et al. 2005, 2012)	Some access limitations and ground visibility generally poor
Watt Avenue	Most of extent inspected within 200-foot ROW (Windmiller et al. 2005, 2012)	Very limited visibility some areas

Proposed Improvement	Survey Coverage	Survey Limitations
Dyer Road widening and extension	Completely inspected; all within PVSP participating parcels (Windmiller et al. 2009, 2012)	Ground visibility poor
Road Construction		
18th Avenue	Completely inspected; entirely within a participating parcel (Windmiller et al. 2009; 2012)	Ground visibility moderate
16th Street	Completely inspected (Windmiller et al. 2009,2012)	One non-participating property adjoins, but adjacent ROW visible across fence
East Dyer Lane	Almost completely inspected (Windmiller et al. 2009, 2012)	Non-participating property adjoins small part of alignment
Utilities		
Potable Water Line Option A	Completely inspected (Windmiller et al. 2005, 2012)	Precise alignment not marked; may vary slightly
Recycled Water Line	Bare ground areas inspected (Windmiller et al. 2009, 2012)	Most within built environment with no visibility
Six Recycled and Potable Water Tank Locations	Completely inspected: all within PVSP areas (Windmiller et al. 2009, 2012)	Ground visibility moderate
Force Main, Watt Avenue to Dry Creek WWTP	Most inspected (Windmiller et al. 2005, 2012)	Some limitations due to active construction
Gravity Sewer Line, E Dyer Lane to Watt Avenue/PFE Road lift station	Northern portion within PVSP area inspected (Windmiller et al. 2009, 2012)	No access permission for alignment off-site south of Dry Creek or for lift station site
Force Main TL from lift station to existing force main east of Walerga Road	Not inspected; records search only	No access permissions
Force Main from western extension of Dyer Road to proposed lift station at Locust Road	Inspected as part of PVSP survey; entirely within participating area (Windmiller et al. 2009, 2012)	Ground visibility moderate

Built Environment Resource Identification and Assessment

Participating parcels within the project area were subjected to an architectural history assessment in 1999-2000 with a focus on buildings and structures more than 50 years of age (Windmiller *et al*. 2000). A preliminary architectural overview was conducted of the remainder of the project area at that time, as well. Likely locations of historic-period buildings and structures within the project area were identified based on historic maps and other data, and sites where potential historic structures were identified through archival research were inspected on the ground. In 2005, an architectural historian formally recorded and evaluated each of the identified historic structures located on participating parcels (Windmiller *et al*. 2005). Each historic structure was revisited, and site records updated in 2008, and again in 2012 (Windmiller *et al*. 2009, 2012).

For historic architectural resources, all infrastructure improvement locations within PVSP participating parcels, within public ROW, or on properties for which access had been granted were inspected on the ground. In addition, buildings and a cemetery within the linear corridors for proposed infrastructure improvements were identified from aerial photos. All buildings and structures so identified were visited by an architectural historian, and buildings and structures older than 45 years were fully documented.

Efforts to Identify Potential Buried Archaeological Deposits

The Specific Plan area is located west of Roseville, in Placer County near the eastern margin of the Sacramento Valley. The Specific Plan area consists of gently rolling topography vegetated primarily in open non-native grasslands. Curry Creek, a perennial watercourse, traverses the northern portion of the project area, and Dry Creek, another perennial, runs along the southwestern margin of the plan area. There is dense riparian vegetation in some areas along these creeks including willows, cottonwoods and a few oaks. There is a stand of (non-native) eucalyptus trees on the southeastern part of the site. The site also includes the several intermittent stream courses, and scattered vernal pools, ponds and other seasonal wetlands. The majority of the Specific Plan area is undeveloped and historically has been used primarily for dry farming and cattle grazing operations, with associated rural residences, although some areas have been graded and diked for rice cultivation. The western area of the site, where there are two large areas comprising the non-participating parcels, is characterized by substantial semi-rural residential development, most postdating the 1950s. Given the natural environment of the Specific Plan area, there exists a potential for undocumented archaeological resources, which may be buried by alluvium.

Based on a geoarchaeological assessment (Cogstone 2010) of the Sierra Vista Specific Plan area, which is located immediately to the north of the PVSP, recent alluvium in this area typically is only about 3 feet (0.9 meter) deep, and is underlain by hardpan of an age that substantially predates human occupancy of the region. The potential for deeply buried cultural deposits therefore is slight: thus, the potential for archaeological deposits that are not evident on or near the surface is relatively low. Although further south in the Sacramento area and the Sacramento-San Joaquin Delta, archaeological deposits have been found buried under 10 feet (3 meters) or more of alluvium, geoarchaeological study indicates that the project vicinity overall probably has not been subject to deep and regular flooding or other significant alluvial deposition such as might have buried archaeological deposits, although Dry Creek, the largest water course in the vicinity, likely has flooded and meandered to some extent in the past. Cogstone's geoarchaeological assessment of geological records and of soil exposures in the project vicinity, particularly in creek channels just north of the PVSP site, indicate that project area soils consist entirely of late Pleistocene sediments — Riverbank Formation deposits, deposited 300,000 to 100,000 years before present, and Turlock Formation deposits, dating to 700,000 to 500,000 before present. Sandstone base rock and hardpan in the vicinity are overlain by a thin (20 cm to less than 1 m thick [8 inches to less than 3.3 feet thick]) topsoil of decomposed Pleistocene sedimentary soils. Except for the shallow alluvium overlying the hardpan soils, the soil present in the vicinity predates the entry of humans into California by hundreds of thousands of years, and significant later alluvial deposition that might have buried later archaeological deposits has been limited in extent. On the basis of geoarchaeological assessment, the potential for naturally buried prehistoric deposits to be present within the PVSP area appears to be low.

Archaeological data on prehistoric archaeological sites in the project area suggests that many of the prehistoric sites, most of which cluster along Dry Creek, may have been surficial or shallow deposits. Archaeological testing has been limited to a very few locations on the site. Many locations recorded in the 1960s could not be revisited in 2009. However, a few of the sites that were revisited did not yield any cultural material or evidence of culturally modified soils which tends to support the impression that the sites in this area typically were shallow, with little buildup of cultural soils.

It must be assumed that the project area holds some potential for buried prehistoric deposits, most particularly along the banks of Dry Creek (where, in fact, one site was recorded to lie within deposits exposed by flood erosion). The corridors of Dry Creek (which runs along the southeastern boundary of the PVSP site and within the APEs of some off-site improvements) and its major tributaries (primarily in the eastern part of the project area) should be considered to be sensitive for the potential presence of buried prehistoric cultural deposits.

Results of Previous Cultural Resources Identification and Evaluation

Records searches and the surveys listed above resulted in the identification of 45 cultural resources within the APE. These include 11 archaeological sites, five isolated finds, one historic-period residence, and one historic-period structure within the 22 PVSP participating parcels. Nineteen additional prehistoric and historic archaeological sites and eight additional historic-period residences were identified within or immediately adjacent to the APE for infrastructure elements. It is possible that further study of portions of the PVSP, through implementation of the PA, will result in the identification of additional resources.

Some of the resources identified within the participating parcels are also within the infrastructure APE, and some resources are within the APE for more than one infrastructure element. The text that follows describes each resource in more detail and discusses any archaeological testing conducted to define horizontal and vertical boundaries of the site and to assess historical significance and integrity, and the conclusions of these assessments with respect to whether the resource qualifies as a historic property under NRHP criteria.

Cultural Resources within the APE

Table 3.6-3 presents a summary of the 45 previously recorded cultural resources within the APE.

Table 3.6-3
Cultural Resources Inventory and Eligibility for Previously Recorded Resources Within the APE

Site Designation	Description	Eligible for the NRHP?
Specific Plan APE		
5606 Straight Road	1950s residence	No
8875 Watt Avenue	1930s ranch complex	No
CA-PLA-46	Prehistoric bedrock mortars and stone tools	To be determined
CA-PLA-47	Prehistoric midden site	Yes
CA-PLA-69	Buried prehistoric archaeological deposit	Yes
CA-PLA-80	Prehistoric lithic scatter	To be determined
CA-PLA-82	Prehistoric deposit with groundstone, chipped stone, and formal stone tools	Yes
CA-PLA-944H	Early 20th century barn foundation	To be determined
CA-PLA-945H (P-31-1135)	19th century trash scatter	No
CA-PLA-946H	Sacramento Northern Railroad Grade	No
CA-PLA-947H	Concrete reservoir	No
CA-PLA-948	Prehistoric scatter of stone tools	Yes
PV-ISO-01	Mid-20th century pipe scatter	No
PV-ISO-02	Early 20th century road grader	No
DR-5	Isolated prehistoric pestle and mano	To be determined
P-31-1137	1955 McClellan Air Force Base Outer Runway Beacon Shed	No
P-31-2901	Isolated prehistoric mano	No
P-31-3303	Historic Elder Road	No
P-31-3307 and P-31-3311	Historic Pallady Road/Watt Avenue	No
P-31-3310	Isolated prehistoric obsidian biface fragment	No
Spinelli-1	Archaeological remnants of a 20th century farm complex	No
Spinelli-2	Remnants of a 20th century outbuilding	No
Infrastructure Improvements APE		
CA-PLA-1986H	1926 residence at 4300 PFE Road	To be determined
CA-PLA-1998	Prehistoric campsite	To be determined
CA-PLA-67	Prehistoric campsite	To be determined
CA-PLA-75	Prehistoric campsite	To be determined
CA-PLA-76	Prehistoric campsite	To be determined
CA-PLA-77	Prehistoric campsite	To be determined
CA-PLA-81	Prehistoric campsite	To be determined
CA-SUT-87H (CA-PLA-946H)	Sacramento Northern Railroad Grade	No
CA-SUT-85H / CA-SAC-463H	Natomas East Main Drainage Canal Levee and Reclamation District 1000 Rural Historic Landscape	Yes

Site Designation	Description	Eligible for the NRHP?
P-31-2603	Late 19th – early 20th century Union Cemetery*	No
P-31-2604	House at 8640 Watt Avenue	No
P-31-2606	House at 8720 Watt Avenue	No
P-31-2607	House at 8724 Watt Avenue	No
P-31-2608	House at 8718 Watt Avenue	No
P-31-3302	1910 House on Baseline Road	No
P-31-3305	1950s Stolenberg Farm	No
P-31-3306	Historic Brewer Road	No
P-31-3308	Historic County Acres Road	No
P-31-3309	Eagle Hotel Site	To be determined
P-31-3312	Historic Walerga Road	No
P-51-141	Historic Locust Road	No
Bridge #19C0084	Watt Avenue at Dry Creek Bridge	No

* *Although not historically significant, the cemetery includes human remains, which are protected from disturbance by state law.*

5606 Straight Road: Residence. This residence, which dates to ca. 1950s, is a Minimal Traditional style, one-story, wood frame house with wood siding and a cross-gable roof. The structure was documented in 1999-2000 and the record updated in 2009 (Windmiller *et al*. 2009, 2012). The house is set well back from the road and is surrounded by trees. Several associated outbuildings are also present. As assessed by Windmiller *et al*. (2009), this property is not associated with any significant event or persons, nor does it exhibit architecturally distinguished characteristics. The residence is of a type that is common throughout the area. It, therefore, does not meet NRHP eligibility criteria A, B, or C. Further, the property does not have the potential to yield information important to history (NRHP Criterion D). As a result, this resource is not a historic property.

8875 Watt Avenue (no primary number assigned): Ranch complex. This property is a 1930s ranch complex, with a Tudor Revival-style residence and two barns. While the house is architecturally distinctive, it has been very substantially modified, such that its appearance no longer retains historical integrity of design, materials, and workmanship. The barns are not architecturally distinctive. Although the complex is associated with the development of the local farming community in the 1930s, no direct association with important persons or events can be established. The complex therefore does not meet any of the NRHP eligibility criteria and is not a historic property.

CA-PLA-46: **Prehistoric bedrock mortars and groundstone tools.** This site was recorded in 1959 as a scatter of groundstone artifacts found eroding from the banks of an artificial ditch, and associated bedrock mortars. The site could not be relocated when the area was reinspected in 2005 (Windmiller *et al*. 2005), and backhoe trenching of the area in 2007 also failed to relocate the site (LSA Associates 2007, as reported in Windmiller *et al*. 2009, 2012). Because the site was not relocated, it could not be formally assessed; however, if bedrock mortar and associated tools are present, a prehistoric cultural deposit is likely. If relatively intact, the site likely would have the potential to yield data important to prehistory

(NRHP Criterion D), and would be considered a historic property. In the absence of physical evidence, no formal significance assessment can be made at this time. If the site was correctly located on the original record and has not been destroyed, it may have been buried by agricultural activity or flooding. The area must be considered to be archaeologically sensitive.

CA-PLA-47: Prehistoric midden site. This site was recorded in 1960 as a dark midden deposit with a surface scatter of projectile points, manos, and metates. Windmiller (Windmiller *et al*. 2009) reported that the site was revisited in 2005 by Peak and Associates, who described the site as a scatter of groundstone tools, flaked stone tools, and obsidian and metavolcanic chipped stone. Peak and Associates conducted shovel testing to determine the boundaries of the site, found intact deposits to 35 to 40 cm below surface, and initiated data recovery excavations, which were not completed. Windmiller conducted test excavations in 2009 and 2012 at this location, but did not observe any artifacts and reported that the midden deposit was not evident. This suggests that the deposit previously observed has either been destroyed or, more likely, obscured by subsequent cultivation. Nonetheless, CA-PLA-47 likely has yielded or has the potential to yield information important to prehistory with respect to chronology, trade, settlement patterns, and ethnicity/boundary domains. Although the site apparently has been at least partially destroyed, and integrity of the deposit may have been impaired by vineyard cultivation over a period of several decades, the site (if present) should be assumed to qualify as a historic property under NRHP Criterion D, and the area should be considered to be archaeological sensitive.

CA-PLA-69: Buried prehistoric archaeological deposit. This site consists of a buried cultural deposit and "pockets of rock" in the bank of Dry Creek that was exposed by flood-associated erosion in 1962. Windmiller reports that archaeologists have considered the site to be "very old," but provides no other detail on materials found at the site (Windmiller *et al*. 2009). Access could not be obtained to revisit the site in 2009 or 2012. If an older deposit is present, it almost certainly would be eligible to the NRHP under Criterion D for potential to yield chronological data; however, this cannot be determined without further information. If present and intact, the resource would be considered a historic property.

CA-PLA-80: Prehistoric lithic scatter. As reported by Windmiller (Windmiller *et al*. 2009), this site was recorded by Palumbo in 1965 as a prehistoric campsite, although no midden was reported. Artifacts noted at that time included a slate projectile point and greenstone lithic tool cores, and Palumbo interpreted these are representing an earlier occupation than many of the other sites she recorded in the Dry Creek vicinity. Peak and Associates revisited the site in 1979 and noted a surface scatter of artifacts. Windmiller *et al.* could not relocate the site during visits in 2009 and 2012, and noted that the area is now the margin of a fallow agricultural field. Windmiller noted that there is no evidence of cultural deposits at the reported location and opined that the site was a "minor archaeological resource" that likely has suffered loss of integrity or been totally destroyed by agricultural activity. In the absence of physical evidence, no evaluation of eligibility to the NRHP could be made. If the site still exists and is indeed a minor archaeological resource, it likely would not meet NRHP criterion D. However, it is located in the same fallow field as CA-PLA-82 (described below), and if it still exists, may have the potential to yield important information about settlement pattern in this area, in conjunction with the nearby CA-PLA-82. Because evidence of the site has not been found in repeated visits to the recorded location, pre-

construction testing does not appear to be warranted, but this area should be considered to be archaeologically sensitive.

CA-PLA-82: Prehistoric deposit with groundstone, chipped stone and formal tools. This site was recorded in 1962 as an eroded deposit of "dark ash" over a 2-acre (0.8 hectare) area in an agricultural field. Palumbo revisited the site in 1966 and Peak and Associates inspected it in 1982. Artifacts initially noted included pestles, manos, metates and bowl mortars, cooking stones, paints, and a hand ax. Palumbo noted many broken artifacts due to cultivation, and Peak and Associates found a widely dispersed scatter of ground stone fragments. Windmiller revisited the site in 2009 and 2012 and found no artifacts, but, in 2009, through shovel scraping exposed pockets of pale gray soil in a much smaller area in an abandoned agricultural field. Based on Windmiller's assessment, the site does not meet NRHP Criteria A, B or C, but is eligible under NRHP Criterion D. This finding is based on the previously reported range of artifacts and deposit size, which suggest the potential to yield information relevant to subsistence, technology, chronology, trade, and other issues of importance to prehistory. As a result, this site is considered a historic property.

CA-PLA-944H: Barn foundation. This site, initially recorded in 1999-2000, consists of concrete foundations of a barn, pump house, and associated well casing, with no associated artifacts, located in an agricultural field. Windmiller revisited the site in 2005 and 2009 and found the foundations slightly deteriorated, but generally unchanged. Windmiller reports that the property was acquired by George Breining in 1874, but that the barn appears to date to sometime after 1900 based on the construction materials (Windmiller *et al*. 2009). The site does not meet NRHP criteria A and B, as it is not associated with important events in local or regional history and the owner is not mentioned in regional or local histories. As remnant foundations, the site does not exemplify any significant engineering or architectural qualities and therefore does not meet NRHP Criterion C. As an isolated remnant foundation distant from the house, there exists a potential to yield important information (NRHP Criterion D). Subsurface testing to confirm the presence or absence of significant archaeological deposits has not been carried out; if present and significant, then the site would be considered a historic property.

CA-PLA-945H (P-31-001135): Historic-era trash scatter. This site was recorded in 1999 as a small scatter of historic artifacts, including fragments of several crockery jars, thick bottle glass, and white improved earthenware, which appear to date prior to 1900. The materials appear to have been uncovered by shallow cultivation across a small swale, which was probably the original dumping location. There was no evidence of associated structures or features. The deposit lies near the route of an unnamed County road that appears on the GLO plat, for which surveys were conducted in 1855 and 1857. Windmiller interpreted the site as a casual dumpsite that represents one or a few episodes of disposal. Resurvey in 2008 (Wohlgemuth 2008) recorded only one glass bottle fragment and one earthenware fragment at the site. While the site is located on the same property as the barn foundation described above, it cannot be associated definitively with any historical occupation of the property, and therefore does not meet NRHP criteria A or B. The site also does not meet NRHP Criterion C. While a trash deposit is important under NRHP Criterion D if it can be linked to specific households or another specific source, or possesses

important data, no such association could be made. Therefore, the site is not eligible under NRHP Criterion D. Therefore, this site is not a historic property.

CA-PLA-946H: Sacramento Northern Railroad Grade. This 1.32-mile segment of railroad grade runs along the western margins of both properties and marks the route of the Sacramento Northern Railroad. At one time, the line ran between San Francisco and Chico and was America's longest interurban electric passenger train route. The railroad operated between 1906 and 1940. The historical integrity of this feature has been compromised by removal of rails, ties, and trestles. The installation of high voltage transmission lines on the railroad grade between 2009 and 2012 has further compromised its integrity of setting and feeling (Windmiller *et al*. 2012). The site no longer meets any of NRHP eligibility criteria, and does not constitute a historic property.

CA-PLA-947H: Concrete reservoir. This resource consists of the remnant of a concrete-walled reservoir or cistern with an associated well. No historical information is available on the feature and it appears to have no association with significant persons or events. While this type of feature is uncommon in the area, the design does not appear to be innovative. In the absence of apparent historic associations, the reservoir does not have the potential to yield significant historical information. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, it is not a historic property.

CA-PLA-948: Prehistoric scatter of ground and chipped stone and formal tools. This site consists of a sparse scatter of ground stone and chipped stone artifacts. Palumbo, who recorded the site in 1965, considered it to be characteristic of the small, late prehistoric period campsites she found along the western portion of Dry Creek. Windmiller observed similar materials when he revisited the site in 2009 and 2012. Although the site had already been disturbed by agricultural activity when it was first recorded, the fact that materials persist on the surface suggests that subsurface deposits might be present, which could indicate an occupation of greater time depth. The site appears to have the potential to yield data relevant to local cultural sequence, settlement pattern and subsistence and technology, and therefore is a historic property under NRHP Criterion D.

Field Number PV-ISO-01 (no primary number assigned): Pipe scatter. This is a small scatter of pipes constructed of galvanized sheet metal that has been riveted and soldered. Each pipe section is 10 feet (3 meters) long, with a 6 inch (15 centimeters) diameter, and is tapered at one end. This type of piping was common in irrigation in the mid-20th century. No association with important events or persons can be made and the pipes have little information value. Because this isolate fails to meet the eligibility criteria for inclusion in the NRHP, it is not considered a historic property.

Field Number PV-ISO-02 (no primary number assigned): Antique road grader. This find is a non-motorized road grader with spoked wheels and rubber tires, found in isolation at the edge of an agricultural field. Research indicates that the equipment was manufactured by the Servis Equipment Company, Dallas, Texas. The Servis Equipment Company was incorporated on December 18, 1930. The company designed and manufactured construction equipment such as rollers, packers, and road graders from the middle to late thirties. The first semi-mount, hand-adjustable road grader blade was produced in 1934 and production ceased around 1945. While the manufacture of this piece of equipment can be

demonstrated to date to a short period of time prior to the mid-20th century, it cannot be determined whether the equipment was acquired new prior to use at this site or was brought to its present location at a later time. As an isolated artifact, its association with significant persons or events and its potential to yield information is limited. Because this isolate fails to meet the eligibility criteria for inclusion in the NRHP, it is not a historic property.

Field Number DR-5 (no primary number assigned): Isolate pestle and mano. These isolated artifacts were recorded in 1992 (Syda 1992, as reported in Windmiller *et al*. 2009, 2012), in the general vicinity of the reported location of CA-PLA-46. The artifacts could not be found when the area was resurveyed in 2005 (Windmiller *et al*. 2005). It cannot be determined whether these artifacts are truly isolates, are associated with CA-PLA-46, or represent a separate site. As isolates, the artifacts would not be eligible for inclusion in the NRHP, but they may represent a more substantial deposit that, if relocated, could be eligible for the NRHP under Criterion D, and if so, would constitute a historic property. In the absence of physical evidence, no formal significance assessment can be made at this time. The area must be considered to be archaeologically sensitive.

P-31-1137: McClellan Air Force Base Outer Runway Beacon Shed. This is a small, unornamented one-story building that housed equipment used to assist instrument landings at McClellan Air Force Base. As summarized in Windmiller (Windmiller *et al*. 2005), McClellan Air Force Base, located in Sacramento County, in the North Highlands area of northwest Sacramento, was originally established in 1935. Development at the airfield ramped up with the onset of World War II. The airfield was renamed McClellan Field in 1939 and McCllellan Air Force Base in 1947. The property on which P-31-001137 is located was acquired by the U.S. Air Force in 1952 as the increasing demands of aviation necessitated development of aviation instrument landing system (ILS) equipment sites that could be dedicated to military air traffic. The ILS structure was built at the site in 1955. Its instrumentation operated until 1978, by which time the equipment had become obsolete. The Air Force dismantled the equipment and sold the property in 1988 and McClellan Air Force Base was decommissioned in 2001. The ILS structure no longer shows evidence of its historic-period function and there are no related features in the vicinity that would suggest that this could be an element of a historic district. The ILS structure shows signs of continued deterioration between 2009 and 2012 (Windmiller *et al*. 2012). Lacking significant associations, architectural distinction, or deposits or features that could contribute further historical information, this structure does not meet any of the NRHP eligibility criteria. Therefore, it is not a historic property.

P-31-2901: Isolate mano. A single mano fragment was recorded in 1991 among the rocks near the base of Dry Creek. As an isolated artifact without historic associations, and likely redeposited from its original location, this resource does not meet any of the NRHP eligibility criteria. Therefore, it is not a historic property.

P-31-3303: Elder Road. The historic route of Elder Road was recorded as a cultural resource based on its location on a 1908 US Geological Survey (USGS) topographic map. Although the modern roadway of Elder Road follows the same route, it bears no physical evidence of the historic roadway that would convey a sense of history. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, and does not retain integrity of materials, setting, or association, it is not a historic property.

P-31-3307 (Palladay Road), P-31-3311 (Watt Avenue). The historic routes of each of these roads were recorded as cultural resources based on location on a 1908 USGS topographic map. In each case, a modern roadway follows the same route, but it bears no physical evidence of the historic roadways that would convey a sense of history. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, and does not retain integrity of materials, setting, or association, it is not a historic property.

P-31-3310: Isolate obsidian biface fragment. This artifact was discovered on the surface of a small swale, with no other associations. As an isolate this resource fails to meet the eligibility criteria for inclusion in the NRHP and is not a historic property.

Spinelli-1: Residence site (no primary number). This 20th century historic archaeological site consists of concrete slabs, a concrete-lined cellar and concrete foundations of a farmhouse and three outbuildings. Also present are fruit and landscape trees, foundation and brick chimney fragments, sheep wire fencing, metal roofing, wire nails, and window glass. An extant farmhouse and vineyard were noted at this site in 1960, but only foundations remained in 2009. Although the foundations are more than 50 years old, no cultural deposits dating to the same era were noted. The site is on the Spinelli property and presumably represents the Spinelli farm, but this property does not appear to have been associated with significant historic events or persons (NRHP criteria A and B). The foundations do not represent distinguished or innovative architecture, and the site therefore does not meet NRHP Criterion C. In the absence of associated cultural deposits, the potential to yield important information (NRHP Criterion D) appears to be very limited. The site therefore does not appear to qualify as a historic property. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, it is not a historic property.

Spinelli-2: Outbuilding site (no primary number). This site consists of a bulldozed pile of foundation chunks that clearly have been moved from a nearby location. The 1967 USGS topographic map shows a structure at the original location. The foundation remnants are assumed to represent an outbuilding associated with the Spinelli farm. The site is on the Spinelli property and presumably is associated with the Spinelli farm (Spinelli-1), but this property does not appear to have been associated with significant historic events or persons (NRHP criteria A and B). The foundations do not represent distinguished or innovative architecture, and the site therefore does not meet NRHP Criterion C. In the absence of associated cultural deposits, the potential to yield important information (NRHP Criterion D) appears to be very limited. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, it is not a historic property.

CA-PLA-1986H: House and Landscaping at 4300 PFE Road. This property was documented in 2003 as a single-story wood-frame house dating to 1926. The site could not be reinspected in 2009 and 2012 as permission to access the site was not granted, so no further information is available. All structures on the property were razed between 2003 and 2009, so the extant portion of the resource does not retain integrity and is no longer eligible to the NRHP. However, the potential archaeological values of the property could not be assessed due to lack of access. If subsurface deposits (such as a well or privy pit) are present and found to be significant, then the site would be eligible under NRHP Criterion D as an archaeological resource, and would therefore be considered a historic property.

CA-PLA-1998: Prehistoric campsite. This site was recorded by Derr in 1991 as a narrow scatter of ground and flaked stone artifacts along Dry Creek. Based on the narrow distribution of artifacts, Derr suggested that the materials might have been redeposited through agricultural activity. Access permission was not granted to visit this location in 2009 or 2012. As the site's present condition is unknown, it cannot be evaluated for NRHP eligibility at this time. However, if the site is still present, it would potentially be eligible under NRHP Criterion for its potential to yield data on local settlement pattern and special use sites, in conjunction with the study of the other sites in the near vicinity. If found eligible, it would be considered a historic property.

CA-PLA-67: Prehistoric campsite. This site was recorded in 1966 as an extensive surface scatter of groundstone and other artifacts in a plowed field near PFE Road. Access was not granted to revisit the site in 2009 or 2012, so it could not be evaluated. If the materials are still present and integrity has not been further diminished by continuing agriculture, the site likely would be eligible to the NRHP under Criterion D for potential to yield information important to prehistory with respect to subsistence, technology, and settlement pattern. If found eligible, it would be considered a historic property.

CA-PLA-75: Prehistoric campsite. Palumbo described this site in 1966 as a surface scatter of chipped stone and groundstone artifacts. Windmiller reported that more recent records indicate that the site was subsequently destroyed by residential development, but that the location could not be revisited to confirm this assertion, as access permission was denied (Windmiller *et al.* 2009). If the site has, in fact, been destroyed, then it would not qualify as a historic property under Section 106. However, if the site is still present, it would potentially be eligible under NRHP Criterion D for its potential to yield data on local settlement pattern and special use sites, in conjunction with the study of the other sites in the near vicinity. If found eligible, it would be considered a historic property.

CA-PLA-76: Prehistoric campsite. This site was recorded by Palumbo in 1966 as a surface scatter of groundstone and chipped stone tools and other cultural debris. A revisit of the site in 1991 failed to relocate these materials. Access permission could not be obtained to revisit the site in 2009. However, if the site is still present, as described in 1966, it would be eligible under NRHP Criterion D for its potential to yield data on local settlement pattern and special use sites, in conjunction with the study of the other sites in the near vicinity. If found eligible, it would be considered a historic property.

CA-PLA-77: Prehistoric campsite. Palumbo described this site in 1966 as a small surface scatter of chipped stone materials, groundstone artifacts, and one fragment of red ochre. The site was not precisely located in records searches, and permission to revisit the site was not granted in 2009 or 2012. As present condition is unknown, the site cannot be evaluated for NRHP eligibility at this time. However, if the site is still present, it would potentially be eligible under NRHP Criterion D for its potential to yield data on local settlement pattern and special use sites, in conjunction with the study of the other sites in the near vicinity. If found eligible, it would be considered a historic property.

CA-PLA-81: Prehistoric campsite. Palumbo described this site in 1966 as a surface scatter of chipped stone materials and groundstone tools. Peak and Associates revisited the site in 1982 and described it as a widely dispersed scatter of stone tool fragments. Access permission was not granted to revisit the site in

2009 or 2012. As the site's present condition is unknown, the site cannot be evaluated for NRHP eligibility at this time. However, if still present, it likely would be eligible under NRHP Criterion D for its potential to yield data on local settlement pattern and special use sites, in conjunction with the study of the other sites in the near vicinity. If found eligible, it would be considered a historic property.

CA-PLA-946H/CA-SUT-87H: Sacramento Northern Railroad Grade. A portion of this resource (CA-PLA-946H) is also identified within the specific plan APE, above. The Sutter County portion of the grade (CA-SUT-87H) that is located within the APE for the intersection improvements has been severely disturbed, and in some places destroyed, by repaving of Baseline Road and other ground-disturbing activities. Due to a loss of integrity, the CA-PLA-946H segment is not eligible for the NRHP. Likewise, the CA-SUT-87H segment is not eligible due to a loss of historical integrity, as it no longer retains the ability to convey its historic function and importance. Therefore, it is not a historic property.

CA-SUT-85H/CA-SAC-463H: Natomas East Main Drainage Canal Levee and Reclamation District 1000 Rural Historic Landscape. Reclamation District 1000 formed in the early 1920s to transform the seasonally inundated, partly swampy land to a vast open agricultural landscape with a large pattern of fields formed by a grid of canals and roads. The District has been determined eligible to the NRHP for its association with the development of the extensive regional reclamation and irrigation system. A portion of the proposed intersection improvement lies within the eastern boundary of the Reclamation District 1000 Rural Historic Landscape, and encompasses a portion of the East Main drainage canal levee. The canal levee is a contributing element of the Reclamation District 1000 Rural Historic Landscape; both the levee and the District have been determined eligible to the NRHP for their association with the development of the extensive regional reclamation and irrigation system. As a result, this resource is considered a historic property.

P-31-2603: Historic Union Cemetery. This is a small rural cemetery, with dates ranging between about 1870 and 1950, located on a knoll on the east side of Watt Avenue. There is little evidence of planned design or layout, or design embellishment or enhancement, and grave markers generally are simple in form and characteristic of their respective periods. Native oak trees are the primary landscape features. Cemeteries are not generally among resources that would be considered eligible for the NRHP; however, they should be evaluated under the same criteria as other cultural resources as well as additional special considerations. The Union Cemetery is potentially eligible under Criteria A, C, and D, but additional information is needed prior to determining eligibility. If found eligible, it would be considered a historic property.

P-31-2604: House at 8640 Watt Avenue. This is a Ranch Style house of the type popular in California in the 1950s and 1960s, similar to hundreds or thousands of such houses built in Sacramento and Placer counties during this time. While many such houses are located in suburban development tracts, this is an isolated example on a semi-rural property. The house does not appear to be associated with any significant events or persons, and is of an undistinguished and common style. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, it is not a historic property.

P-31-2606: House at 8720 Watt Avenue. This is a vernacular-style post-World War II house, constructed of standard building materials of the era, similar to many rural houses in Sacramento and Placer counties. Although it retains its original design characteristics and integrity, it does not exhibit qualities or design or workmanship that would qualify it for listing on the NRHP under Criterion C, nor does it appear to be associated with significant persons or events in local or regional history. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, it is not a historic property.

P-31-2607: House at 8724 Watt Avenue. This is a Minimal Traditional-style house, with low gable roof, covered porch, and minimal ornamentation. Windmiller does not provide a construction date, but notes that this was a popular dwelling style in the region before and immediately after World War II, and that the style was a precursor of the California Ranch House (Windmiller *et al*. 2009). The original window frames have been replaced with vinyl frames, and window openings have been altered. As an example of a type common in the region, the house does not possess qualities of design or workmanship that would qualify it for individual listing under NRHP Criterion C, and it is not associated with other similar structures that might comprise a district. No associations with significant events or persons were uncovered. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, it is not a historic property.

P-31-2608: House at 8718 Watt Avenue. This house is an example of the Colonial Revival style, popular throughout the United States between the 1920s and 1950s. Although this house is a good example of its style, it is not sufficiently distinguished in design or execution to merit individual listing on the NRHP under Criterion C. It is located along Watt Avenue among a small row of semi-rural houses from a variety of periods and styles, and thus does not have a district context to which it might contribute. No association with significant persons or events was uncovered. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, it is not a historic property.

P-31-3302: 1910-era house on southern side of Baseline Road. This is a small Folk-style house with some Craftsman elements. Due to extensive modification, particularly replacement of windows and doors, there has been significant loss of historical integrity, such that the house does not appear to be eligible under NRHP Criterion C. There is no evidence for association with significant persons or events, and the property does not appear to have the potential to yield significant historical information. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, it is not a historic property.

P-31-3305: Stolenberg Farm. The Stolenberg Farm is located adjacent to the Locust Road intersection improvement project. The farm includes a Minimal Traditional-style house and associated outbuildings that date to the 1950s. All have been altered to some degree and a portion of the farm burned in 2009. Since then, the burned buildings appear to have been removed, with newer temporary structures installed and a nursery that has since been constructed (Windmiller *et al*. 2012). The farm is not associated with historically important persons or events in Placer County, and none of the buildings is architecturally exceptional. The complex does not appear to have the potential to yield important historical information. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, it is not a historic property.

P-31-3306: Brewer Road. The historic route of Brewer Road was recorded as a cultural resource based on its location on a 1908 USGS topographic map. The modern roadway of Brewer Road follows the same route, but it bears no physical evidence of the historic roadways that would convey a sense of history. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, and does not retain integrity of materials, setting, or association, it is not a historic property.

P-31-3308: County Acres Road. The historic route of this road was recorded as a cultural resource based on location on a 1908 USGS topographic map. A modern roadway follows the same route, but it bears no physical evidence of the historic roadways that would convey a sense of history. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, and does not retain integrity of materials, setting, or association, it is not a historic property.

P-31-3309: Eagle Hotel Site. This site was recorded by Wohlgemuth (2008) based on the presence of a shallow depression adjacent to Baseline Road, which corresponds approximately with the location of the Eagle Hotel, as shown on 1850s to 1860s General Land Office (GLO) plats. The site could not be revisited in 2009 or 2012 due of lack of access permission. Information about the site is limited; however, in presuming that archaeological deposits are present, the site would potentially be eligible to the NRHP under Criterion D for its potential to yield information about travelers, settlers, and day-to-day life in this region that may not be available in the historic record.

P-31-3312: Walerga Road. This resource was recorded as the historic alignment of Walerga Road, a historic rural road that ran along a north-south alignment south of Baseline Road, extending Fiddyment Road southward. As a route of a mapped historic road without archaeological features, this resource lacks the qualities, characteristics, or associations that would make it eligible for listing in the NRHP. Therefore, it is not considered a historic property.

P-51-000141: Locust Road. The historic route of Locust Road was recorded as a cultural resource based on its location on a 1908 USGS topographic map. The modern roadway of Locust Road follows the same route, but it bears no physical evidence of the historic roadways that would convey a sense of history. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, and does not retain integrity of materials, setting, or association, it is not a historic property under Section 106.

Caltrans Bridge #19C0084: Watt Avenue at Dry Creek Bridge. This bridge was constructed in 1940 to carry Watt Avenue over Dry Creek. It has been previously evaluated for significance by architectural historians to be a category 5 bridge, which is not eligible for the NRHP. Because this site fails to meet the eligibility criteria for inclusion in the NRHP, it is not a historic property under Section 106.

Conclusions: Identified Historic Properties

Based on previous research throughout the APE between the 1960s and present day, the following cultural resources have been identified within the APE, pending concurrence from the California SHPO:

- Five cultural resources that are eligible for inclusion in the NRHP and meet the definition of a historic property under Section 106. These include four prehistoric sites and one historic district.

- Twenty-six cultural resources that fail to meet the definition of a historic property under Section 106, and therefore are not eligible for inclusion in the NRHP
- Twelve cultural resources that remain unevaluated for significance

Additional unrecorded cultural resources may also be present within the APE, and if found to be eligible for the NRHP, would constitute additional historic properties.

Phased Identification, Evaluation, and Management of Cultural Resources under Section 106

Based on the preliminary baseline data alone, the USACE has made the determination that there will be an adverse effect to historic properties (see **Table 3.6-3** for a discussion of potential effects). On October 22, 2012, the USACE initiated consultation with the SHPO on a finding of *Adverse Effect to Historic Properties* and requested concurrence. Consultation is ongoing.

Because intensive cultural resources surveys and evaluations of significance have not been conducted on the entire APE, because the project would involve phased development that has not yet been finalized, and because the project would be subject to a Regional General Permit, USACE has determined that cultural resources would be more appropriately managed under a Programmatic Agreement (PA). The execution of a PA would satisfy the requirements of Section 106 of the NHPA and would be sufficient for other federal actions to proceed. A draft of the PA is included as **Appendix 3.6**. USACE, under the authority of Section 404 of the Clean Water Act (33 USC Section 1344), may issue permits for subsequent projects within the APE for permit applicants that have submitted or will submit applications to USACE for a Section 404 permit for their respective individual projects within the APE. Such applications may include individual properties, groups of properties, or portions of the infrastructure improvements. The PA will be executed before a Record of Decision (ROD) is issued for this EIS.

The applicants for Section 404 permits within the APE are expected to proceed with development independently of one another with a potential buildout timeframe of 30 to 40 years. Because USACE has determined that projects within the APE may have an adverse effect on historic properties and historical resources that are either included in, or eligible for inclusion in the NRHP, USACE, in consultation with the SHPO, has determined that compliance with Section 106 of the NHPA will be achieved through the execution of a PA, pursuant to 36 CFR Part 800.14. The PA is currently in development; however, the phased identification, evaluation, and treatment of cultural resources within the APE will occur under the PA in the following manner.

- USACE has defined the APE to include all areas where effects could occur from construction of the individual projects within the specific plan area and its associated infrastructure. Future project design changes may require redefining the APE and the development projects within it. Each Section 404 permit application will have its own project-specific APE designated by USACE and approved by the SHPO. Project-specific APEs are a subset of the larger APE for the plan area. If some of the projects are merged or segregated, a project APE will be defined as the area to which a specific Section 404 permit application applies.

- All applications for project-specific Section 404 permits in the specific plan area will require that the project-specific APE for that permit area be established by USACE and approved by the SHPO. The project-specific APE shall include the area of direct and indirect effect.
- All applications for project-specific Section 404 permits will be required to produce documentation, for USACE and SHPO approval, which shows an updated records search, pedestrian survey that meets the standards specified in the PA, and a full inventory and evaluation of cultural resources within that project-specific APE. If an applicant wishes to deviate from the standards specified in the PA, then a research design and work plan shall be developed and agreed upon by USACE and the SHPO to ensure that the deviation is compliant with Section 106. All evaluations of significance that require archaeological excavation will require preparation and pre-approval of an Evaluation Plan.
- USACE, in consultation with the SHPO, will ensure that determinations of eligibility are made in accordance with the NRHP eligibility criteria set forth in 36 CFR 60.4 for all resources within the APE. All cultural resources determined eligible are Historic Properties as defined in 36 CFR 800.16(l)(1).
- USACE will apply the Criteria of Adverse Effect pursuant to 36 CFR 800.5(a)(1) to all Historic Properties within the APE that will be affected by the project. Determinations of Effect (DoE) will be made in consultation with the SHPO and other interested parties, which includes Native American tribes.
- USACE, in consultation with the SHPO, shall develop a Historical Properties Management Plan (HPMP) for the entire specific plan area to provide guidance for the resolution of adverse effect to historic properties during consultation for subsequent permit applications. The HPMP will address the range of options and process by which individual projects, which will resolve adverse effects to classes of historic properties. For example, the HPMP may specify that prehistoric village sites determined to be historic properties, be treated through data recovery excavations, public interpretation, placement into conservation easements, or monitoring. Likewise, the HPMP may specify that historic structures be treated through documentation meeting the standards and guidelines of the Historic American Building Survey. The purpose of the HPMP is to establish consensus on the general manner in which adverse effects will be resolved, and to ensure that future Treatment Plans are consistent between projects and appropriate, regardless of the makeup of agency staff, consultants, and project proponents.
- Once project-specific effects on historic properties are known, USACE shall require the development of a project-specific Historic Property Treatment Plan (HPTP) to stipulate the measures by which mitigation will occur. In contrast to the programmatic nature of the HPMP, the project-specific HPTP will specifically identify the historic properties and impacts, and will provide individualized treatments for each resource that are appropriate for the resource and meet the standards of the HPMP.
- USACE will ensure that inventory reports, evaluation plans, evaluation reports, the HPMP, and project-specific treatment plans are submitted to the SHPO, and appropriate Native American tribes and individuals for review and comment. USACE may also request comment by the Advisory Council on Historic Preservation (ACHP).
- In consultation with the appropriate Native American tribes, USACE will identify Historic Properties of traditional religious and cultural importance. USACE will seek comments from all potentially interested Native American tribes. The interested public, including Native American

tribes, will be invited to provide input on the identification, evaluation, and proposed treatment of historic properties. Depending on the specific nature of the undertaking, this will be done through letters of notification, public meetings, and site visits.

- Notices to Proceed (NTP) with construction may be issued by USACE for individual development projects, under any of the following conditions: (1) USACE and the SHPO have determined that there are no historic properties affected by the project within the project-specific APE; (2) USACE and the SHPO have determined that there will be No Adverse Effect to Historic Properties within the project-specific APE; or (3) USACE, after consultation with the SHPO and interested parties, has implemented an adequate mitigation program, specified in a subsequent project-specific HPTP, according to the schedule detailed in the PA.
- If potentially NRHP-eligible resources are discovered during construction, ground-disturbing activities will cease until the provisions of 36 CFR 800.13(b) (discoveries without prior planning) are met. USACE will provide the SHPO and the ACHP an opportunity to review and comment on proposed treatment in accordance with the PA.
- The SHPO will consult with the ACHP on the intent to develop and execute the PA as described above. In the event that the ACHP does not join in the consultation, USACE will proceed with the requirements set forth in 36 CFR Section 800.6(b)(1).

Assessment of Effects

Information on currently identified resources (based on preliminary information to date), the project elements that would affect them, and the nature of anticipated effects of the undertaking, is provided below. **Table 3.6-4** presents a summary of the known cultural resources and historic properties that may be affected by the PVSP and the recommended measures if they cannot be avoided. Additional cultural resources may be identified within any of the parcels and infrastructure elements, following implementation of the PA. Therefore, the information presented in **Table 3.6-4** should be considered preliminary.

Table 3.6-4
Historic Properties and Potential Historic Properties Potentially Affected by PVSP and Related Infrastructure Improvements

Historic Properties		
Affected Resource	**Potential Impacts**	**Recommended Measures***
CA-PLA-47	Grading or excavation associated with recreational development; potential for illicit collection associated with increased population	Further testing should be performed to determine if there are intact deposits.
CA-PLA-82	Any grading or excavation in open space; infrastructure grading or excavation	Avoidance or testing/data recovery to be performed.
CA-PLA-948	Grading or excavation associated with development	Avoidance or testing/data recovery to be performed.
CA-SUT-85H/CA-SAC-463H (Natomas East Main Drainage Canal and Levee)	Impact of federal undertakings not adverse due to prior HAER documentation	

Historic Properties		
Affected Resource	**Potential Impacts**	**Recommended Measures***
P-31-3309 (Eagle Hotel site)	Road grading or excavation	Testing should be performed to determine presence/absence of buried materials.
RD 1000 Rural Historic Landscape	Impact of federal undertakings not adverse due to prior HAER documentation	
CA-PLA-46	Grading or excavation associated with development	Monitoring of mapped location should be performed during ground disturbing activities
CA-PLA-80	Grading or excavation associated with development	Monitoring of mapped location should be performed during ground disturbing activities
DR-5	Grading or excavation associated with development; infrastructure grading and excavation	Monitoring of mapped location should be performed during ground disturbing activities
CA-PLA-1998	Infrastructure grading and excavation	Site needs to be revisited prior to construction. If the location cannot be avoided, testing is recommended.
CA-PLA-67	Infrastructure grading and excavation	Site needs to be revisited prior to construction. If the location cannot be avoided, testing is recommended.
CA-PLA-69	Road grading or excavation	Site needs to be revisited prior to construction. If the location cannot be avoided, testing is recommended.
CA-PLA-75	Infrastructure grading and excavation	Site needs to be revisited prior to construction. If the location cannot be avoided, testing is recommended.
CA-PLA-76	Infrastructure grading and excavation	Site needs to be revisited prior to construction. If location cannot be avoided, testing is recommended.
CA-PLA-77	Infrastructure grading and excavation	Site needs to be revisited prior to construction. If location cannot be avoided, testing is recommended.
CA-PLA-81	Infrastructure grading and excavation	Site needs to be revisited prior to construction. If location cannot be avoided, testing is recommended.

** Measures recommended if resource will be adversely affected by the PVSP.*

3.6.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact CR-1 Possible Destruction of or Damage to Known Prehistoric and Historic-Era Cultural Resources during Construction

No Action Alternative

Construction activities during project implementation could result in the destruction of or damage to known prehistoric and historic-era cultural resources that are potentially eligible for or listed on the NRHP. Prehistoric archaeological resources that qualify as historic properties have been identified on the project site and within the APEs for several of the off-site infrastructure improvements. Built environment features or potential historic archaeological deposits have been identified within the APEs of the participating parcels and the infrastructure elements.

Under the No Action Alternative, the project site would be developed with a smaller community than the Proposed Action as all areas containing waters of the U.S. would be avoided and more area within the site would be preserved as open space. However, with the exception of one archaeological site (CA-PLA-948) which would likely not be affected, all of the other identified historic properties in **Table 3.6-4** above would be affected under the No Action Alternative. The No Action Alternative could also potentially result in a significant impact on a number of cultural resource sites that could not be fully evaluated for the eligibility to the NRHP due to lack of access.

The requirements of the NHPA with regard to eligibility of resources to the NRHP and involvement of the federal lead agency in effects determination and mitigation would not apply under this alternative. However, there still would be some potential for impacts to these resources. The effect would be **significant** and would need to be mitigated under state law (California Environmental Quality Act) or pursuant to Section 106 process that would be completed in conjunction with the Section 10 of the federal Endangered Species Act because the No Action Alternative would have the potential to affect federally listed Endangered species (See **Section 3.4, Biological Resources**, in this Draft EIS).

Proposed Action (Base Plan and Blueprint Scenarios)

The Proposed Action would result in **significant** effects to known and unanticipated prehistoric and historic-era cultural resources during construction. Proposed mitigation would reduce effects to the resources to a **less than significant** level.

As noted above, prehistoric archaeological resources and built environment features that qualify as historic properties have been identified in three of the participating parcels on the project site, and within the APEs for several of the off-site infrastructure improvements. In addition, there are a number of cultural resource sites that could not be fully evaluated for the NRHP due to lack of access. Residential and other structural construction, trails and roads, recreational facilities, and stormwater outfalls under the Base Plan have the potential to result in **significant** effects to these known and unknown resources on-site, while trenching and grading associated with the construction of off-site infrastructure could adversely affect resources identified within the off-site APE. As the

footprint of development under the Blueprint scenario is substantially the same as the footprint under the Base Plan scenario, the Blueprint scenario will result in the same significant effects as described above for the Base Plan. **Mitigation Measure CR-1** is included in this Draft EIS to disclose the manner in which any significant impacts to potential historic properties will be reduced to a **less than significant** level.

Alts. 1 through 5 None of the other alternatives (Alternatives 1 through 5) would reduce impacts to any of the identified historic resources. The identified mitigation measures would apply to the development of the project site under Alternatives 1 through 5, along with off-site infrastructure improvements.

Mitigation Measure CR-1: Prepare, Execute, and Implement a Programmatic Agreement with Programmatic Historic Properties Treatment Plan and Project-Specific Treatment Plans
(*Applicability – Proposed Action and Alternatives 1 through 5*)

For all action alternatives that require federal permitting and authorization, USACE shall satisfy the requirements of Section 106 of the NHPA through the development and execution of a PA. The PA shall be prepared and executed (signed) prior to issuance of any federal permit or authorization for any aspect or component of the specific plan project. Preparation of the phase-specific APE and inventory and evaluation of properties within the APE shall be performed prior to any ground-disturbing work in the APE for any federal permitting or authorization of individual development phases. Implementation of treatment measures for identified historic properties may be performed during construction and ground-disturbing work provided that no ground-disturbing work is performed in the vicinity of resources subject to adverse effects and within an appropriate radius of the resource as determined by USACE, prior to completion of all treatment measures. The exact radius in which construction shall not occur shall be determined based upon the nature of the resource the potential for outlying undiscovered elements of that resource.

Impact CR-2 Potential to Damage Undiscovered Historic Properties or Human Remains during Construction

No Action Alt. In addition to the historic properties identified in the project APE, there is a potential that other undiscovered resources may be present in the project area. Although geoarchaeological data suggest that the potential for buried prehistoric deposits to be present on the project area is low, it is possible that past meanders of the creek or undocumented flood events might have resulted in burial of prehistoric or historic archaeological features or deposits along Dry Creek or its tributaries, or that other small or subtle archaeological sites are present in other parts of the project area that have not been discovered through the archaeological investigations reported above. If a NRHP-eligible buried archaeological deposit or feature, or human remains—either in an archaeological context or in isolation — is discovered during construction, disturbance or

destruction of the deposit or the remains would constitute a significant effect to a historic property.

Under the No Action Alternative, no project work would be carried out within the waters of the United States on the project area. As a result, there would be limited ground disturbance along Dry Creek or its major tributaries. Since these are the areas within the project area that have the highest potential for previously undiscovered archaeological deposits to be present, under this alternative the potential to encounter previously undiscovered buried cultural resources would be low. The requirements of the NHPA with regard to eligibility of resources to the NRHP and involvement of the federal lead agency in effects determination and mitigation also would not apply. However, there still would be some potential for undiscovered buried archaeological deposits to be present and to be impacted by ground disturbance elsewhere within the project area. The effect would be **significant**. Mitigation for unanticipated archaeological discoveries (**Mitigation Measure CR-2**) would reduce the effect to **a less than significant** level.

Proposed Action (Base Plan and Blueprint Scenarios)

Construction of the Proposed Action could inadvertently damage undiscovered historic properties or human remains and result in a **significant** effect during construction. Proposed mitigation would reduce the potential effects to undiscovered resources to a **less than significant** level.

As noted above, there is a potential that previously undiscovered historic properties or human remains may be present in the project area, especially along Dry Creek or its tributaries. If a NRHP-eligible buried archaeological deposit or feature, or human remains—either in an archaeological context or in isolation — is discovered during construction, disturbance or destruction of the deposit or the remains would constitute an adverse effect to a historic property. **Mitigation Measure CR-2** is proposed to avoid or reduce an inadvertent adverse effect on previously unknown historic properties encountered during construction in any portion of the project area.

Furthermore, the USACE has determined that while **Mitigation Measure CR-2** would reduce the potential to damage or destroy buried cultural resources, there is still the potential that prehistoric archaeological materials, in particular, could be encountered during project-related excavation within the corridors of Dry Creek and its tributaries. If such resources were encountered during construction, they might not be recognized as such by construction workers and, if work did not stop, could be damaged or destroyed.

As the footprint of development under the Blueprint scenario is substantially the same as the footprint under the Base Plan scenario, the Blueprint scenario will not result in greater impacts than those described above for the Base Plan. However, to the extent that the Blueprint Scenario increases the density of development on the project area, opportunities to avoid impacts to historic properties through design modifications could be reduced. However, the same mitigation measures would apply and the effect would be reduced to a **less than significant** level.

Alts. 1 through 5 All of the on-site alternatives, like the No Action Alternative, would reduce the potential to encounter unanticipated buried cultural deposits because the total area of ground disturbance on the site would be reduced and the amount of ground disturbance along Dry Creek (the most sensitive area for potential buried prehistoric deposits) would also be reduced. Nonetheless, there would be some potential to encounter buried prehistoric deposits, potentially along stream channels. The effect would be **significant**. **Mitigation Measure CR-2** would reduce the effect to a **less than significant** level.

Mitigation Measure CR-2: Discovery of Cultural Resources during Construction (*Applicability – Proposed Action and All Alternatives*)

Should any cultural resources, such as structural features, bone or shell, artifacts, human remains, or architectural remains, be encountered during any subsurface development activities, work shall be suspended within 100 feet (30 meters) of the find. The Placer County and the USACE staff shall be immediately notified. At that time, the County and the USACE shall coordinate any necessary investigation of the site with qualified archaeologists as needed, to assess the resource (i.e., whether it is an "historical resource" or a "unique archaeological resource" or a "historic property") and provide proper management recommendations should potential impacts to the resources be found to be significant or adverse. Possible management recommendations for important resources could include resource avoidance or, where avoidance is infeasible in light of project design or layout to avoid significant (adverse) effects, data recovery excavations. The contractor shall implement any measures deemed feasible and necessary by County and USACE staff, in consultation with the archaeologists and California State Historic Preservation Officer, as appropriate, to avoid or minimize significant (adverse) effects to the cultural resources. In addition, pursuant to Section 5097.98 or the State Public Resources Code, and Section 7050.5 of the State Health and Safety Code, in the event of the discovery of human remains, the County Coroner shall be immediately notified. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains. Procedures to be followed will be detailed in the HPMP developed in concert with the PA for this project.

Impact CR-3 Indirect Effects on Cultural Resources from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5 The construction and operation of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which would be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5 would have **no impact** on Native American archaeological resources and unknown effects on historic sites.

The record search indicates that there is one Native American site identified on the basis of an archaeological isolate discovered along the reaches. The discovery of a single artifact does not indicate that the site is highly sensitive. Therefore, the water pipelines would have **no impact** to Native American archaeological resources. Mitigation is not needed.

Each historic site located along or near the proposed pipeline route would need the significance to be individually assessed. Certain sites, specifically linear sites such as canals, railroads, roads, and fences, do not display integrity along the entire length. Therefore, each individual site would need to be evaluated to determine eligibility of the specific segment for the NRHP. The effect to historic sites along or near the proposed water pipeline route is unknown. Implementation of **Mitigation Measures CR-1 and CR-2** would ensure that historic resources that may be affected by pipeline construction are properly evaluated and protected, and the impacts are reduced to less than significant. The USACE notes that at this time, the PCWA has not submitted an application to the USACE for a Section 404 permit for the pipeline infrastructure project, and therefore at the present time, USACE does not have a mechanism to impose these mitigation measures on the project.

3.6.6 RESIDUAL SIGNIFICANT IMPACTS

All of the effects would be reduced to less than significant by the proposed mitigation, as directed by the PA, HPMP, and subsequent HPTPs. There would be no residual significant effects for the Proposed Action and any of the alternatives.

3.6.7 REFERENCES

Caltrans. 2012. "Historic Significance – Local Agency Bridges, District 03."

City of Roseville. 2010. "Sierra Vista Specific Plan Final Environmental Impact Report," Chapter 4.09, Cultural Resources.

Cogstone Paleontology, Archaeology, History. 2010. Email letter report by Sherrie Gust to Jeff Jones, Sierra Vista, regarding geoarchaeological findings for the Sierra Vista Project area, Placer County, California. July 9.

ECORP Consulting, Inc. 2006. "Cultural Resources Survey Report, Sierra Vista Specific Plan, Placer County, California." Rocklin, California: Sierra Vista Specific Plan Owner's Group, Roseville.

ECORP Consulting, Inc. 2010. "Confidential Cultural Resources Inventory and Evaluation Report, Sierra Vista Specific (Mourier & DF Properties), Placer County, California, Project No. 2005-147.2." Rocklin, California: Sierra Vista Owner's Group, Roseville, Stephen Pappas and Lisa Westwood, RPA, ECORP Consulting, Inc.

Groff, Garth G. 2008. "Brief History of the Sacramento Northern." http://people.virginia.edu/~ggg9y/history.html. Accessed March 6, 2011.

Windmiller, Ric (Consulting Archaeologist), Donald Napoli, Dan Osanna, and Carol Roland. 2005. "Placer Vineyards Specific Plan Updated Cultural Resources Study, Placer County, California." Elk Grove, California: Quad Knopf.

Windmiller, Ric (Consulting Archaeologist). 2008. "Proposed Area of Potential Effect (APE) for Cultural Resources in Support of Clean Water Act Section 404 Permit Applications for 22 Participating Properties within Placer Vineyards Specific Plan Area, Placer County, California." Dated October 14, 2008, Resubmitted 1-27-09

Windmiller, Ric (Consulting Archaeologist), Don Napoli, Dan Osanna and Carol Roland-Nawi. 2009. "Cultural Resources Inventory and Evaluation, Placer Vineyards Specific Plan, Placer and Sutter Counties, California, Volume 1 of 2: Technical Report and Appendices A-C." Newcastle, California: Placer Vineyards Group.

Windmiller, Ric (Consulting Archaeologist). 2012. "Placer Vineyards Cultural Resources Study Updates." Auburn, California: Placer Vineyards Group.

Wohlgemuth, Eric et al. 2008. "Volume 1: Report. Cultural Resources Survey for the PG&E Line 407 Project, Placer, Sacramento, Sutter and Yolo Counties, California." Sacramento: Pacific Gas and Electric Company.

3.7 ENVIRONMENTAL JUSTICE, POPULATION, AND HOUSING

3.7.1 INTRODUCTION

This section describes the demographic conditions within the census tracts containing the Proposed Action and its alternatives, and evaluates the potential for the Proposed Action and its alternatives to result in disproportionately high and adverse environmental and human health effects on low-income or minority populations. It also evaluates the effects of the Proposed Action and alternatives on population and housing in Placer County.

The primary source of information used in this analysis is the U.S. Census Bureau data from the 2010 Census.

3.7.2 AFFECTED ENVIRONMENT

The Proposed Action is located in the southwest corner of Placer County, along the borders with Sacramento County and Sutter County.

3.7.2.1 Placer County Population and Housing

Placer County consists of six cities (Auburn, Colfax, Lincoln, Loomis, Rocklin, and Roseville) and unincorporated land. According to the 2012 population figures reported by the California Department of Finance, the population of Placer County is 355,328 residents, of which 109,456 individuals reside in unincorporated areas. Since 2000, the County's population has increased by 43 percent and the population of the unincorporated areas has increased by 9 percent. There are 154,525 housing units within Placer County, of which 56,194 units are within unincorporated areas (DOF 2012). According to Sacramento Area Council of Governments (SACOG) projections, the year 2035 population in Placer County (excluding the Tahoe Basin) is projected to be 500,958 individuals, of which 125,047 individuals would reside in unincorporated areas. SACOG projects that in year 2035 there will be 179,514 housing units in Placer County (excluding the Tahoe Basin), including 42,752 units in unincorporated areas (SACOG 2012).

3.7.2.2 Study Area Population, Race, and Ethnicity

For the purpose of the analysis of the Proposed Action's effects related to environmental justice, the study area was defined to include the three census tracts containing and surrounding the project site. The study area is shown in **Figure 3.7-1, Census Tract Locations**.

Table 3.7-1, Study Area Demographics, lists the populations of the three census tracts by race and ethnicity. Based on the 2010 Census data, minority populations make up approximately 31 percent, 32 percent, and 24 percent of the total population in Census Tracts 213.22, 225, and 72.06, respectively. By comparison, in the state of California, the minority population is approximately 57 percent of the total population.

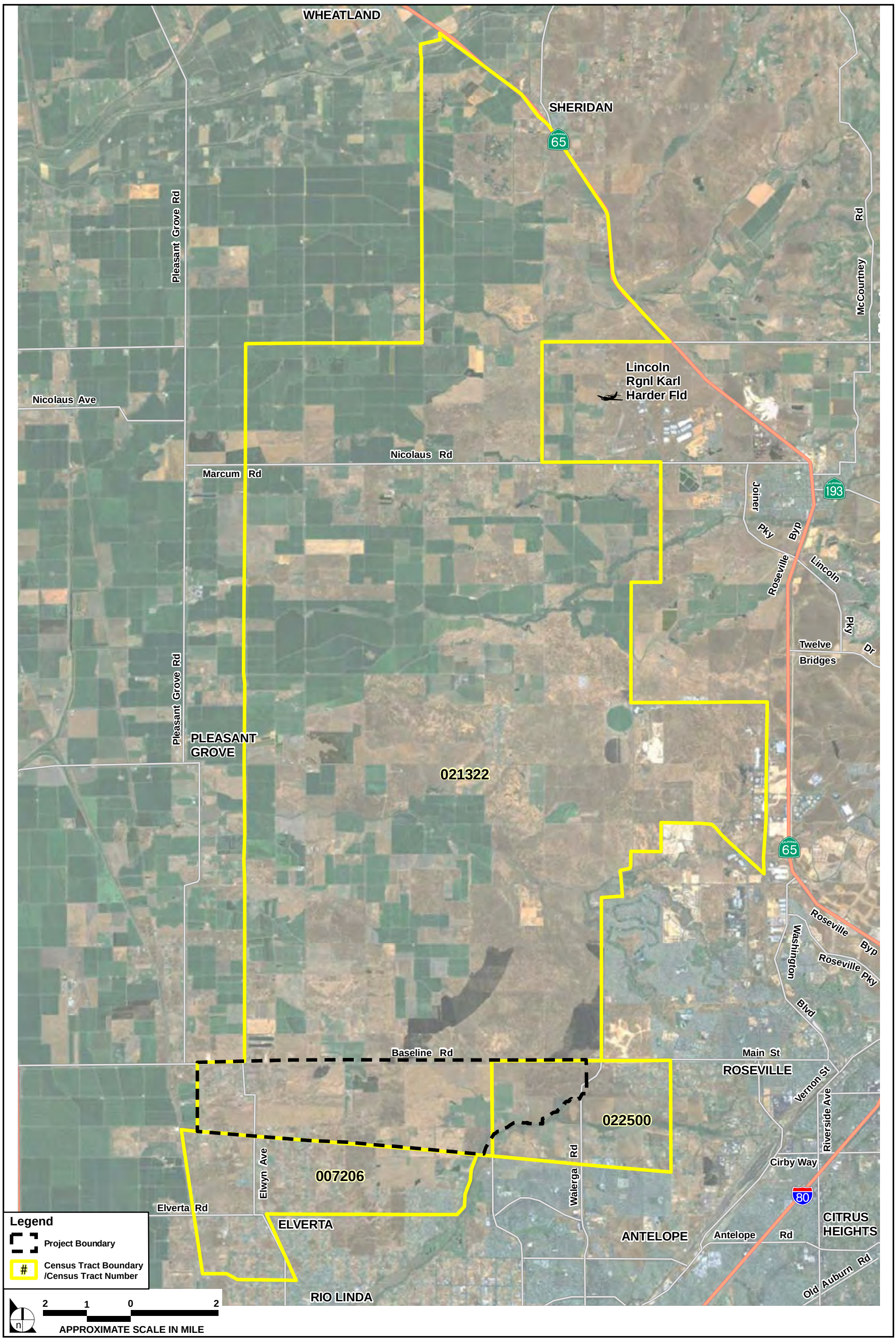
Table 3.7-1
Study Area Demographics

Demographic	Tract 213.22		Tract 225		Tract 72.06	
	Number	Percent	Number	Percent	Number	Percent
Total Population	8,762	--	3,879	--	4,131	--
Hispanic or Latino (of any race)	971	11.1	398	10.3	648	15.7
White	6,291	71.8	2,727	70.3	3,345	81.0
Black or African American	214	2.4	187	4.8	93	2.3
American Indian or Alaska Native	43	0.5	34	0.9	52	1.3
Asian	1,445	16.5	581	15.0	169	4.1
Native Hawaiian or other Pacific Islander	33	0.4	21	0.5	40	1.0
Some other Race	283	3.2	129	3.3	223	5.4
Two or more Races	453	5.2	200	5.2	209	5.1
Total Minority Population	**2,706**	**30.9**	**1,221**	**31.5**	**1,002**	**24.3**

Source: U.S. Census Bureau 2010 Census Summary File 1

3.7.2.3 Study Area Income and Poverty Status

The U.S. Census determines poverty status based on the thresholds prescribed for federal agencies by Statistical Policy Directive 14, issued by the Office of Management and Budget. These thresholds take into account family size, the age of the individual(s), and income (U.S. Census 2011). **Table 3.7-2, Income and Poverty Status,** shows the percentage of study area populations below the poverty level. Based on 2006-2010 American Community Survey data, the percentage of individuals considered to be below the poverty level within the study area census tracts is substantially less than the statewide level of 13.7 percent.



SOURCE: US Census Bureau, 2010; ESRI Maps and Data, 2012.

FIGURE **3.7-1**

Census Tract Locations

1090-002•02/12

Table 3.7-2
Income and Poverty Status

Income and Poverty Status	Tract 213.22		Tract 225		Tract 72.06	
	Number	Percent	Number	Percent	Number	Percent
Households	1,970	--	1,256	--	1,254	--
Less than $10,000	91	4.6	0	0.0	0	0.0
$10,000 to $14,999	54	2.7	52	4.1	39	3.1
$15,000 to $24,999	23	1.2	64	5.1	86	6.9
$25,000 to $34,999	65	3.3	87	6.9	58	4.6
$35,000 to $49,999	142	7.2	176	14.0	211	16.8
$50,000 to $74,999	300	15.2	147	11.7	286	22.8
$75,000 to $99,999	373	18.9	157	12.5	175	14.0
$100,000 to $149,999	626	31.8	133	10.6	250	19.9
$150,000 to $199,999	160	8.1	196	15.6	87	6.9
Greater than $200,000	136	6.9	244	19.4	62	4.9
Median Household Income	96,181	--	95,114	--	71,765	--
Median Family Income	101,157	--	111,923	--	71,458	--
Per Capita Income	33,610	--	39,236	--	27,518	--
Poverty Status – Families	**--**	**2.7**	**--**	**1.6**	**--**	**0.8**
Poverty Status - Individuals	**--**	**5.5**	**--**	**5.0**	**--**	**3.6**

Source: U.S. Census Bureau 2006-2010 American Community Survey

3.7.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

3.7.3.1 Federal Laws and Regulations

Executive Order 12898

On February 11, 1994, the President issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The order focuses federal attention on the relationship between the environment and human health conditions of minority communities and calls on agencies to make achieving environmental justice part of their mission. The Order requires the US Environmental Protection Agency (USEPA) and all federal and state agencies receiving federal funds to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. It also requires the agencies to develop strategies to address this problem.

3.7.3.2 State Laws and Regulations

There are no state laws and regulations related to environmental justice that are applicable to the Proposed Action or the alternatives under consideration.

3.7.3.3 Local Plans, Policies, and Ordinances

There are no local plans, policies or ordinances of Placer County related to environmental justice.

3.7.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.7.4.1 Significance Thresholds

The National Environmental Policy Act (NEPA) does not specify significance thresholds that may be used to evaluate the effects of a proposed action related to environmental justice. However, Council on Environmental Quality (CEQ) guidance requires an evaluation of a proposed action's effect on the human environment, and the US Army Corps of Engineers (USACE) must comply with Executive Order 12898. The USACE has determined that the Proposed Action or its alternatives would result in substantial adverse effects related to environmental justice if the Proposed Action or an alternative would disproportionately adversely affect a minority and low-income community through its effects on

- environmental conditions such as quality of air, water and other environmental media; degradation of aesthetics, loss of open space, and nuisance concerns such as odor, noise, and dust;
- human health such as exposure of minority and low-income populations to pathogens;
- public welfare in terms of social conditions such as reduced access to certain amenities like hospitals, safe drinking water, public transportation, etc.; and
- public welfare in terms of economic conditions such as changes in employment, income, and the cost of housing, etc.

The USACE has determined that the Proposed Action or its alternatives would result in significant effects related to population and housing if the Proposed Action or an alternative would

- 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);
- displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

3.7.4.2 Analysis Methodology

Several guidance documents have been prepared by various federal agencies to guide the evaluation of impacts of a proposed action on minority and low-income populations. CEQ guidance "Environmental Justice Under the National Environmental Policy Act" dated December 1997 and the U.S. EPA "Toolkit for Assessing Potential Allegations of Environmental Injustice" dated November 2004 were consulted in evaluating the effects of the Proposed Action and its alternatives relative to Executive Order 12898.

The USACE conducted an evaluation of environmental justice impacts using a two-step process: as a first step, the study area was evaluated to determine whether it contains a concentration of minority and/or low-income populations. Following that evaluation, in a second step, the USACE determined whether the Proposed Action and its alternatives would result in the types of effects listed above, and whether these effects would disproportionally affect minority and/or low-income populations.

The following criteria were used to determine if any of the three study area census tracts contain a high concentration of a minority or low-income population.

Minority Population

As defined in Executive Order 12898 and the CEQ guidance, a minority population occurs where one or both of the following conditions are met within a given geographic area:

- The American Indian, Alaskan Native, Asian, Pacific Islander, Black, or Hispanic population of the affected area exceeds 50 percent, or
- The minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

A minority population also exists if more than one minority group is present and the aggregate minority percentage meets one of the above conditions. The selection of the appropriate unit of geographic analysis could be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit.

Although the Hispanic population cannot be directly aggregated without resulting in double counting because it represents a multiracial group which includes several races, for purposes of this analysis, it was aggregated because the Hispanic population is a designated minority group.

Based on this, as shown in **Table 3.7-1**, above, the aggregate minority population is about 31 percent, 32 percent, and 24 percent of the total population in study area Census Tracts 213.22, 225, and 72.06, respectively. The aggregate minority population percentages for the census tracts therefore do not exceed 50 percent. In addition, the study area minority population percentage is not greater than the minority population percentage in the state of California as a whole which is approximately 57 percent. Therefore, the study area does not contain a high concentration of minority population.

Low-income Population

Executive Order 12898 does not provide criteria to determine if an affected area consists of a low-income population. For the purpose of this assessment, the CEQ criterion for defining a minority population has been adapted to identify whether or not the population in an affected area constitutes a low-income population. An affected geographic area is considered to consist of a low-income population (i.e., below the poverty level, for purposes of this analysis) where the percentage of low-income persons

- is at least 50 percent of the total population, or
- is meaningfully greater than the low-income population percentage in the general population or other appropriate unit of geographic analysis.

As shown **in Table 3.7-2, Income and Poverty Status,** based on the 2006-2010 American Community Surveys, 5.5 percent of the individuals in Census Tract 213.22, 5.0 percent of the individuals in Census Tract 225, and 3.6 percent of the individuals in Census Tract 72.06 are considered below the poverty level. The three study area census tracts do not meet either criterion as the percentages of low-income persons are substantially less than 50 percent and are not higher than in the state of California as a whole, which has a poverty level of 13.7 percent of individuals. Therefore the study area does not contain a high concentration of low-income population.

In summary, the study area which comprises the three study area census tracts containing and surrounding the project site does not constitute an "environmental justice (EJ)" community.

3.7.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact EJ-1 Disproportionate Adverse Environmental Effects on Minority or Low-income Populations

No Action Alt. The No Action Alternative would not result in disproportionate adverse environmental effects on minority or low-income populations. The No Action Alternative involves the development of a mixed use, mixed density community that would be similar to existing urban development to the northeast of the project site. The No Action Alternative does not involve any land uses that would produce hazardous emissions or create other conditions that could adversely affect nearby residential areas. Furthermore, as shown by the data presented above, the project site and surrounding area does not meet the criteria for an EJ community. There would be a **less than significant** effect. Mitigation is not required.

Proposed Action (Base Plan and Blueprint Scenarios) The Proposed Action would construct a larger mixed-use residential community on the same project site as the No Action Alternative. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative, the Proposed Action would result in **less than significant** environmental effects on an EJ community. Mitigation is not required.

Alts. 1 through 5 All of the on-site alternatives would construct a project broadly similar to the Proposed Action on the same project site. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative, implementation of any of the Alternatives A through E would result in **less than significant** environmental effects on an EJ community. Mitigation is not required.

Impact EJ-2 Impacts to Population and Housing

No Action Alt. Approximately 150 residences are located primarily in the northwest corner of the project site in the Special Planning Area. None of these residences would be affected by the No Action Alternative, and no dwelling units or persons would be displaced.

Implementation of the No Action Alternative would result in the construction of 8,047 residential units on the project site, which could accommodate approximately 24,000 additional persons. Based on projections provided by the Sacramento Area Council of Governments (SACOG), unincorporated Placer County (not including the Tahoe Basin) is projected to add approximately 16,475 residential units and 48,000 residents between 2008 and 2035 (SACOG 2012).

The increase in housing associated with the No Action Alternative represents approximately 48 percent of SACOG's housing projection while the increase in population associated with the Base Plan scenario represents about 44 percent of SACOG's population projection. As a result, the No Action Alternative would not exceed housing and population projections for the unincorporated portion of Placer County, and thus would not directly induce substantial population growth in Placer County that was not anticipated. This effect is **less than significant**.

Proposed Action (Base Plan and Blueprint Scenarios) Implementation of the Proposed Action would result in the construction of 14,132 (Base Plan scenario) to 21,631 (Blueprint scenario) residential units on the project site, which could accommodate approximately 30,000 to 50,000 additional persons. As discussed above, SACOG projects that unincorporated Placer County (not including the Tahoe Basin) would add approximately 16,475 residential units and 48,000 residents between 2008 and 2035.

The increase in housing associated with the Base Plan scenario represents approximately 86 percent of SACOG's housing projection while the increase in population associated with the Base Plan scenario represents about 72 percent of SACOG's population projection. As a result, the Base Plan scenario would not exceed housing and population projections for the unincorporated portion of Placer County, and thus would not directly induce substantial population growth in Placer County that was not anticipated.

Concerning the Blueprint scenario, the increase in housing associated with this scenario represents 131 percent of SACOG's housing projection while the increase in population associated with this scenario represents about 103 percent of SACOG's population projection. Therefore, the Blueprint scenario would exceed housing and population projections for the unincorporated portion of Placer County, and thus would induce substantial population growth in Placer County. However, the additional population (about 1,400 persons more than the SACOG projections) represents a small exceedance of the SACOG projections. Furthermore, the housing and population increases that would result from development pursuant to the Blueprint scenario would promote the land use

scenario for the region as currently preferred by SACOG and several of its member organizations. By concentrating population closer to the core of the region, a number of environmental and lifestyle benefits would accrue, including shorter commutes, greater potential use of transit, cleaner air, and less open space lost to suburban sprawl. Therefore, this effect would be **less than significant**.

Alts. 1 through 5

Alternatives 1 through 5 would result in the same number of dwelling units as the Proposed Action. Therefore, the effects on population and housing would be similar to those described above for Proposed Action, and this effect is **less than significant**.

Impact EJ-3 Indirect Effects on Environmental Justice, Population, and Housing from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5

The construction and operation of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which may be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5, would result in **less than significant** effect on environmental justice, population, and housing.

The construction of the infrastructure may induce population growth in the area. However, the water pipeline would be built to provide for anticipated population growth that would remain within SACOG growth projections. In addition, the proposed infrastructure would not displace any population or housing. The construction activities would also not disproportionately affect minority or low-income populations. Therefore, the effect on environmental justice, population, and housing from the water pipeline infrastructure would be **less than significant**. Mitigation is not necessary.

3.7.6 RESIDUAL SIGNIFICANT IMPACTS

All effects associated with environmental justice and population and housing would be less than significant. Therefore, there would be no residual significant impacts for the Proposed Action and any of the alternatives.

3.7.7 REFERENCES

California Department of Finance (DOF). 2012. "E-5 City/County Population and Housing Estimates."

Placer County. 2006. "Placer Vineyards Specific Plan Final Environmental Impact Report" (State Clearinghouse No. 1999062020).

U.S. Census Bureau. 2010a. "2010 Census, Summary File 1." Accessed December 2011.

U.S. Census Bureau. 2010b. "2006-2010 American Community Survey 5-Year Estimates." Accessed December 2011.

U.S. Census Bureau. 2011. "How the Census Bureau Measures Poverty." Last Revised: September 13, 2011.

Sacramento Area Council of Governments. 2012. "Modeling Projections for 2008, 2020, and 2035."

3.8 GEOLOGY, SOILS, AND MINERALS

3.8.1 INTRODUCTION

This section covers four closely related topics: geology (including geologic hazards such as earthquakes), soils, mineral resources, and paleontological resources. For each of these topics, it describes existing conditions at and surrounding the project site, summarizes relevant laws and policies, and analyzes the anticipated impacts of implementing the Proposed Action and its alternatives.

Sources of information used in this analysis include

- Placer Vineyards Specific Plan EIR prepared by the Placer County
- Phase I Environmental Site Assessment (ESA)
- Phase II Environmental Site Assessment
- maps and reports by the United States Geological Survey (USGS) and California Geological Survey (CGS)
- maps and reports by the United Stated Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)
- published geologic and paleontological literature
- museum and university databases

3.8.2 AFFECTED ENVIRONMENT

3.8.2.1 Physiographic Setting

The project site is located in the Sacramento Valley, which forms the northern portion of California's Great Valley geomorphic province. Bounded by the Sierra Nevada on the east and the Coast Ranges on the west, the Great Valley is only about 40 miles (64 kilometers) wide, but extends nearly 500 miles (805 kilometers) along the axis of the state, from the Klamath and Cascade Mountains in the north to the Tehachapi Mountains in the south. Much of the valley floor is near sea level (Norris and Webb 1990), with the conspicuous exception of the Sutter Buttes, 40 miles (64 kilometers) northwest of the project site, which rise to an elevation of about 2,100 feet (640 meters) above mean sea level (msl) (Norris and Webb 1990). The Sacramento Valley floor contains a thick sequence of sedimentary deposits that range in age from Jurassic through Quaternary that were derived from the weathering and erosion of the Sierra Nevada and the Coast Ranges, and carried by water and deposited on the valley floor (Norris and Webb 1990; Gutierrez et al. 2010).

3.8.2.2 Regional Seismicity and Fault Zones

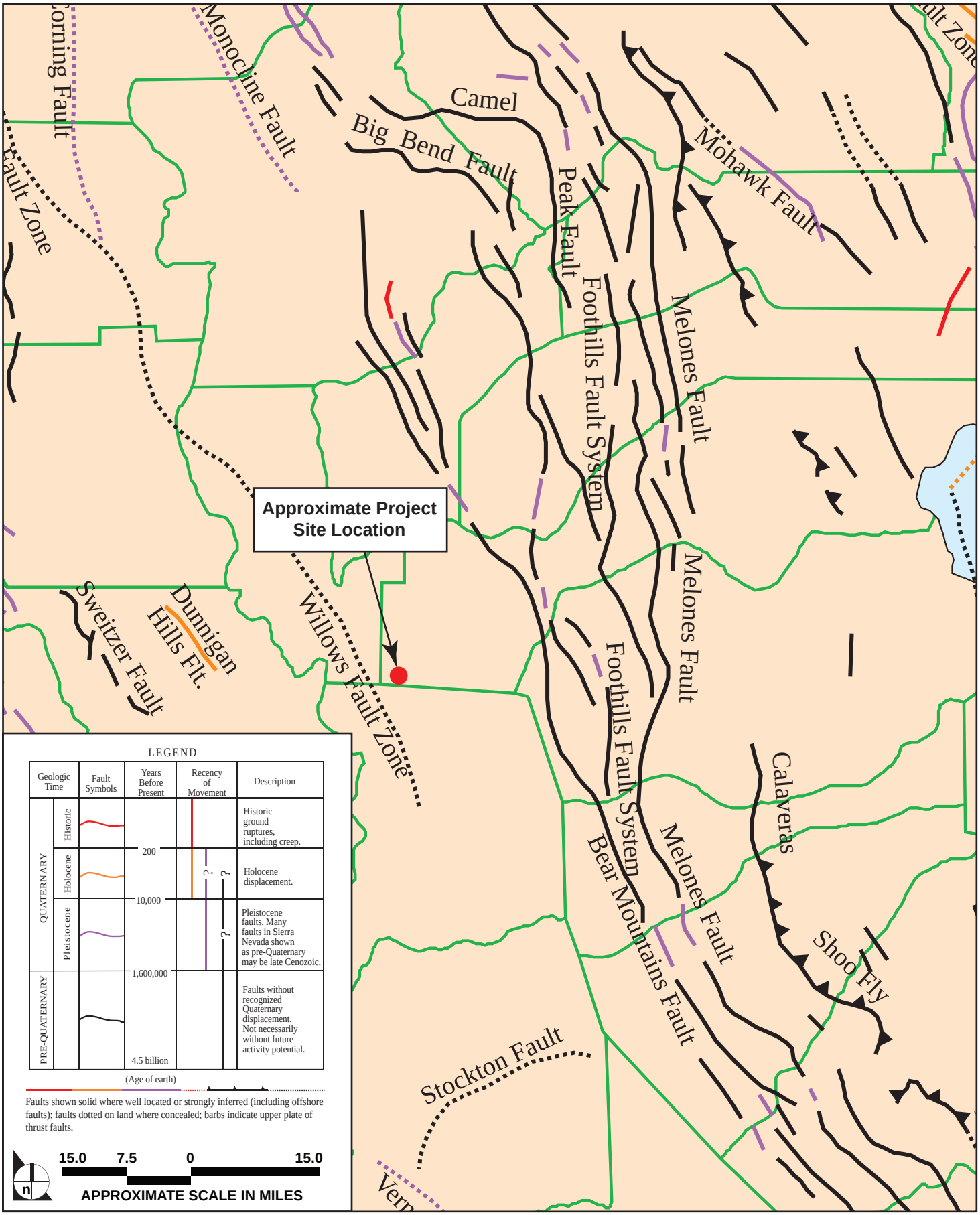
The closest State-zoned faults to the project site are portions of the Foothills fault zone, located approximately 18 miles (29 kilometers) east of the site. Farther away to the west, a number of faults are present in the Coast Ranges and San Francisco Bay Area, including the Ortigalita, Green Valley, Concord, Calaveras, Hayward, and San Andreas faults (**Figure 3.8-1, Regional Fault Map**).

A review of the map of earthquakes in California and Nevada (Goter and others, 1994) reveals numerous epicenters within 60 miles (100 kilometers) of the project site. These epicenters are generally located southwest of the project site in the eastern Coast Ranges, and to the east and north in the Sierra Nevada and central area of the Sacramento Valley. The historical pattern of seismic activity in Placer, Sacramento, and Sutter counties has generally consisted of a scattering of small magnitude (less than 5.5 on the Richter Scale) earthquakes generally located near concealed and mapped faults east and west of the project site. Three seismic events are recorded within 100 kilometers of the project site, two in the Vacaville to Vallejo area as being greater than magnitude 6.5 (1892 and 1898), and one in the Oroville area (Cleveland Hill, 1975) and Sierra Nevada northeast of Nevada City between magnitude 5.5 and 6.4. The most recent seismic event with an intensity of 4.0 or greater measured on the Richter scale was recorded in the vicinity of the project site in 1908. The epicenter of this event was located on a north/south line between Folsom and Auburn and on an east/west line between Placerville and Roseville. There have been several less severe events since 1908.

3.8.2.3 Project Site Topography and Geology

The project site lies within the geomorphic unit referred to as "Dissected Alluvial Plains." This unit is characterized by rolling topography and rounded knolls and ridges that are separated by intermittent streams. The entire region slopes gently westward toward the Sacramento River. Several streams, with narrow floodplains entrenched 10 to 15 feet (3 to 4.5 meters) below the surrounding topography, drain the area flowing east to west. The elevation of the project site ranges from approximately 100 feet (30 meters) above mean sea level (msl) in the eastern portion of the site to about 50 feet (15 meters) above msl in the western portion.

Figure 3.8-2, Geologic Formations, shows the geology of the project site and its immediate vicinity. The geology in the vicinity of the project site consists of transitional formations between the alluvial deposits of the Valley and granitic material characteristic of the Sierra Nevada range. The project site is underlain by strata of the Riverbank Formation, strata of the Turlock Lake Formation, and a small portion is underlain with Quaternary Period Alluvium. The Riverbank and Turlock Lake Formations are alluvial deposits consisting of material derived from erosion of the Sierra Nevada. The Riverbank Formation ranges in age from about 450,000 to about 130,000 years (Pleistocene) and consists of weathered reddish gravel, sand and silt formed from mafic (primarily dark mineral) igneous rock fragments. This unit forms clearly recognizable alluvial terraces and fans. The alluvial component of this unit was likely derived from the Sierra Nevada and was deposited by the ancestral American and other rivers. The Turlock Lake Formation is generally characterized by partially consolidated gravel, sand, and silt, and the surface soil typically contains zones of cemented sand and silt (hardpan). This formation consists of eroded alluvial fans derived primarily from plutonic rocks of the Sierra Nevada. A principal constraint associated with the Turlock Lake Formation is the relative impermeability and limited water holding capability of the material. Quaternary Period Alluvium is described as undifferentiated basin and stream channel alluvium consisting of unweathered unconsolidated silt, sand, and gravel. This unit is exposed along Dry Creek (Placer County 2007).



SOURCE: Compiled by Charles W. Jennings and George J. Saucedo – 1999 (Revised 2002, Tousson Toppozada and David Branum)

FIGURE **3.8-1**

Regional Fault Map

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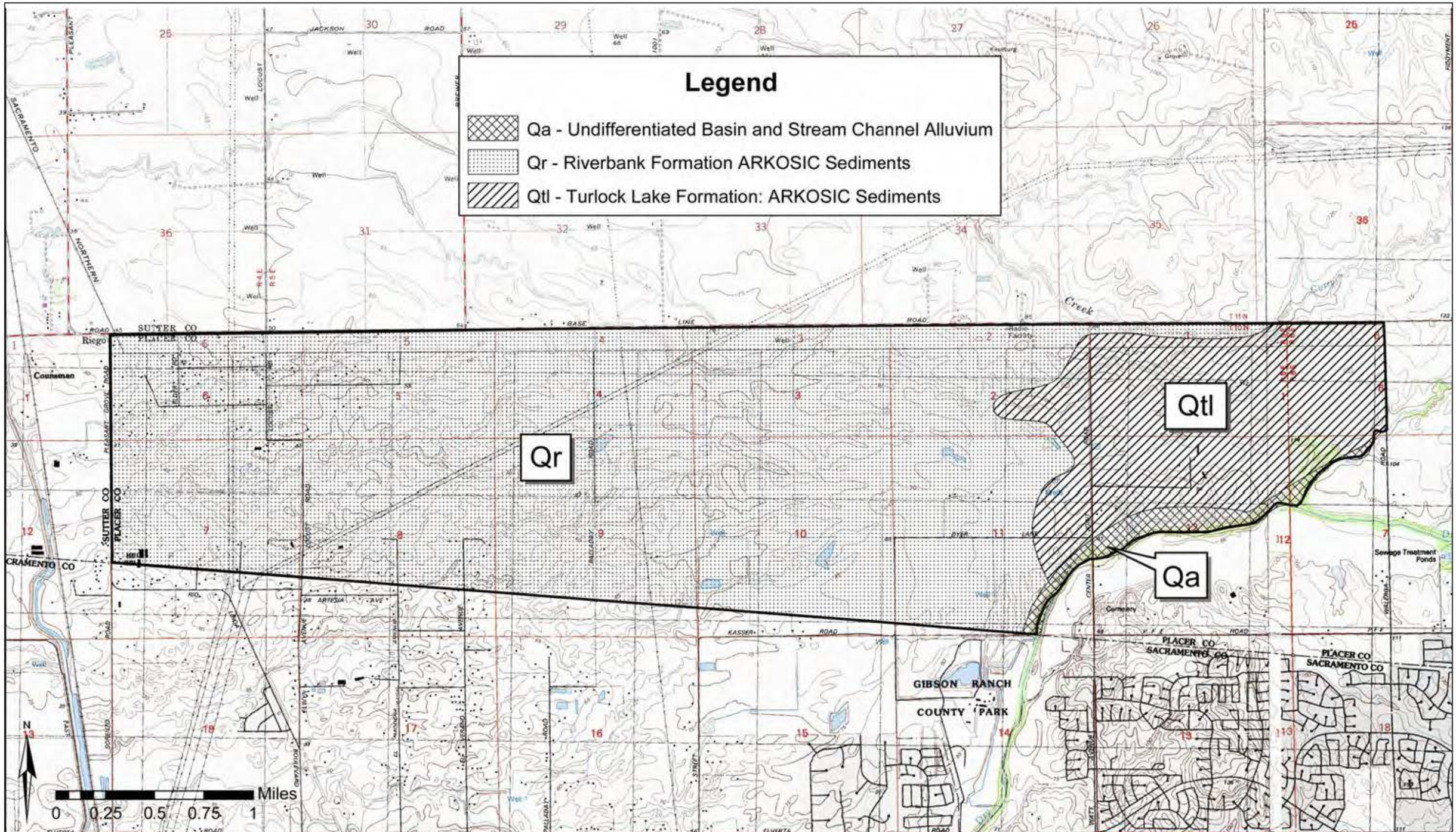

SOURCE: ECORP Consulting, Inc./Quad Knopf – 2005

FIGURE **3.8-2**

Geologic Formations

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Ground subsidence has occurred in some parts of the Great Valley geomorphic province as a result of groundwater overdraft. The western Placer County area is not known to have experienced subsidence that would limit or constrain development (Placer County 2007).

3.8.2.4 Project Site Seismic and Geologic Conditions

Potential seismic hazards from a moderate to major earthquake are generally classified as primary and secondary. The primary effect is ground fault rupture or surface faulting. Review of available information indicates that no faults with a surface expression have been mapped on the project site. The latest revision of DMG Special Publication 42 (Fault-Rupture Hazard Zones in California, revised 1997) indicates that fault zones previously mapped on the project site are not included in a fault-rupture hazard zone (Placer County 2007).

Secondary seismic hazards include ground shaking, liquefaction, and slope failure. Because of its distance from major fault systems, Placer County is considered a low-severity earthquake zone. The maximum earthquake intensity anticipated would correspond to an intensity of VI or VII on the Modified Mercalli scale (5.0 to 5.9 in magnitude on the Richter scale).[1] According to the California Building Code (CBC), the project site is located in Seismic Zone 3.

Liquefaction is the transformation of saturated granular material from a solid to a liquid caused by a rapid increase in liquid pore pressure brought about by ground shaking. In general, considering that most of the undisturbed firm native surficial material present in the project site is mapped as geologic units that are older than the Holocene Epoch, and recent (since approximately 1964) reported depth to groundwater is greater than 50 feet (15 meters) below ground surface (bgs) (depth to groundwater reported as shallow as 25 to 30 feet (7.5 to 9 meters) bgs around 1950), the project site should not be susceptible to liquefaction under the current groundwater regime (Placer County 2007).

The topography of the project site is gentle to moderate. Due to the topography and the relative strength of the soil and rock units present on the site, the likelihood of slope failures induced by seismic forces is low (Placer County 2007).

3.8.2.5 Project Site Soils

The soils on the project site generally consist of 12 soil mapping units, as indicated on the "Soil Survey of Placer County California, Western Part" (Rogers, 1980 - USDA Soil Conservation Service [now called Natural Resources Conservation Service, NRCS]) (see **Figure 3.8-3, Project Site Soils)**. The soils belong to complexes of related units and individual units, and include: the Alamo-Fiddyment complex; Cometa sandy loam; Cometa-Fiddyment complex; Cometa-Ramona sandy loam; Fiddyment loams; Fiddyment- Kaseberg loams; Ramona sandy loam; San Joaquin-Cometa sandy loams; Xerofluvents, occasionally flooded; Xerofluvents,

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1 The Modified Mercalli Scale describes earthquake intensity based on observed effects. Mercalli intensity VI corresponds to the following observations: "Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight." Mercalli intensity VII is described as follows: "Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken." (U.S. Geological Survey 1989)

frequently flooded; Xerofluvents, hardpan substratum; and water. In general, the soils consist of clays, loams, and sandy loams that formed primarily on low terraces and on alluvial bottoms. The Xerofluvent soils are found adjacent to Dry Creek and Curry Creek in the eastern portions of the project site, and are gravelly loams and sands. The mapped soils are well to poorly drained, have moderately slow to very slow permeability, medium to slow runoff, moderate to slight erosion potential (only the Xerofluvents are described with high erosion potential), and pose low to high risks of corrosion to steel and concrete. Hardpan layers are reported to be found at depths ranging from 16 inches to 35 inches (40 to 89 centimeters) below the surface, and a high shrink-swell potential is reported for Alamo, Cometa, and Fiddyment soils (Placer County 2007).

Based on literature research and on-site reconnaissance, the soils within the project site do not appear to have collapsible characteristics. The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service mapping information however indicates that the Alamo, Cometa, and Fiddyment soil mapping units in the project site have high expansion potentials.

Subsidence is the sinking of the ground surface usually resulting from groundwater withdrawal or other subsurface collapse or extraction. The vicinity around the project site is not known to have experienced significant subsidence. Based on current conditions, land subsidence within the project site is considered unlikely (Placer County 2007).

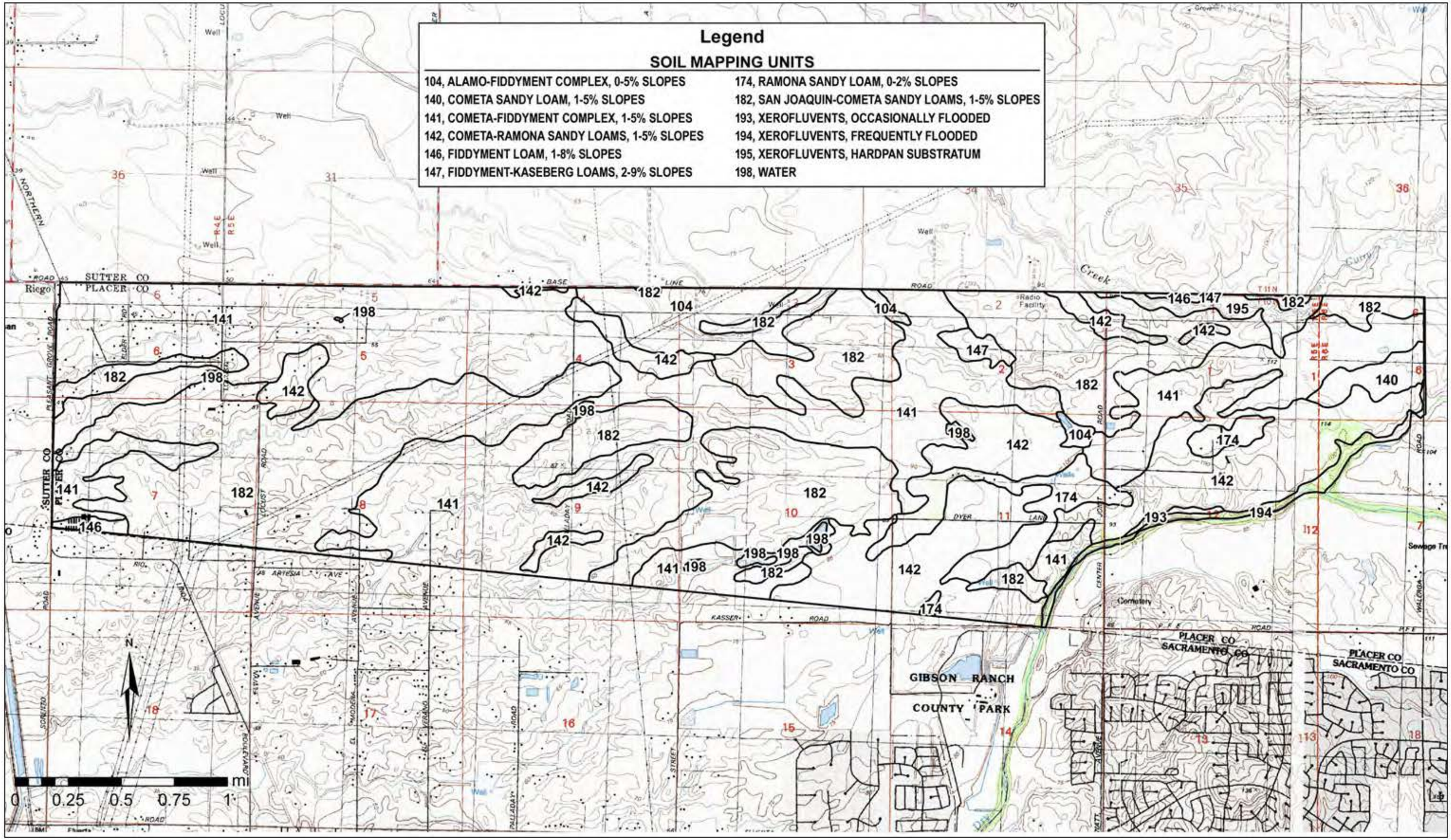
3.8.2.6 Project Site Mineral Resources

The State of California Division of Mines and Geology has classified the site as mineral resource zone (MRZ) 4 pursuant to the Surface Mining and Reclamation Act of 1975 (Placer County 2007). As discussed in more detail in **Subsection 3.8.3 Regulatory Framework – Applicable Laws, Regulations, Plans, and Policies**, below, this designation identifies areas where available information is inadequate to support assignment into any other MRZ category and "does not rule out either the presence or absence of significant mineral resources." No extraction activities are currently taking place in the vicinity of the project site (Placer County 2007).

3.8.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

3.8.3.1 Federal Laws and Regulations

There are no federal laws related to geology, soils, and minerals that are applicable to the Proposed Action. Although the Earthquake Hazards Reduction Act (42 USC § 7704), enacted in 1977, established the National Earthquake Hazards Reduction Program (NEHRP) as a means to address earthquake risks to life and property in the nation's seismically active states, including California, that Act is not directly applicable to the Proposed Action.



SOURCE: ECORP Consulting, Inc./Quad Knopf – 2005

FIGURE **3.8-3**

Project Site Soils

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3.8.3.2 State Laws and Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (California Public Resources Code Section 2621 et seq.) charges the State of California with defining hazard corridors (Earthquake Fault Zones) along active faults, within which local jurisdictions must strictly regulate construction; in particular, the Act prohibits construction of structures intended for human occupancy (defined for purposes of the Act as more than 2,000 person-hours per year) across active faults. The Act establishes a legal definition for the term *active*, defines criteria for identifying active faults, and establishes a process for reviewing building proposals in and adjacent to defined Earthquake Fault Zones, to be implemented by the state's local jurisdictions (cities and counties), who typically do so through the building permit review process.

Under the Alquist-Priolo Act, a fault is considered active if one or more of its segments or strands shows evidence of surface displacement during Holocene time.[2] Because of the Alquist-Priolo Act's statewide purview, the Earthquake Fault Zone maps are a key tool for assessing surface fault rupture risks to projects of all types, even though the Act regulates only construction for human occupancy.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (California Public Resources Code Sections 2690–2699.6) addresses secondary earthquake-related hazards, including liquefaction and seismically induced landslides. Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act charges the state with mapping areas subject to hazards, and makes cities and counties responsible for regulating development for human occupancy within mapped Seismic Hazard Zones. In practice, as with the Alquist-Priolo Act, local jurisdiction building permit review serves as the primary mechanism for controlling public exposure to seismic risks, since cities and counties are prohibited from issuing development permits for sites within Seismic Hazard Zones until or unless appropriate site-specific geologic/geotechnical investigations have been carried out and measures to avoid or reduce damage have been incorporated into the development proposal. Like the Alquist-Priolo Earthquake Fault Zone Maps, the maps produced by the Seismic Hazards Mapping Program are useful as a first-order risk assessment tool for liquefaction and seismically induced landslide risks to projects of all types, although the Seismic Hazards Mapping Act, like the Alquist-Priolo Act, regulates only construction for human occupancy.

California Building Standards Code

The State of California's minimum standards for structural design and construction are given in the California Building Standards Commission (CBSC) (CCR Title 24). The CBC is based on the International Code Council's International Building Code, which is used widely throughout United States (generally

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2 Under the Alquist-Priolo Act, Holocene time is conservatively defined as referring to approximately the last 11,000 years, although it is more commonly understood as including only the last 10,000 years.

adopted on a state-by-state or district-by-district basis) and has been modified for California conditions with numerous, more detailed or more stringent regulations. The CBC provides standards for various aspects of construction, including but not limited to, excavation, grading, earthwork, fills, embankments, construction on expansive soils, foundation investigations, liquefaction potential, and soil strength.

Surface Mining and Reclamation Act

The California Surface Mining and Reclamation Act (SMARA) of 1975 is the state's primary mineral resources law. The stated purpose of the act is to provide a comprehensive surface mining and reclamation policy that will encourage the production and conservation of mineral resources while ensuring that adverse environmental effects of mining are prevented or minimized, that mined lands are reclaimed, and residual hazards to public health and safety are eliminated. SMARA requires the State Geologist to classify mineral resources in order to help identify and protect mineral resources in areas within the state subject to urban expansion. The State Geologist is charged with evaluating mineral resource potential and assigning one of three MRZ designations that reflect the known or inferred presence and significance of a given mineral resource:

- MRZ-1: areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence;
- MRZ-2: areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists; or
- MRZ-3: areas containing mineral deposits, the significance of which cannot be evaluated from available data.

In practice, an additional category, MRZ-4, is used to designate areas for which available information is inadequate for assignment into any other MRZ. In addition, at least once every 10 years (following the completion of each decennial census) SMARA requires the state's Office of Planning and Research to identify areas that are already urbanized, subject to urban expansion, or under other irreversible land uses that preclude mineral extraction. Under SMARA, permitting, oversight, and enforcement responsibility for mining operations (including mine reclamation) is assigned to the local jurisdiction level.

California Public Resources Code

Section 5097.5 of the California Public Resources Code prohibits "knowing and willful" damage (excavation, removal, destruction, injury, and defacement) to paleontological resources on public lands without express permission from the agency with jurisdiction. Public lands in this context are understood to include lands under state, County, City, district, or public authority jurisdiction, or the jurisdiction of a public corporation. Public Resources Code Section 30244 requires reasonable mitigation for impacts on paleontological resources resulting from development on public lands.

3.8.3.3 Local Plans, Policies, and Ordinances

Placer County Building Code

Building codes are adopted at the local jurisdiction level and enforced through the local jurisdiction building permit process. Placer County uses several model codes, including the 2007 CBC and some model building codes from the International Code Council (ICC).

Grading, Erosion and Sediment Control Ordinance

The County's Grading, Erosion and Sediment Control (Placer County Code Chapter 15.48) requires a grading permit (Grading plan approval) for fill or excavation greater than 250 cubic yards, cuts or fills exceeding 4 feet (1.2 meters) in depth, soil disturbances exceeding 10,000 square feet (929 square meters), grading within or adjacent to a drainage course or wetland, and grading within a floodplain. For many types of grading, a grading plan must be submitted and approved before grading may proceed. In addition, a soil or geologic investigation report is required if grading includes cut or fill exceeding 10 feet (3 meters) in depth, when highly expansive soils are present, and in areas of known or suspected geological hazards.

Placer County General Plan

Placer County General Plan goal, policies, and implementation measures relevant to geology, soils, and geologic hazards include the following:

Goal 8.A. To minimize the loss of life, injury, and property damage caused by seismic and geological hazards.

Policy 8.A.1. The County shall require the preparation of a soils engineering and geologic-seismic analysis prior to permitting development in areas prone to geological or seismic hazards (i.e., ground shaking, landslides, liquefaction, critically expansive soils and avalanche).

Policy 8.A.2. The County shall require submission of a preliminary soils report, prepared by a registered civil engineer and based upon adequate test borings, for every major subdivision and for each individual lot where critically expansive soils have been identified or are expected to exist.

Policy 8.A.3. The County shall prohibit the placement of habitable structures or individual sewage disposal systems on or in critically expansive soils unless suitable mitigation measures are incorporated to prevent the potential risk or these conditions.

Policy 8.A.4. The County shall ensure that areas of slope instability are adequately investigated and that any development in these areas incorporates appropriate design provisions to prevent landsliding.

Policy 8.A.5. In landslide hazard areas, the County shall prohibit avoidable alteration of land in a manner that could increase the hazard, including concentration of water through drainage, irrigation, or septic systems; removal of vegetative cover; and steepening of slopes and undercutting the bases of slopes.

Policy 8.A.6. The County shall require the preparation of drainage plans for development in hillside areas that direct runoff and drainage away from unstable slopes.

Policy 8.A.7. In areas subject to severe ground shaking, the County shall require that new structures intended for human occupancy be designed and constructed to minimize risk to the safety of occupants.

Policy 8.A.8. The County shall continue to support scientific geologic investigations which refine, enlarge, and improve the body of knowledge on active faults zones, unstable areas, severe ground shaking, avalanche potential, and other hazardous conditions in Placer County.

Policy 8.A.9. The County shall require that the location and/or design of any new buildings, facilities, or other development in areas subject to earthquake activity minimize exposure to danger from fault rupture or creep.

Policy 8.A.10. The County shall require that new structures permitted in areas of high liquefaction potential be sited, designed, and constructed to minimize the dangers from damage due to earthquake-induced liquefaction.

Policy 8.A.11. The County shall limit development in areas of steep or unstable slopes to minimize hazards caused by landslides or liquefaction.

Implementation Program 8.1 The County shall continue to enforce provisions of the Uniform Building Code which address seismic concerns, including masonry building design requirements.

Implementation Program 8.2 The County shall assess the need for an ordinance requiring evaluation of un-reinforced masonry structures and the repair or replacement of identified hazardous structures.

Placer County Department of Public Works/Environmental Health Division

The Placer County Department of Public Works maintains policies and guidelines regarding grading, erosion control, storm water design, inspection, and permitting. The Environmental Health Division has permitting authority for well installation/destruction.

3.8.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.8.4.1 Significance Thresholds

Council on Environmental Quality (CEQ) regulations require an evaluation of the degree to which the proposed action could affect public health or safety as well as an evaluation of the effects of the proposed action on natural resources. The U.S. Army Corps of Engineers (USACE) has determined that the Proposed Action or its alternatives would result in substantial adverse effects related to geology and soils if the Proposed Action or an alternative would:

- expose people or structures to increased risk from rupture of a known earthquake fault;
- expose people or structures to increased risk related to strong seismic ground shaking;
- expose people or structures to increased risk related to seismically induced ground failure, including liquefaction;
- expose people or structures to increased risk of landslides and/or other slope failure;
- result in substantial soil erosion or the loss of topsoil;
- be located on a geologic unit or soil (including expansive soils) that is unstable or that would become unstable as a result of the project and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse, or
- Impede extraction of mineral resources that are of regional importance.

3.8.4.2 Analysis Methodology

Impacts of the Proposed Action and alternatives related to geology, geologic hazards, and mineral resources were evaluated qualitatively, based on professional judgment in consideration of the prevailing engineering geologic and geotechnical engineering standard of care. The analysis relied on information available from the published literature; no new fieldwork was determined to be necessary and was not conducted for this EIS. As discussed in the **Affected Environment** subsection, above, the project site is not within or traversed by any earthquake fault zone defined by the State of California pursuant to the Alquist-Priolo Earthquake Fault Zoning Act, and there is no evidence suggesting the presence of other active but currently unzoned faults within the site. Therefore, neither the Proposed Action nor any of the alternatives is expected to result in adverse effects related to the exposure of structures and their occupants to surface fault rupture hazard. This issue is not analyzed further below, and the analysis is focused on effects related to seismic ground shaking, liquefaction, slope failure, and expansive soils. Note that impacts related to soil erosion are addressed in **Section 3.10, Hydrology and Water Quality.**

3.8.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact GEO-1 Hazards associated with Seismic Ground Shaking

No Action Alt. Hazards associated with seismic ground shaking to the development under the No Action Alternative would be **less than significant.** Any potential for seismic impacts would be further reduced by **PVSP EIR Mitigation Measure 4.5-1a.** Both primary and secondary seismic hazards are associated with regional faults and earthquakes. However, the project

site is located in an area of low seismic activity and compliance with CBC standards would ensure that significant effects associated with seismic ground shaking would not occur for the No Action Alternative.

Because of its distance from major faults, Placer County is a comparatively low-severity earthquake zone. The CBC classifies the project site as being within Seismic Zone 3. Accepted seismic design criteria are presented in the CBC, Chapter 16. Minimum ground accelerations of 0.3 g are used for structure design within this region. As discussed in **Local Plans, Policies, and Ordinances**, above, the County requires new construction to comply with the CBC. Although risks associated with seismic ground shaking cannot be entirely avoided in a seismically active area, implementation of CBC seismic design requirements would manage these unavoidable risks consistent with the prevailing engineering standard of care, and would avoid significant effects such as major structural damage and loss of life.

Liquefaction typically occurs in well-sorted, saturated sandy materials, at depths of less than 50 feet (15.25 meters) below ground surface. Based on site materials and the depth to groundwater, the potential for liquefaction on the project site is low. As part of the building permit process, the County will require geologic-seismic analysis prior to permitting developments within areas that are susceptible to seismic hazards (see Placer County General Plan policy 8.A.1). Moreover, as discussed above, the County routinely requires compliance with the CBC, which includes provisions for foundation design in areas with liquefiable soils. With building code compliance, risks associated with liquefaction and other types of seismically induced ground failure and settlement will be managed consistent with the prevailing engineering standard of care.

While adverse effects associated with seismic ground shaking are not anticipated for the No Action Alternative and the effect would be **less than significant**, any potential for ground shaking impacts would be further minimized by **PVSP EIR Mitigation Measure 4.5-1a**.

This mitigation measure was adopted by Placer County at the time of the approval of the PVSP. The USACE assumes that Placer County would impose the same mitigation measure on the No Action Alternative to address this effect. The mitigation measure requires new development within the project site to submit a geotechnical report prepared by a California Registered Civil or Geotechnical Engineer to the County Department of Public Works for review prior to improvement plans approval. The report shall meet all relevant requirements of the most recently adopted version of the Uniform Building Code. Placer County concluded that with this mitigation, the effect will be reduced to a less than significant level. The USACE finds that this mitigation measure will further reduce the less than significant effect of the No Action Alternative.

Proposed Action (Base Plan and Blueprint Scenarios)

Compared to the No Action Alternative, the Proposed Action (Base Plan and Blueprint Scenarios) would construct a larger mixed-use development on the project site. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative, the risk of structural damage, ground failure and settlement from seismic ground shaking would be minimized by compliance with the CBC seismic design requirements and the effect would be **less than significant**.

PVSP EIR Mitigation Measure 4.5-1a would further minimize this effect. This mitigation measure was adopted by Placer County at the time of the approval of the PVSP (Base Plan). The USACE assumes that Placer County would impose the same mitigation measure on the Proposed Action Blueprint scenario (or any level of development under the Proposed Action) to address this effect. Placer County concluded that with this mitigation measure, the effects will be reduced to a less than significant level. The USACE finds that the effect related to structural damage, ground failure and settlement from seismic ground shaking would be further reduced by this mitigation measure.

Alts. 1 through 5

All of the on-site alternatives would construct a project broadly similar to the Proposed Action, although Alternative 1, which involves a higher density of development on Property 1B, would construct slightly taller buildings on that site. To the extent that the buildings are taller, they may be more susceptible to damage from ground shaking. However, the risk of structural damage, liquefaction, ground failure or settlement from seismic ground shaking would be minimized by compliance with the CBC seismic design requirements. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative, the hazards associated with seismic ground shaking would be **less than significant.**

PVSP EIR Mitigation Measure 4.5-1a would further minimize this effect. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 5 to address this impact. As noted above, Placer County concluded that with this mitigation measure, the effects will be reduced to a less than significant level. The USACE finds that the effect related to structural damage, ground failure and settlement from seismic ground shaking would be further reduced by this mitigation measure.

PVSP EIR Mitigation Measure 4.5-1a: Site-Specific Geotechnical Reports
(*Applicability – Proposed Action and All Alternatives)*

Requires new development within the project site to submit a geotechnical report prepared by a California Registered Civil or Geotechnical Engineer to the County Department of Public Works for review prior to improvement plans approval. The report shall meet all relevant requirements of the most recently adopted version of the Uniform Building Code. The full text of the mitigation measure is presented in ***Appendix 3.0****.*

Impact GEO-2 Hazard associated with Slope Failure

No Action Alt.

Because of the project site's gentle topography, development on the site is not expected to be subject to slope failure related to natural slopes. The effect related to failure of natural slopes is anticipated to be **less than significant**.

The project will involve substantial grading activities, including the construction of cut slopes and fill embankments. Cut and fill slopes can become unstable if they are improperly designed or constructed. However, as identified above, the County routinely requires compliance with the CBC, which includes provisions for the design and construction of cuts and fills, including limitations on the materials suitable for use as fill, specifications for fill compaction, and requirements for slope drainage. In addition, in compliance with **PVSP EIR Mitigation Measure 4.5-1a**, above, all new development will be required to submit a site-specific geotechnical report to the County for approval and implement the recommendations of that report. With building code compliance and adherence to recommendations of a site-specific geotechnical investigation prepared by licensed personnel, the potential for slope instability or failure of cuts and fills would be reduced consistent with prevailing engineering practices. The effect related to slope failure is anticipated to be **less than significant**. Additional mitigation is not required.

Proposed Action (Base Plan and Blueprint Scenarios)

The Proposed Action (Base Plan and Blueprint Scenarios) would construct a larger mixed-use residential community on the project site. The risk of slope failure associated with cut and fill slopes would be similar to that described above for the No Action Alternative and would be minimized by compliance with the County's requirements, including the CBC design requirements and implementation of **PVSP EIR Mitigation Measure 4.5-1a**. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative, the effect related to slope failure is anticipated to be **less than significant**. Additional mitigation is not required.

Alts. 1 through 5

All of the alternatives would construct a project broadly similar to the Proposed Action. The risk of slope failure associated with cut and fill slopes would be similar and minimized by compliance with the County's requirements, including the CBC design requirements and implementation of **PVSP EIR Mitigation Measure 4.5-1a**. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative, the effect related to slope failure is anticipated to be **less than significant**. Additional mitigation is not required.

Impact GEO-3 Potential Structural Damage due to Expansive Soils

No Action Alt.

Collapsible soils have not been identified on the project site, but, as shown in **Table 3.8-2** above, some of the site soils are highly expansive. Expansive soils, which shrink and swell cyclically as they are wetted and dried by seasonal rains or irrigation, can result in substantial damage to improperly designed or constructed structures over time. However, as discussed above, the County routinely requires compliance with the CBC, which includes provisions for the foundation design and construction in areas with expansive soils. Depending on site conditions and the nature of a project, a variety of approaches are available to address expansive soils, including over-excavation and replacement of native soils with non-expansive fills, amendment and on-site use of native soils, and implementation of specialized foundation designs. Buildings within the project site would be required to comply with the CBC design requirements. However, there could be a **significant** effect related to expansive soils.

PVSP EIR Mitigation Measure 4.5-1a would address this effect. Implementation of **PVSP EIR Mitigation Measure 4.5-1a,** discussed above, would require preparation of site-specific geotechnical reports prepared by licensed personnel. With building code compliance and adherence to recommendations of a site-specific geotechnical investigation prepared by licensed personnel, the effect related to construction in an area with expansive soils would be **less than significant**.

Proposed Action (Base Plan and Blueprint Scenarios)

The risk of structural damage from expansive soils to the development under the Proposed Action would be similar to that described above for the No Action Alternative and would be minimized by compliance with the County's requirements, including the CBC design requirements. However, as with the No Action Alternative, there could be a **significant** effect related to expansive soils.

PVSP EIR Mitigation Measure 4.5-1a, discussed above, would address this effect, and its implementation would reduce the effect to a **less than significant** level.

Alts. 1 through 5

All of the alternatives would construct a project broadly similar to the Proposed Action. The risk of expansive soils would be similar and the **significant** effect would be reduced to a **less than significant** level by **PVSP EIR Mitigation Measure 4.5-1a.**

Impact GEO-4 Effect on Mineral Resources

No Action Alt.

As discussed in the **Affected Environment** subsection, above, the project vicinity has been designated MRZ-4 by the State of California, meaning that available information is inadequate to demonstrate either the presence or the absence of significant mineral resources. However, based on the geology of the area and the absence of any past or present mineral extraction activities in the project vicinity, the project site is unlikely to contain significant mineral deposits. Therefore, implementation of the No Action Alternative would not impede the extraction of mineral resources that are of regional importance. The effect would be **less than significant.** Mitigation is not required.

Proposed Action (Base Plan and Blueprint Scenarios)

The Proposed Action (Base and Blueprint Scenarios) would construct a larger mixed-use development on the project site. For the same reasons presented above for the No Action Alternative, the effect related to mineral resources would be **less than significant**. Mitigation is not required.

Alts. 1 through 5

All of the alternatives would construct a project broadly similar to the Proposed Action. For the same reasons presented for the No Action Alternative, the effect related to mineral resources would be **less than significant**. Mitigation is not required.

Impact GEO-5 Indirect Effects Associated with Geology, Soils, and Minerals from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5

The construction and operation of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which would be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5, would result in **less than significant** effects associated with geology, soils, and minerals with implementation of mitigation. The area around the pipeline routes is not known for mineral deposits. In addition, the routes would be constructed along existing roadways and utility easements, which under existing conditions would limit access to potential mineral deposits. Therefore, construction and operation would not prevent access to potential mineral deposits.

The pipeline routes are located in an area of low seismic activity, limiting risk from seismic groundshaking, or liquefaction. The pipelines would be constructed on primarily flat terrain, reducing the possibility of slope failure. There may be expansive soil along the pipeline routes. The County requires compliance with the CBC which would reduce risk associated with seismic hazards and expansive soils. As analyzed in the PVSP Second Partially Recirculated Revised Draft EIR dated March 2007, there are no areas of suspected or potential ground instability. However, erosion is expected to occur in disturbed soil areas. Soil stockpiles are also susceptible to erosion and soil loss. These impacts would be potentially significant.

PVSP EIR Mitigation Measures 4.5-4a through **4.5-4f** were adopted by Placer County at the time of the approval of the PVSP (Proposed Action). The USACE assumes that Placer County would impose the same mitigation measure on the off-site infrastructure associated with the No Action Alternative, Proposed Action, and Alternatives 1 through 5 to address this effect. The mitigation measure requires new development to submit a grading and erosion control/ground instability plan prepared by a California Registered. In addition, a Storm Water Pollution Prevention Plan (SWPP) shall be prepared. Improvement plans shall be submitted to the Department of Public Works for each new development phase. New development with ground disturbance exceeding 1 acre shall obtain an National Pollutant Discharge Elimination System (NPDES) permit. The Placer Vineyards Specific Plan EIR identified these mitigation measures to reduce the effect on erosion from off-site infrastructure to a less than significant level (Placer County 2006). However, in the California Environmental Quality Act (CEQA) Findings of Fact and Statement of Overriding Considerations for the PVSP EIR, the County acknowledged that it did not have the authority to impose these mitigation measures on Placer County Water Agency's (PCWA's) project and the impact would remain significant. USACE concurs with the County that if the PCWA imposes these or similar mitigation measures on the infrastructure project, the effect on erosion would be less than significant. However, USACE also does not have the authority to impose mitigation measures on a project that would be built by the PCWA and finds that the effects would remain **significant**.

PVSP EIR Mitigation Measure 4.5-4a through
PVSP EIR Mitigation Measure 4.5-4f: Erosion Control
(Applicability – No Action, Proposed Action, and All Alternatives)

Would require new development to submit a grading and erosion control/ground instability plan prepared by a California Registered Civil Engineer. In addition, a Storm Water Pollution Prevention Plan (SWPP) shall be prepared. Improvement plans shall be submitted to the Department of Public Works for each new development phase. New development with ground disturbance exceeding 1 acre shall obtain an NPDES permit. The full text of the mitigation measure is presented in ***Appendix 3.0****.*

3.8.6 RESIDUAL SIGNIFICANT IMPACTS

All effects associated with geology, soils, and minerals would be less than significant or reduced to less than significant with mitigation. There would be no residual significant impacts for the Proposed Action and any of the alternatives.

3.8.7 REFERENCES

Bryant, W. A., and E. W. Hart. 2007. "Fault-rupture hazard zones in California—Alquist-Priolo Earthquake Fault Zoning Act with index to Earthquake Fault Zones maps" (Special Publication 42, Interim Revision 2007). ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sp/Sp42.pdf. Accessed July 2010.

California Geological Survey. 2010. "Seismic Hazards Zonation Program" web page. http://www.conservation.ca.gov/cgs/shzp/Pages/Index.aspx. Accessed June 2010.

Gutierrez, C., Bryant, W. Saucedo, G., and Wills, C. 2010. "California Geological Survey 150th anniversary geologic map of California," scale 1:750,000, original compilation by Charles W. Jennings, 1977. Sacramento, CA. California Geological Survey. Helley, E. J., and D. S. Harwood. 1985. "Geologic Map of the late Cenozoic deposits of the Sacramento Valley and northern Sierran Foothills, California," (U.S. Geological Survey Miscellaneous Field Investigations series, MF0-1790). http://pubs.usgs.gov/mf/1985/1790/. Accessed July 2010.

Natural Resources Conservation Service. 2010. "Web soil survey." http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed June 2010.

Norris, R. M., and Webb, R. W. 1990. *Geology of California* (2nd edition). New York, NY: John Wily & Sons, Inc. Society of Vertebrate Paleontology Conformable Impact Mitigation Guidelines Committee. 2010. "Assessment and mitigation of adverse impacts to nonrenewable paleontologic resources: standard guidelines." http://vertpaleo.org/The-Society/Statements-and-Guidelines/Conformable-Impact-Mitigation-Guidelines-Committee.aspx. Accessed June 2010.

University of California Museum of Paleontology (UCMP). 2010. "Results of database search for Riverbank Formation, Turlock Lake Formation, and Pleistocene units (undifferentiated) of Placer County." http://ucmpdb.berkeley.edu/. Accessed July 2010.

United States Geological Survey (USGS). 1989. "The modified Mercalli intensity scale" (abridged from *The Severity of an Earthquake, a U.S. Geological Survey General Interest Publication*). http://earthquake.usgs.gov/learn/topics/mercalli.php. Accessed June 2010.

3.9 HAZARDS AND HAZARDOUS MATERIALS

3.9.1 INTRODUCTION

This section describes existing hazards and hazardous materials conditions at the project site and on surrounding properties, summarizes relevant laws and policies, and analyzes the anticipated impacts of implementing the Proposed Action or any of the alternatives to the Proposed Action.

Sources of information used in this analysis include the Placer Vineyards Specific Plan (PVSP) EIR prepared by Placer County (2006), and Phase I and Phase II Environmental Site Assessments performed on the properties that make up the project site.

3.9.2 AFFECTED ENVIRONMENT

The project site consists primarily of agricultural/pasture land, with rural residential properties scattered throughout the site. Previous and current land uses consist of dry farming for hay and cattle grazing, and irrigated farming for rice cultivation and enhanced cattle grazing. The western portion of the project site includes an approximately 979-acre (396.2 hectares) Special Planning Area that consists mostly of rural residential-agricultural parcels ranging in size from 1 to 40 acres (0.4 to 16.2 hectares).

For the purposes of this analysis, the term "hazards" refers to risk associated with exposure to hazardous materials, proximity to high-voltage transmission lines, exposure to electromagnetic fields, or exposure to recycled water. Potential hazards related to toxic air contaminants are discussed in **Section 3.3, Air Quality**.

Hazardous material is defined in different ways, depending on different laws and regulations administered by the U.S. Environmental Protection Agency (U.S. EPA), the Occupational Safety and Health Administration (OSHA), the Department of Transportation (DOT), and the U.S. Nuclear Regulatory Commission (NRC). Each has its own definition of a "hazardous material."

U.S. EPA and EPCRA (Right-to-Know) reporting requirements use the terms "hazardous chemicals" and "extremely hazardous substances." The term "hazardous chemical" refers to any chemical, element, chemical compound(s), or mixture(s) of elements and/or compounds with "hazardous" characteristics. Rather than developing a complete list of hazardous chemicals, the law defines five hazardous characteristics. These are: acute, chronic, fire, reactive and sudden release of pressure. If a chemical exhibits one or more of these characteristics, it is considered to be a hazardous chemical under this program. Similarly, if a formulation of several chemicals exhibits one or more of these characteristics, the formulation is a hazardous chemical.

The California Health and Safety Code Section 25501 defines hazardous materials as:

- any material that, because of its quantity, concentration, or physical, chemical, or biological characteristics, poses a potential hazard to human health or safety, or to the environment. Hazardous materials include, but are not limited to hazardous substances, hazardous wastes, and any material which a handler or the administering agency has a reasonable basis for believing

that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Hazardous wastes are hazardous materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, or contaminated, or are being stored prior to proper disposal. In California, hazardous waste is a discarded material that meets any of a list of criteria in the California Code of Regulations (CCR), including:

- The waste exhibits the characteristics of hazardous wastes identified in CCR Title 22, Division 4.5, Chapter 11, Article 3. Such characteristics include whether the material is ignitable, corrosive, reactive, or toxic.
- The waste is listed, contains a constituent that is listed, or is a mixture of hazardous waste that is listed in CCR Title 22, Division 4.5, Chapter 11.

Hazardous materials may include products such as pesticides, petroleum products, solvents, chemical intermediates, and heavy metals. Hazardous waste may include spent, discarded, spilled, or contaminated products, or wastes from certain industrial processes, as well as a mixture (e.g., soil, water, carbon, construction debris, and building materials) that exhibits the characteristics of hazardous wastes. California regulates hazardous waste management under CCR Title 22, Division 4.5.

The need for and the level of remediation of soil or groundwater affected by hazardous materials at a site depend on specific site conditions, including planned site use, potential receptors, and exposure pathways. Cleanup requirements are typically evaluated on a case-by-case basis by the lead regulatory agency overseeing a site.

3.9.2.1 Past and Current Hazardous Materials Use

Past use of hazardous materials on the project site as identified during the Phase I and Phase II Environmental Site Assessment process has included application of agricultural chemicals and storage and use of petroleum hydrocarbon products.

Agricultural Chemicals

Current and past agricultural use of the project site properties has included rice production, dry farming for hay production, and irrigated and dry land cattle grazing. Use of herbicides and pesticides is commonly associated with the production of rice. No records found during the environmental site assessment process indicate which agricultural chemicals may have been used on the project site for rice production. According to the environmental site assessments, hay production and cattle grazing land uses involved the use of relatively small amounts of fertilizers and feeds that were unlikely to have resulted in residual impacts to soil and groundwater.

Almond orchard and vineyard cultivation is also known to have taken place on the project site. Two almond orchards were identified in aerial photographs taken between 1952 and 1971 of the southern portion of Property #5C. An interview with the owner of Property #5C indicated that there was an almond orchard on the property when it was purchased in 1952, although the age of the orchard was not

known. A Bluestone copper sulfate/water mixture was reportedly sprayed on the orchard trees. A representative of the Placer County Agricultural Commissioner's office indicated that copper sulfate has no residual in soil. Reports also indicated that almond orchards were located on Properties #8 and #9 prior to and leading up to the 1950s. A 1937 aerial photograph of the eastern portion of the project site indicates that commercial orchards existed in that area at least as far back as that date.

Vineyards were identified in aerial photographs of Property #5B from 1971 to 2001 and in photographs of Property #5C from 1987 to 2001. Reports from Agricultural Commissioner's office representatives indicate that vineyards on the project site are not known to use environmentally persistent pesticides and fungicides that pose risks to soil and groundwater quality. The owner of Property #5B indicated that only sulfur has been applied to the vineyards on his property.

Some agricultural chemicals have the potential to remain in near-surface soils, depending upon the concentrations and types used. During approximately the last 25 years, environmentally persistent chemicals such as DDT and Chlordane have been banned from use. Prior to such regulation, however, and especially during the 1940s and 1950s, DDT was a common commercial chemical available for use as a pesticide. Arsenic-based compounds, including lead arsenate, arsenic trioxide, and copper acetoarsenate (Paris green), were also used from the late 1880s to the 1950s. Lead arsenate was commonly applied as both a pesticide and herbicide in orchards, and perhaps in other crops (such as vineyards). The Phase II assessment for former orchard areas did not identify any permanent negative impacts to subsurface soil and groundwater from current and past uses of agricultural chemicals.

Petroleum Hydrocarbon Contaminants

There are no regulatory agency database records of existing or former underground storage tanks (USTs) on the project site. The nearest reported operating USTs are located at the Gibson Ranch County Park in Sacramento County, and at the Riego Market & Deli located at the intersection of Pleasant Grove Road and Riego Road, west of the project site. Neither UST facility has had reports of subsurface petroleum releases.

Aboveground storage tanks have been identified on the project site. Small drip zones associated with the aboveground tanks on Property #15 were identified during the environmental site assessment process. However, farm-related aboveground storage tanks were not identified as a common source of soil and groundwater contamination on the project site during the environment site assessment process.

Interviews with property owners during the environmental site assessment process indicated that a UST exists on Property #5C, and that a former UST has been removed from Property #2. Evidence suggesting the presence of USTs was also observed on Property #4, near the abandoned radio beacon building and near a former radio beacon building site, approximately 2,000 feet (609 meters) southeast of the existing beacon building.

Evidence of petroleum hydrocarbon soil contamination was observed on Property #15A, which is associated with operation, maintenance, and storage of farm machinery and equipment. Additionally, used oil filters were observed on Properties #7 and #10. Areas of potential concern and/or circumstances

requiring further study were also observed on seven properties (#2, #1B, #5B, #5C, #9, #11, and #18). Those concerns included dumping along publicly accessible roadways, open abandoned wells, and debris and burn pits in former structure and storage areas.

3.9.2.2 Potential Hazards Related to Old Buildings

The Phase II Environmental Site Assessment included sampling and analysis of potential asbestos-containing materials. An asbestos survey was conducted for the abandoned radio beacon structure located immediately south of Baseline Road on Property #7. Non-friable asbestos-containing materials were found in the shingles on the exterior of the structure. Based on the age of the structures on Properties #10, #15A, #16, #17, and #20, asbestos containing materials could potentially be present in the structures.

3.9.2.3 Vector Control

The project site is within the boundaries of the Placer Mosquito Abatement District. The District employs a number of practices in order to reduce mosquitoes and other vector populations and prevent the spread of the diseases they can carry. District technicians continuously conduct surveillance throughout the County to locate vector breeding grounds including creeks and wetlands as well as manmade features in agricultural, industrial, and residential areas. Additionally, individual property inspections are conducted upon request of the owner. Airplanes and individual sprayers are used to apply insecticides and larvicides to control adult populations and to prevent larva from hatching in these identified breeding grounds. Additionally, residents may obtain mosquito fish from the district at no fee to place in decorative ponds, unused swimming pools, and animal troughs in order to eliminate mosquito larva.

3.9.2.4 Transmission Lines and Electromagnetic Fields

The project site is crossed by existing electric transmission and distribution lines that are part of Western Area Power Administration (WAPA), Pacific Gas & Electric (PG&E), and Sacramento Municipal Utility District (SMUD) systems. A 375-foot-wide SMUD and WAPA easement traverses the project site in a northeast to southwest alignment located west of 16th Street. The other two PG&E easements are smaller in area and run generally north to south. Transmission lines on-site range in size from 115 kilovolts (kV) to 230 kV.

Transmission power lines and substations emit electromagnetic fields, or EMF, which is a natural consequence of electrical circuits and is present where electricity is used. The magnitude of the electric field is primarily a function of the configuration and operating voltage of the line and decreases with the distance from the source. Magnetic fields are present whenever current flows in a conductor, and are not dependent on the voltage present on the conductor. The strength of these fields also decreases with distance from the source.

Studies of the effects of EMF exposure have varied widely (DHS 1999). Some epidemiological studies have reported that children living near power lines have higher than average rates of leukemia, brain cancer, and/or overall cancers. The correlations between EMF exposure and cancer rates have not been strong, and typically have not been related to dose levels. Other epidemiological studies have shown no

correlation between living near power lines and cancer, including childhood leukemia. Very few studies have shown correlations between adult cancers and proximity to power lines. Several reviews of EMF studies have been conducted by government agencies, including the National Institute of Environmental Health Sciences of the National Institutes of Health (NIEHS) and the California Department of Health Sciences (DHS). In general, these reviews have concluded that there is limited evidence linking exposure to EMF and cancer. The International Agency for Research on Cancer (IARC) found that childhood leukemia was the only type of cancer for which there could be a link to EMF exposure and that the evidence for that link was limited (DHS 1999).

3.9.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

Numerous federal, state, and local laws and regulations control the generation, storage, handling, transportation, and disposal of hazardous materials and hazardous wastes, as well as site remediation and Brownfield development. Those with particular application to the Proposed Action and the alternatives are detailed below.

3.9.3.1 Federal Laws and Regulations

Generally administered by the U.S. EPA, federal statutes and regulations both set forth federal responsibilities for dealing with hazardous materials and, where appropriate, authorize the U.S. EPA to delegate responsibility to state agencies. The Occupational Safety and Health Administration (OSHA) and the DOT also regulate handling and transport of hazardous materials and hazardous waste. Applicable federal regulations are contained primarily in Titles 10, 29, 40 and 49 of the code of Federal Regulations (CFR). CFR Title 40 addresses emergency planning and notification, hazardous material management plans, soil and water pollution remediation and reporting, and community right-to-know reporting. Any investigation or cleanup of soil contamination required on the project site or the Alternative 4 site would be subject to the standards set forth in Title 40.

Toxic Substances Control Act of 1976

The Toxic Substances Control Act (TSCA) (15 USC Sections 2601–2692) authorizes the U.S. EPA to require chemical manufacturers to provide data about their products' effects on human health and on the environment (Sections 2603–2604). TSCA further authorizes the U.S. EPA to regulate their production and use to reduce health or environmental risks (Sections 2604–2605). TSCA also sets forth regulations for lead-based paint abatement, including authorizing regulations for building renovation or demolition to reduce lead exposure (Sections 2682–2688). In addition, TSCA banned the manufacture, processing, distribution, and use of polychlorinated biphenyls (PCBs). PCBs are toxic and carcinogenic and can cause effects on the immune, reproductive, nervous, and endocrine systems of humans and animals. The U.S. EPA Region 9 PCB Program regulates remediation of PCBs in several states, including California. Under Title 40 CFR, Section 761.30(a)(1)(vi)(A), all owners of electrical transformers containing PCBs must register them with the U.S. EPA. Transformers and other items manufactured before July 1, 1978, and containing PCBs must be marked by the owner with a warning notice that the equipment contains PCBs.

Specified electrical equipment manufactured between July 1, 1978, and July 1, 1998, that does not contain PCBs must be marked by the manufacturer with the statement "No PCBs."

Solid Waste Disposal Act and Resource Conservation and Recovery Act of 1976

The Solid Waste Disposal Act (SWDA) (42 USC Sections 6901–6992(k)), which includes as a subsection the Resource Conservation and Recovery Act (RCRA) (42 USC sections 6921–6939(e)), creates a "cradle-to-grave" (from manufacture to disposal) regulatory system for hazardous wastes, and delegates substantial authority to the states for waste management under U.S. EPA supervision. RCRA requires the U.S. EPA to adopt criteria for identifying hazardous wastes, to formulate a list of "designated" hazardous wastes, and to set forth standards for facilities that handle them.

Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 USC sections 9601–9675), which was later amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), sets forth regulations for cleanup of hazardous substances after improper disposal; identifies federal response authority; and outlines responsibilities and liabilities of "potentially responsible parties"— those parties who have control over the hazardous substance itself, the property where hazardous source have been disposed or spilled, the source that it was spilled from, etc. CERCLA also specifies where Superfund money can be used for site cleanup. Notably, CERCLA defines "hazardous substances" by cross-referencing to other environmental statutes. Additionally, U.S. EPA can designate additional substances as hazardous substances.

Hazardous Materials Transportation Regulations

Under RCRA, U.S. EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous substances. The Federal Emergency Planning and Community Right to Know Act of 1986 (US Code Title 42, Chapter 116) imposes hazardous-materials planning requirements to help protect local communities in the event of accidental release of hazardous substances, including releases that may occur during transportation of such materials. U.S. EPA has delegated RCRA authority to the State of California. This authority is administered by the California Department of Toxic Substances Control (DTSC). Transportation of hazardous materials along any local or state roadway or rail line is subject to both the transportation safety requirements established in RCRA and the DOT hazardous materials transportation regulations. The DOT Federal Railroad Administration enforces hazardous materials transport regulations, which include requirements that railroads and other transporters of hazardous materials, including shippers, create and adhere to security plans and provide safety and security training to employees involved in handling or transporting hazardous materials.

Pipeline Safety Statutes

The DOT provides oversight for the nation's natural gas pipeline transportation system. Its responsibilities are outlined under Title 49 CFR, Chapter 601. The Pipeline and Hazardous Materials

Safety Administration (PHMSA) Office of Pipeline Safety (OPS) administers the national pipeline regulatory program to ensure the safe transportation of gas and other hazardous materials. The Pipeline Safety Statute at Title 49, Chapters 601 and 603 establishes requirements for pipeline construction, operational safety, and risk management. The Hazardous Liquid Pipeline Safety Act of 1979, as amended, authorizes the DOT to regulate pipeline transportation of hazardous liquids. The Pipeline Inspection, Protection, Enforcement, and Safety Act of 2006 established a damage prevention program and additional safety requirements for petroleum, natural gas, and hazardous liquid pipelines. The federal pipeline regulations are published in Title 49 CFR 26, Parts 190 through 199. CFR 192 specifically addresses natural and other gas pipelines. Many of the pipeline regulations are written as performance standards, which set the level of safety to be attained and allow the pipeline operator discretion in the choice of technologies to achieve the required safety level.

3.9.3.2 State Laws and Regulations

The DTSC and the Regional Water Quality Control Boards (RWQCB) administer most of California's hazardous waste regulations. The principal California regulations for hazardous materials are in the Government Code: the California Emergency Services Act (California Government Code Sections 8574.1–8574.23), Oil Spill Response and Contingency Planning (Sections 8670.1-8670.73), and the Elder California Pipeline Safety Act of 1981 (Sections 51010–51019.1) as well as in numerous provisions in the Health and Safety Code, such as the Hazardous Waste Control Act (Health and Safety Code Sections 25100–25250.28), the Safe Drinking Water and Toxic Enforcement Act of 1986 (Sections 25249.5–25249.13), Government Code Section 65962.5 (Cortese List), the California Land Use and Revitalization Act of 2004 (Sections 25395.6–25395.109), the California Land Environmental Restoration and Reuse Act (Sections 25401–25402.3), the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Sections 25404–25404.9), Asbestos and Hazardous Substance Removal Contracts (Sections 25914–25914.3), Asbestos Notification (Sections 25915–25919.7), and Hazardous Materials Release Response Plans and Inventory (Sections 25500–25546.5). The Porter-Cologne Water Quality Control Act (Water Code Sections 13000–13953.4) addresses hazardous material discharge into water bodies and groundwater. The following statutes would apply to the Proposed Action and the alternatives.

Hazardous Waste Control Act (HWCA)

The California Hazardous Waste Control Act (HWCA) is the primary state law that regulates hazardous waste and hazardous waste disposal facilities, and is administered by the DTSC. Like the federal RCRA, the HWCA regulates transportation and disposal of hazardous wastes, sets forth hazardous waste facility standards and directs administrative and enforcement procedures. It also lists and categorizes specific hazardous wastes.

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

The Safe Drinking Water and Toxic Enforcement Act, commonly referred to by its ballot measure, Proposition 65, prohibits businesses from discharging known carcinogens or reproductive toxins into

sources of drinking water, and requires businesses (such as grocery stores) to warn persons about possible exposure on the business premises to such carcinogens or toxins.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program, enacted in 1993, enabled a statewide program to consolidate the numerous hazardous waste and materials programs then in existence. It assigns lead responsibility to the California Environmental Protection Agency (Cal/EPA) to certify subsidiary public agencies to administer the program's regulations (Certified Unified Program Agencies [CUPAs]), and enables participating agencies (PAs) to enforce one or more program elements. Notably, the Program requires Cal/EPA to establish a statewide database and geographic information system to collect and make public the data that CUPAs and PAs obtain. Implementing regulations are at 27 CCR Sections 15100–15620. The Roseville Fire Department is the CUPA for the City of Roseville; Placer County's Environmental Health Division is the designated CUPA for unincorporated County areas.

Asbestos-Related Statutes

Health and Safety Code Sections 25914–25914.3 specifies contract conditions for work involving asbestos or other hazardous substance removal, requiring that such removal work be performed by a properly certified contractor. Sections 25915–25919.7 require building owners to notify tenants, construction workers, etc., about the presence of asbestos in buildings constructed before 1979.

Hazardous Materials Release Response Plans and Inventory

The Hazardous Materials Release Response Plans and Inventory requires local governments and businesses to adopt plans to respond to releases of hazardous materials and to develop risk management and prevention programs to minimize risks from accidental releases of acutely hazardous materials. Minimum requirements for such plans are in the California Code of Regulations at Title 19, Sections 2720–2732.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act regulates water quality within the state and implements the federal Water Pollution Control Act, including the National Pollutant Discharge Elimination System (NPDES) (see discussions under **Section 3.10, Hydrology and Water Quality**). The Regional Water Quality Control Boards exercise primary enforcement authority for waste discharges affecting water quality, including drafting regional water quality plans and issuing permits and cleanup and abatement orders. The boards may also seek judicial relief, including both civil and criminal penalties, against unlawful waste dischargers.

Hazardous Materials Transportation Regulations

Transport of hazardous materials is administered by the California Department of Transportation (Caltrans) and enforced by the California Highway Patrol (CHP). These agencies have established regulations on container types used and license hazardous waste haulers for transportation of hazardous

waste on public roads. Hazardous waste transporters must be registered with the DTSC. Hazardous waste transporters must comply with CHP regulations and California State Fire Marshal regulations, as well as federal DOT regulations. In addition, hazardous waste transporters must comply with Division 20, Chapter 6.5, Article 6 and 13 of the California Health and Safety Code and Title 22, Division 4.5, Chapter 13, of the California Code of Regulations, which are administered by the DTSC.

California Education Code

The California Education Code (Section 17210 et seq.) outlines the requirements for location of school facilities near or on suspected hazardous materials sites or near facilities that emit hazardous air emissions or handle hazardous or acutely hazardous materials, substances, or waste. The Code requires that an environmental site investigation be completed to determine whether there are health and safety risks associated with a potential new school site prior to commencing the acquisition of the property. All proposed school sites that will receive state funding for acquisition or construction must go through a comprehensive investigation and cleanup process (if necessary) under DTSC oversight. The DTSC is responsible for assessment, investigation, and remediation of proposed school sites. Among other requirements, school districts must contract for the preparation of a Phase I Environmental Site Assessment prior to acquiring a school site or engaging in a construction project and the Phase I Environmental Site Assessment must be reviewed by the DTSC according to established guidelines.

School Locations Relative to Sources of Hazardous Emissions

Public Resources Code Sections 21151.4, 21151.8, and 21151.2 require that no EIR be approved for a project involving construction or alteration of a facility that might reasonably be anticipated to result in hazardous air emissions within one-quarter mile (0.4 kilometer) of a school unless the lead agency has consulted with the relevant school district regarding the potential impact of the project on the school, or the school has been given written notification of the project not less than 30 days prior to approval of the EIR. New schools are required to be set back one-quarter mile (0.4 kilometer) from high-pressure gas lines.

School Locations Relative to Electrical Transmission Sources

The California Department of Education School Facilities Planning Division has developed specific guidelines that address the location of schools relative to electrical transmission lines. Any part of the school site must be at least 100 feet (30.5 meters) from the edge of an easement for a 50 to 133 kV line, and at least 150 feet (45.7 meters) from the edge of an easement for a 230 kV line.

Recycled Water Use Regulations

Wastewater treatment plant effluent that has received treatment that meets certain state requirements may be recycled and used for direct non-potable uses such as landscape irrigation or industrial cooling. Treatment requirements are set forth in CCR Title 22, Section 60301 et seq. Section 60301.230 specifies the requirements for recycled water. DHS considers properly filtered and disinfected water meeting its water quality standards to be essentially pathogen-free and adequately protective of public health. Water

meeting these standards may be used for unrestricted use, including but not limited to body contact for recreation (swimming), irrigation of food crops, and irrigation of parks, play grounds, and school yards.

Prior to allowing the use of recycled water for irrigation on the project site, the County would be required to prepare an Engineering Report in accordance with Title 22 of the CCR. The report must be submitted to and reviewed by DHS. DHS also requires that recycled water must be conveyed in a separate distribution system isolated from the potable water supply. Areas where recycled water is used for irrigation must be maintained by professional landscape maintenance contractors and local agency maintenance staff. Placer County would be required to implement a cross-connection control program to ensure that potable water lines are not accidentally connected to the recycled water system and would also be required to implement a public education program (including signage) to notify the public of the use and location of non-potable water application. Section 60301 of the regulations establishes specific use area requirements that address separation of application areas from domestic supply wells and runoff control.

3.9.3.3 Local Plans, Policies, and Ordinances

Placer County General Plan

The following are applicable goals and policies from the Placer County General Plan:

Policy 8.G.1. The County shall ensure that the use and disposal of hazardous materials in the County complies with local, state, and federal safety standards.

Policy 8.G.2. The County shall discourage the development of residences or schools near known hazardous waste disposal or handling facilities.

Policy 8.G.3. The County shall review all proposed development projects that manufacture, use, or transport hazardous materials for compliance with the County's Hazardous Waste Management Plan (CHWMP).

Policy 8.G.5. The County shall strictly regulate the storage of hazardous materials and wastes.

Policy 8.G.6. The County shall require secondary containment and periodic examination for all storage of toxic materials.

Policy 8.G.7. The County shall ensure that industrial facilities are constructed and operated in accordance with current safety and environmental protection standards.

Policy 8.G.8. The County shall require that new industries that store and process hazardous materials provide a buffer zone between the installation and the property boundaries sufficient to protect

public safety. The adequacy of the buffer zone shall be determined by the County.

Policy 8.G.9. The County shall require that applications for discretionary development projects that will generate hazardous wastes or use hazardous materials include detailed information on hazardous waste reduction, recycling, and storage.

Policy 8.G.10. The County shall require that any business that handles a hazardous material prepare a plan for emergency response to a release or threatened release of a hazardous material.

Policy 8.G.11. The County shall encourage the State Department of Health Services and the California Highway Patrol to review permits for radioactive materials on a regular basis and to promulgate and enforce public safety standards for the use of these materials, including the placarding of transport vehicles.

Policy 8.G.12. The County shall identify sites that are inappropriate for hazardous material storage, maintenance, use, and disposal facilities due to potential impacts on adjacent land uses and the surrounding natural environment.

Policy 8.G.13. The County shall work with local fire protection and other agencies to ensure an adequate countywide response capability to hazardous materials emergencies.

To ensure the implementation of the stated policies, the General Plan directs that the County shall maintain and implement a CHWMP that addresses: hazardous waste generators; emergency response programs; transportation, storage, collection, treatment, and disposal of hazardous wastes generated within Placer County; the siting of hazardous waste facilities; and enforcement activities. The General Plan also states that the County shall prepare and maintain a Hazardous Materials Emergency Response Plan.

Agency Databases

The U.S. EPA maintains two databases: the National Priorities List (NPL) and the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list. NPL is the list of sites identified by the U.S. EPA for priority cleanup under the Superfund Program. The CERCLIS list is a list of sites which are or have been investigated by the U.S. EPA for a release or threatened release of hazardous substances. None of the parcels covered by the project site is on the NPL or CERCLIS list.

Under RCRA, the U.S. EPA maintains a list of facilities that generate, store, transport, treat, or dispose of hazardous wastes. None of the parcels covered by the project site is on the RCRA list.

The State of California maintains several databases of sites having hazardous materials storage, generation, disposal, or contamination. As part of the Phase I and Phase II Environmental Site Assessments performed on the project site parcels, available federal, state, and local agency databases were reviewed to identify the presence of any government-regulated properties, either on or adjacent to the project site, that could potentially result in hazardous on-site conditions. The review included the databases of the DTSC, California State Water Resources Control Board (SWRCB), and the California Office of Environmental Protection. The project site is not included on any of the state databases.

Placer County maintains a database of hazardous waste generators in the County. The project site is not included on this database.

3.9.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.9.3.1 Significance Thresholds

Council on Environmental Quality (CEQ) regulations require an evaluation of the degree to which the proposed action could affect public health or safety. The U.S. Army Corps of Engineers (USACE) has determined that the Proposed Action or its alternatives would result in substantial adverse effects related to hazards and hazardous materials if the Proposed Action or an alternative would:

- Result in exposure of construction workers or the public to contaminated soil or groundwater;
- Create a significant hazard to the public or the environment through the transport, use, or disposal of hazardous materials; or
- Expose the public to a public safety hazard.

3.9.3.2 Analysis Methodology

Impacts related to hazards and hazardous materials were evaluated qualitatively, based on the general types of hazardous materials and techniques that are likely to be used during construction and operation of the Proposed Action and alternatives. The analysis in this section focuses on the use, generation, disposal, transport, risk of upset, or management of hazardous or potentially hazardous materials on the project site; the potential risks associated with a planned adjacent natural gas pipeline; the potential risks associated with the presence of electrical transmission lines; and the potential risks associated with use of recycled water for landscape irrigation. The analysis assumes that the construction and operation of development under the Proposed Action or the alternatives would comply with all applicable federal, state, and local laws and regulations, including the General Plan policies and implementation measures described in **Subsection 3.8.3** above.

3.9.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact HAZ-1 Exposure to soil or groundwater contamination from past uses

No Action Alt. The No Action Alternative would develop a smaller portion of the project site as it would avoid areas where jurisdictional wetlands are present. Therefore, under this alternative, the potential to encounter soil and groundwater conditions would be lower as compared to the Proposed Action which is described below. As described in

Subsection 3.9.2, above, USTs were identified on Property #4 and low levels of contamination were identified on Properties #4, #10, #11, and #15. Construction in portions of Properties #4, #10, and #15 under the No Action Alternative could encounter contaminated soil and groundwater. The No Action Alternative would not develop Property #11. There is a potential for **significant** effects related to these conditions to occur. **PVSP EIR Mitigation Measures 4.12-1, 4.12-6a** and **6b, 4.12-7a** and **7b, 4.12-8, 4.12-9, 4.12-13,** and **4.12-17** would address these effects. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this impact. The County concluded that these mitigation measures would fully mitigate impacts to less than significant. The USACE also finds that the effect would be **less than significant** with mitigation.

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Construction workers or the public could be exposed to contaminated soil, groundwater, or building materials. With the implementation of **PVSP EIR Mitigation Measures 4.12-1, 4.12-6a** and **6b, 4.12-7a** and **7b, 4.12-8, 4.12-9, 4.12-13,** and **4.12-17,** the effect would be mitigated to a **less than significant** level**.**

The project site contains some properties where soil and groundwater may be contaminated from previous uses. As described in **Subsection 3.9.2**, above, two USTs were identified on Property #4 during the Phase II Environmental Site Assessment. Samples from Properties #4, #10, #11, and #15 identified relatively low concentrations (below regulatory cleanup thresholds) of motor oil, grease, diesel fuel, and lead. Samples from Property #15 identified motor oil, oil and grease, and/or diesel fuel concentrations likely above the level of concern or regulatory cleanup threshold. Construction in portions of Properties #4, #10, #11, and #15 could encounter contaminated soil and groundwater.

In addition, existing structures present on the site could contain hazardous building materials such as lead based paint and asbestos and septic systems present on some of the properties could also be a source of contamination. The presence of existing homes and evidence of previously existing dwellings on the project site indicates that septic systems consisting of septic tanks and disposal fields or dry wells, or cesspools, have been used to dispose of domestic wastewater on the project site. Septic systems may have been used to dispose of hazardous materials, including petroleum hydrocarbon products and wastes. Materials disposed of in septic systems may enter subsurface disposal trenches or dry wells, and thereby impact the subsurface soils or groundwater.

Unused wells also pose a health hazard by providing a conduit for contaminants released during project construction and operation to reach a potable water supply. Four unused wells with pumps installed were observed on Properties #9 and #10, and abandoned open irrigation wells were located during the Phase II Environmental Site Assessment on Properties #4 and #11. While the wells do not present a physical hazard in their current condition, they would need to be properly destroyed prior to project

development.

Portions of the project site have been or are in active agricultural use. Some agricultural chemicals have the potential to occur in the soils on the project site as some of these chemicals are known to persist in near-surface soils, depending on the concentrations and types used. Prior to the regulation of environmentally persistent chemicals, chlorinated pesticides such as DDT were used extensively, especially during the 1940s and 1950s, as a commercial pesticide and were likely used on the orchards and vineyards reported to have existed on the project site.

Construction of the Proposed Action or Alternatives 1 through 5 could result in **significant** effects related to exposure to contaminated soil or groundwater or building materials associated with the sources described above. **PVSP EIR Mitigation Measures 4.12-1, 4.12-6a** and **6b, 4.12-7a** and **7b, 4.12-8, 4.12-9, 4.12-13,** and **4.12-17** would address the effect related to exposure to soil and groundwater contamination from past uses. These mitigation measures require the preparation of a Phase II site assessment if a current Phase I site assessment is not available for any development site (residential subdivision or industrial/commercial site) at the time that the development is proposed and the implementation of the recommendations of the Phase I Environmental Site Assessment. The measures also require: a site-specific evaluation by a California Registered Environmental Assessor II at each identified existing and former dwelling area to identify surface indications and locations of septic tanks or cesspools prior to demolition of existing residences, and implementation of any required remediation work in accordance with state and County regulations; the removal of USTs and remediation if necessary consistent with state and County regulations; additional sampling to be performed on Properties #10, 11, and 15 if regulatory clean-up thresholds are exceeded, with follow-up remediation to meet state and County regulations; and destruction of all wells according to state and County requirements.

These mitigation measures were adopted by Placer County for the Proposed Action (Base Plan) at the time of project approval and will be enforced by the County. The USACE assumes that Placer County would impose the same mitigation measures on the Proposed Action Blueprint scenario and Alternatives 1 through 5 to address this impact. The PVSP EIR determined that **PVSP EIR Mitigation Measures 4.12-1, 4.12-6a** and **6b, 4.12-7a** and **7b, 4.12-8, 4.12-9, 4.12-13,** and **4.12-17** would ensure that impacts from exposure to soil and groundwater contamination would be **less than significant**. The USACE also finds that the impact would be **less than significant** after mitigation.

The California Education Code requires site-specific information for school site development, including approval from DTSC that the proposed school sites are free of contaminants that would pose a risk to students and faculty. Center Joint Unified School District would be required under the California Education Code to complete the necessary assessments to ensure that development of the proposed school sites would

not expose children and teachers to risks associated with contaminated sites.

PVSP EIR Mitigation Measure 4.12-1: Underground Storage Tank Removal and Remediation (*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.12-1 requires the removal of USTs and remediation if necessary consistent with State and County regulations. The full mitigation measure text is available in ***Appendix 3.0****.*

PVSP EIR Mitigation Measure 4.12-3: Destruction of Wells (*Applicability – Proposed Action and All Alternatives)*

PVSP EIR Mitigation Measure 4.12-3 requires destruction of all wells according to state and County requirements. The full mitigation measure text is available in ***Appendix 3.0****.*

PVSP EIR Mitigation Measures 4.12-6a-b,
PVSP Mitigation Measures 4.12-7a-b,
PVSP Mitigation Measure 4.12-8, and
PVSP Mitigation Measure 4.12-9: Additional Soil Sampling (*Applicability – Proposed Action and All Alternatives)*

PVSP EIR Mitigation Measures 4.12-6a-b, PVSP Mitigation Measures 4.12-7a-b, PVSP Mitigation Measure 4.12-8, and PVSP Mitigation Measure 4.12-9 require additional sampling to be performed on Properties #10, 11, and 15 if regulatory clean-up thresholds are exceeded, with follow-up remediation to meet State and County regulations. The full mitigation measure text is available in ***Appendix 3.0****.*

PVSP EIR Mitigation Measure 4.12-13: Identify and Remediate Septic Systems (*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.12-13 requires a site-specific evaluation by a California Registered Environmental Assessor II at each identified existing and former dwelling area to identify surface indications and locations of septic tanks or cesspools prior to demolition of existing residences, and implementation of any required remediation work in accordance with State and County regulations. The full mitigation measure text is available in ***Appendix 3.0.***

PVSP EIR Mitigation Measure 4.12-17: Identify and Remediate Potential Hazardous Contamination (*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.12-17 requires the preparation of a Phase I site assessment if a current Phase I site assessment is not available for any development site (residential subdivision or industrial/commercial site) at the time that the development is proposed. The full mitigation measure text is available in ***Appendix 3.0****.*

Impact HAZ-2 Hazards from Accidental Release of Hazardous Materials or Wastes

No Action Alt., Proposed The effects from accidental release of hazardous materials or wastes during construction, project operation, or hazardous materials transportation, would be **less than significant**

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for the No Action Alternative, Proposed Action, and Alternatives 1 through 5.

Construction

The routine use of hazardous substances during construction that is in compliance with federal law would not result in adverse effects on human health or the environment.

Construction typically involves the use of hazardous materials such as petroleum products, coatings (paint), and cleaning chemicals, and may generate hazardous wastes through use of such materials. Construction workers could be exposed to hazardous materials through improper handling or use of hazardous materials or hazardous wastes during construction of the project, particularly by untrained personnel; transportation accident; unsound disposal methods; or fire, explosion or other emergencies. As discussed in **Subsection 3.8.3**, above, construction activities on-site would be subject to federal and state hazardous materials regulations and worker safety regulations regarding handling of and exposure to hazardous materials. These regulations must be implemented by employers and are enforced by the state. In addition, all construction projects involving 1 acre (0.4 hectare) or more of ground disturbance are subject to NPDES requirements of developing and implementing a Storm Water Pollution and Prevention Plan to prevent construction pollutants from contacting storm water and entering into storm sewer systems and other jurisdictional waters. All dischargers must obtain coverage under the Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009, which is substantially more stringent than the previous general permit. These effects would be less than significant. Therefore, mitigation is not required.

Project Operation

Compliance with state and federal laws would avoid adverse effects associated with hazardous material use and storage.

Once the project site is developed, residential and commercial uses would involve use and storage of hazardous materials. These materials likely would include household products such as cleaning agents, solvent, paint, oils, pesticides, etc. These products are commercially available for public use and are typically sold with warning labels and use/storage recommendations from the manufacturers. These materials are typically used or stored in residences in small quantities. Such uses of hazardous materials do not generate hazardous air emissions and rarely, if ever, involve the use of acutely hazardous materials that could pose a significant threat to the environment or human health.

Depending on the type of commercial development that occurs, use and storage of larger quantities of hazardous materials and generation of hazardous waste could occur. For example, development could include warehouse-type building supply stores that would stock products such as paint, lubricants, cleaning products, printing ink, pool treatment chemicals, and other hazardous materials. Building maintenance operations, as well as

businesses such as auto repair, gas stations, and medical offices would generate hazardous wastes. Commercial use and storage of hazardous materials and disposal of hazardous wastes would be subject to federal, state, and local regulations. As discussed in **Subsection 3.8.3**, above, hazardous materials regulations have been established at the state level to ensure compliance with federal regulations to reduce the risk to human health and the environment from the routine handling, use, and storage of hazardous materials. These regulations must be implemented by employers and businesses and are enforced by the state (Cal OSHA in the workplace or DTSC for hazardous waste) and local jurisdictions (Placer County Fire Department). The Placer County Certified Unified Program Agency is the local agency responsible for implementation of the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program. Compliance with the Unified Program would reduce the potential for accidental release of hazardous materials during occupancy of the project site and would avoid or reduce adverse effects associated with such use. The Unified Program is intended to ensure that regulated activities (businesses) within the project site are managed in accordance with applicable regulations, including the Hazardous Materials Release Response Plans and Inventories (Business Plan), the California Accidental Release Prevention (CalARP) Program, and the California Fire Code. These effects would be less than significant. Mitigation is not required.

Hazardous Materials Transportation

Construction and operation of development under the all of the alternatives would involve transport of hazardous materials, potentially including large quantities of construction and maintenance supplies containing hazardous materials. However, compliance with applicable regulations would reduce or avoid the risk of adverse effects related to transport of hazardous materials. All transport would be required to comply with federal and state regulations, as administered by Caltrans and enforced by the CHP. Implementation of the transportation regulations in Title 49 CFR would reduce the potential for accidental release during construction or occupancy by transporters delivering hazardous materials to the project site or picking up hazardous waste. These effects would be less than significant. Mitigation is not required.

In summary, with compliance with applicable regulations, the No Action Alternative, Proposed Action, and Alternatives 1 through 5 would result in a **less than significant** effect related to the handling, storage, and transport of hazardous materials.

Impact HAZ-3 Hazard Associated with Adjacent Natural Gas Pipeline

No Action Alt. Effects to the residents and employees on the project site from the rupture of the natural gas pipeline are expected to be **less than significant**.

Construction of the planned PG&E Line 407-E natural gas pipeline along the northern side of Baseline Road is anticipated to take place in 2012. Based on this schedule, the natural gas pipeline would be present near the northern boundary of the project site when development of the Proposed Action commences. The implementation of the Proposed Action would have the potential to expose residents and employees on the project site to risk associated with the natural gas pipeline.

As described in the 2009 PG&E Line 406/407 Final EIR (PG&E Line Final EIR), the planned Line 407-E, a 30-inch (76.2 centimeters) diameter natural gas pipeline, would be designed to meet current regulatory standards for safety. Proper design, construction, and maintenance of the planned pipeline would be required and would minimize leaks. The pipeline would be buried along its entire length at a minimum depth of approximately 5 feet (1.5 meters), including the segment north of the project site. A 50-foot (15.24 meter) easement would be placed along the length of the pipeline where no developed uses would be allowed (SLC 2009).

Under the No Action Alternative, low-density residential uses would be located near the natural gas pipeline easement on Baseline Road in the northeast corner of the site. All of the proposed schools, including the high school, would be located more than 0.25 mile (0.4 kilometer) from the pipeline under this alternative; this distance is consistent with California Department of Education Standards, which require a minimum separation of 0.25 mile (0.4 kilometer) from natural gas pipelines.

Based on the risk assessment included in the PG&E Line Final EIR, the planned pipeline would not pose a significant risk from rupture to nearby populated areas. The assessment used the threshold used by the California Department of Education as a part of their school siting criteria. This is a threshold for unacceptable individual risk and is expressed as an annual likelihood of a one in a million (1:1,000,000) chance of fatality as a result of an accident involving the natural gas pipeline. The risk assessment included calculation of risks before and after implementation of mitigation measures identified in the Final EIR. Two analysis approaches, a simplified approach and an enhanced approach intended to present a "worst-case" scenario, were presented for both pre- and post-mitigation conditions. Based on the assessment, the maximum individual risk posed by Line 407 (both east and west segments) before mitigation is 1:2,062,000, and after mitigation it is 1:4,115,000 chance of fatality per year. Because the calculated individual risk is well below the threshold of 1:1,000,000, the Final EIR concluded that the risk was less than significant (SLC 2009). Although the risk was considered less than significant, the EIR included mitigation measures to further reduce the risk of rupture. These include use of recently manufactured pipe, post-construction surveys and periodic inspections, and implementation of an Emergency Response Plan that would be coordinated and tested (through drills and exercises) with local fire and police departments and emergency management agencies (SLC 2009). Based on the information presented above,

effects associated with the proximity of the natural gas pipeline would be **less than significant** for the nearest low-density residential uses under the No Action Alternative. Mitigation is not required.

Proposed Action (Base Plan and Blueprint Scenarios), Alts. 1 through 5

Under the Proposed Action and Alternatives 1 through 5, the predominant proposed land uses along Baseline Road are commercial and open space. These uses are generally considered compatible with the gas pipeline. Low-density residential uses would be located south of the natural gas pipeline easement along approximately 2,000 feet (609 meters) of Baseline Road in the northeast corner of the project site, and the proposed high school would be located adjacent to Baseline Road under the Proposed Action Base Plan and Blueprint scenarios and Alternatives 1 through 5. As shown in **Figures 2.0-2** and **2.0-3**, all of the other schools would be set back over 0.25 mile from (0.4 kilometer) the pipeline easement. Although the high school site is located adjacent to Baseline Road, the pipeline alignment in that area deviates from the roadway and has been placed more than 0.25 mile (0.4 kilometer) to the north of the roadway to provide the required setback from the high school. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative, effects associated with the proximity of the natural gas pipeline would be **less than significant.**

Impact HAZ-4 Risk related to Use of Recycled Water

No Action Alt, Proposed Action, Alts. 1 through 5

The use of recycled water would not result in any conditions that would unduly expose future occupants to human health risks. The effect would be **less than significant.**

As described in **Section 2.0, Proposed Action and Alternatives**, development under the all of the alternatives would have recycled water provisions for use in parks, schools, publicly landscaped areas, and the landscaping associated with commercial, business professional, light industrial, and multi-family uses. It is anticipated that recycled water would be delivered from the Dry Creek Wastewater Treatment Plant (DCWWTP), and ultimately the Pleasant Grove Wastewater Treatment Plant (PGWWTP). Recycled water would only be available to the project if the wastewater from the project site is treated at the DCWWTP and PGWWTP. Use of recycled water is not anticipated under the second option for wastewater treatment at the Sacramento Regional County Sanitation District (SRCSD) because it would not be practicable to convey recycled water to the project site from that location.

Individuals using or maintaining the parks and landscaped facilities would have skin contact with recycled water when these features are actively irrigated, for example by touching irrigated grass or runoff. The PGWWTP is designed and operated to produce effluent that meets or exceeds standards consistent with "Disinfected Tertiary Recycled Water" as defined by Title 22 of the California Code of Regulations. Any recycled water

to be used on site would therefore meet state regulatory standards, as outlined in **Subsection 3.8.3**, above. Water meeting these standards may be used for unrestricted use, including recreation involving body contact, irrigation of food crops, and irrigation of parks, playgrounds, and schoolyards. Placer County would be responsible for ensuring that the irrigation sites comply with the use requirements established in Section 60310 of the CCR. As described in **Subsection 3.8.3**, above, cross-connection controls would ensure that recycled water does not enter the potable water distribution system. The use of recycled water on the project site is anticipated to be a **less than significant** effect. Mitigation is not required.

Impact HAZ-5 Risk of Exposure to Electromagnetic Fields from Transmission Lines

No Action Alt., Proposed Action, Alts. 1 through 5

The No Action Alternative, Proposed Action, and Alternatives 1 through 5 would have **less than significant** effects associated with increased exposure to electromagnetic fields (EMF).

As discussed above, the project site is crossed by high-voltage electric transmission and distribution lines that are owned by the Western Area Power Administration (WAPA), Pacific Gas & Electric (PG&E), and Sacramento Municipal Utility District (SMUD). Transmission lines on-site range in size from 115 kilovolts (kV) to 230 kV. Development of the project site would increase the number of people who would be exposed to potential risks associated with EMF produced by these lines. The three power line easement corridors are primarily designated open space under the Specific Plan for the project site, which restricts intensive forms of development immediately adjacent to or under the power lines. Public uses within the transmission corridors would be limited to transient recreational activities such as use of undeveloped nature areas and trails or community commercial uses that would not include residences. Low-voltage transmission lines serving residential and commercial areas within the project site would be placed underground.

Residential uses are proposed adjacent to but not within the transmission line corridors; residential areas would be a minimum of 100 feet (30.5 meters) from the corridor. Implementation of appropriate setbacks from the corridor would ensure that effects associated with increased exposure to EMF would be minimal.

The California Education Code requires a minimum setback of 150 feet (15.25 meters) from 230-kV transmission corridors, and the Center Joint Unified School District has requested a minimum setback of 400 feet (122 meters) from the WAPA corridor. As shown on **Figures 2.0-2, 2.0-3,** and **2.0-9**, all schools are set back a minimum of 400 feet (122 meters) from the WAPA corridor. No schools are planned near the other two

transmission corridors. Less than significant EMF effects to schools from the project site transmission corridor are anticipated. Mitigation is not necessary.

The substation proposed as part of the No Action Alternative, Proposed Action, and Alternatives 1 through 5 would be located at least 50 feet (15.25 meters) from the nearest regularly occupied residential structures, and the distance from the proposed substation would limit exposure to EMF. PG&E would prepare an EMF Field Management Plan that will delineate no-cost and low-cost EMF reduction measures to be installed as part of the final engineering design for the substation. The effect would be **less than significant.** Mitigation is not required.

Impact HAZ-6 Indirect Effects Associated with Hazards and Hazardous Materials from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5

The construction and operation of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which would be used by No Action Alternative, Proposed Action, and Alternatives 1 through 5, would result in **less than significant** effects associated with hazards and hazardous materials with implementation of mitigation.

The pipelines would convey potable water to the project site and other nearby areas which even if damaged, would not represent a hazard to residents near the pipeline route.

As analyzed in the PVSP Second Partially Recirculated RDEIR dated March 2007, construction of the water pipelines may subject construction workers to hazardous materials such as petroleum products, underground storage tanks (USTs), contaminated soils, refuse, abandoned wells, septic systems, and structures containing asbestos. Construction activities would be subject to federal and state hazardous materials regulations and worker safety regulations regarding handling of and exposure to hazardous materials, as described above. In addition, the infrastructure project would be required to comply with NPDES requirements, including submission of a SWPP.

PVSP EIR Mitigation Measures 4.12-21a through **4.12-21f** were adopted by Placer County at the time of project approval of the PVSP (Off-site improvements associated with the Proposed Action). The USACE assumes that Placer County would impose the same mitigation measure on the off-site improvements associated with the Proposed Action, No Action Alternative and Alternatives 1 through 5 to address this effect. **PVSP EIR Mitigation Measures 4.12-21a** through **4.12-21f** identifies the appropriate methods to handle any USTs, asbestos contamination, wells, or auto parts, debris, household waste and similar materials, if encountered. The Placer Vineyards Specific Plan EIR

identified that these mitigation measures to reduce the effects associated with hazards and hazardous materials from off-site infrastructure to a less than significant level (Placer County 2006). However, in the CEQA Findings of Fact and Statement of Overriding Considerations for the PVSP EIR, the County acknowledged that it did not have the authority to impose these mitigation measures on PCWA's project and the impact would remain significant. USACE concurs with the County that if the PCWA imposes these or similar mitigation measures on the infrastructure project, the effects associated with hazards and hazardous materials would be less than significant. However, USACE also does not have the authority to impose mitigation measures on a project that would be built by the PCWA and finds that the effects would remain **significant**.

PVSP EIR Mitigation Measure 4.12-21a through
PVSP EIR Mitigation Measure 4.12-21f: **Hazards and Hazardous Materials (*Applicability – No Action, Proposed Action and All Alternatives*)**

PVSP EIR Mitigation Measures 4.12-21a-f *identify the appropriate methods to be used by the applicant if any USTs, asbestos contamination, wells, or auto parts, debris, household waste and similar materials are encountered. The full mitigation measure text is available in* ***Appendix 3.0.***

3.9.6 RESIDUAL SIGNIFICANT IMPACTS

All effects associated with hazards and hazardous materials would be mitigated by the proposed mitigation measures. There would be no residual significant impacts for the Proposed Action and any of the alternatives.

3.9.7 REFERENCES

California Department of Health Services (DHS), California Electric and Magnetic Fields Program. 1999. Short Factsheet on EMF.

California State Lands Commission. 2009. "PG&E Line 406/407 Natural Gas Pipeline EIR prepared by the Michael Brandman Associates."

Carlton Engineering, Inc. 2000. "Phase I Environmental Site Assessment for Placer Vineyards, Placer County, California."

Carlton Engineering, Inc. 2001. "Placer Vineyards Specific Plan EIR, Placer County, California, Phase II Environmental Site Assessment, Sampling and Focused Site Reconnaissance."

Placer County. 2006. "Placer Vineyards Specific Plan Final Environmental Impact Report" (State Clearinghouse No. 1999062020).

Placer County. 1994. "Placer County General Plan Update."

3.10 HYDROLOGY AND WATER QUALITY

3.10.1 INTRODUCTION

This section describes existing surface and groundwater hydrology in the project area, including floodplain and stormwater issues and water quality; summarizes the regulations that govern hydrologic modification, protect water quality, and control floodplain development and stormwater management; and analyzes the potential effects to hydrology and water quality that could result from the implementation of the Proposed Action and its alternatives.

Sources of information used in this analysis include but are not limited to:

- Placer Vineyards Specific Plan (PVSP) EIR prepared by Placer County (2006);
- Placer Vineyards Master Project Drainage Study (2005); and
- Placer County Water Agency American River Pump Station Project EIS/EIR (2002).

Specific reference citations are provided in the text.

3.10.2 AFFECTED ENVIRONMENT

3.10.2.1 Regional and Local Surface Water Hydrology

The project site is located within three major watersheds: Dry Creek Drainage Basin, Curry Creek Drainage Basin, and Steelhead Creek (Upper Natomas East Main Drainage Canal [NEMDC]) Drainage Basin. All of the watersheds are part of the Sacramento River Basin.

The Sacramento River Basin—the area drained by the Sacramento River—covers approximately 27,210 square miles (70,473.6 square kilometers), extending from the Cascade and Trinity Ranges in the north to the Sacramento–San Joaquin Delta in the south, and from the Coast Ranges in the west to the Sierra Nevada in the east. It includes all watersheds draining to the Sacramento River north of the Cosumnes River watershed, as well as the closed (interior drainage) Goose Lake Basin and the Cache and Putah Creek subwatersheds. Besides the Sacramento River, principal streams within the watershed include the Pit, Feather, Yuba, Bear, and American Rivers, tributary from the east; and Cottonwood, Stony, Cache, and Putah Creeks, tributary from the west. Important reservoirs and lakes include Shasta, Oroville, Folsom, Clear Lake, and Lake Berryessa.

The County receives its water supply from various sources, including from the American, Yuba, and Bear Rivers. For the project's water supply effects, see **Section 3.15, Utilities and Service Systems.** The indirect effects of the project on fisheries from diverting American River water are addressed in **Section 3.4, Biological Resources.**

Figure 3.10-1, Project Site Watersheds, illustrates the drainage basins within the project site. Each drainage basin is described below.

Dry Creek Drainage Basin

The Dry Creek watershed is about 80 square miles (207.2 kilometers) in area and includes substantial developed areas upstream. Downstream, Dry Creek flows into northern Sacramento County through the community of Rio Linda until it reaches Steelhead Creek, which drains into the American River (Placer County 2006).

The Dry Creek Drainage Basin, although the largest regionally, includes only 477 acres (193 hectares) of the project site along the project site's southeast boundary. This basin is bounded to the east by Walerga Road, to the west by the Southeast Drainage Basin, and the Curry and North Drainage Basins to the north. Flows within the drainage basin are conveyed overland and through many small swales and roadside ditches towards Dry Creek. No culverts currently exist in this basin.

Within the project site, a low dam constructed of uncemented rock and broken concrete is placed across Dry Creek within the Federal Emergency Management Agency (FEMA) designated floodway, immediately downstream of the Watt Avenue bridge. The dam causes water to pool under and upstream of the bridge. An electric pump and intake structure have been placed on the northern bank of the creek, and water is intermittently withdrawn from the creek to irrigate pastureland on the north side of Dyer Lane. Upon conversion of the pastureland to urban use, the current practice of using Dry Creek flows for irrigation would cease within the project site (Placer County 2006).

Curry Creek Drainage Basin

Most of the Curry Creek watershed lies downstream of the project site, north of Baseline Road and west of Watt Avenue. This basin drains northwesterly into the Pleasant Grove Creek Canal, which flows northward to the Natomas Cross Canal to the Sacramento River. The portion of the watershed within the project site is approximately 240 acres (97.1 hectares) in area, with the total watershed containing approximately 1,360 acres (550.4 hectares). Curry Creek flows towards the northeast corner of the project site, crosses Baseline Road from the north, and runs parallel to the south of Baseline Road for approximately 4,000 feet (1219.2 meters). The creek then crosses Baseline Road, back to the north of the roadway and continues to the northwest. At these two crossings of Baseline Road, there is a 6-foot by 12-foot (1.8 meters by 3.6 meters) corrugated metal pipe to convey flows through the watershed (Placer County 2006).

Upper Steelhead Creek Drainage Basin

The Upper Steelhead Creek flows west across the project site before leaving the area at Baseline Road, flowing toward Steelhead Creek. This basin comprises approximately 4,380 acres (1772.5 hectares) of the project site. Six minor sub-watersheds within the project site drain west to Steelhead Creek. These watersheds are shown in **Figure 3.10-1**. Three of the watersheds drain into Sacramento County, two watersheds drain into Sutter County, and one drains north into Placer County. The Steelhead Creek watershed comprises approximately 181 square miles (468.8 square meters) of land in the greater Sacramento metropolitan area that includes significant portions of the Natomas area, northeastern Sacramento County, southern Placer County, and a small portion of Sutter County.

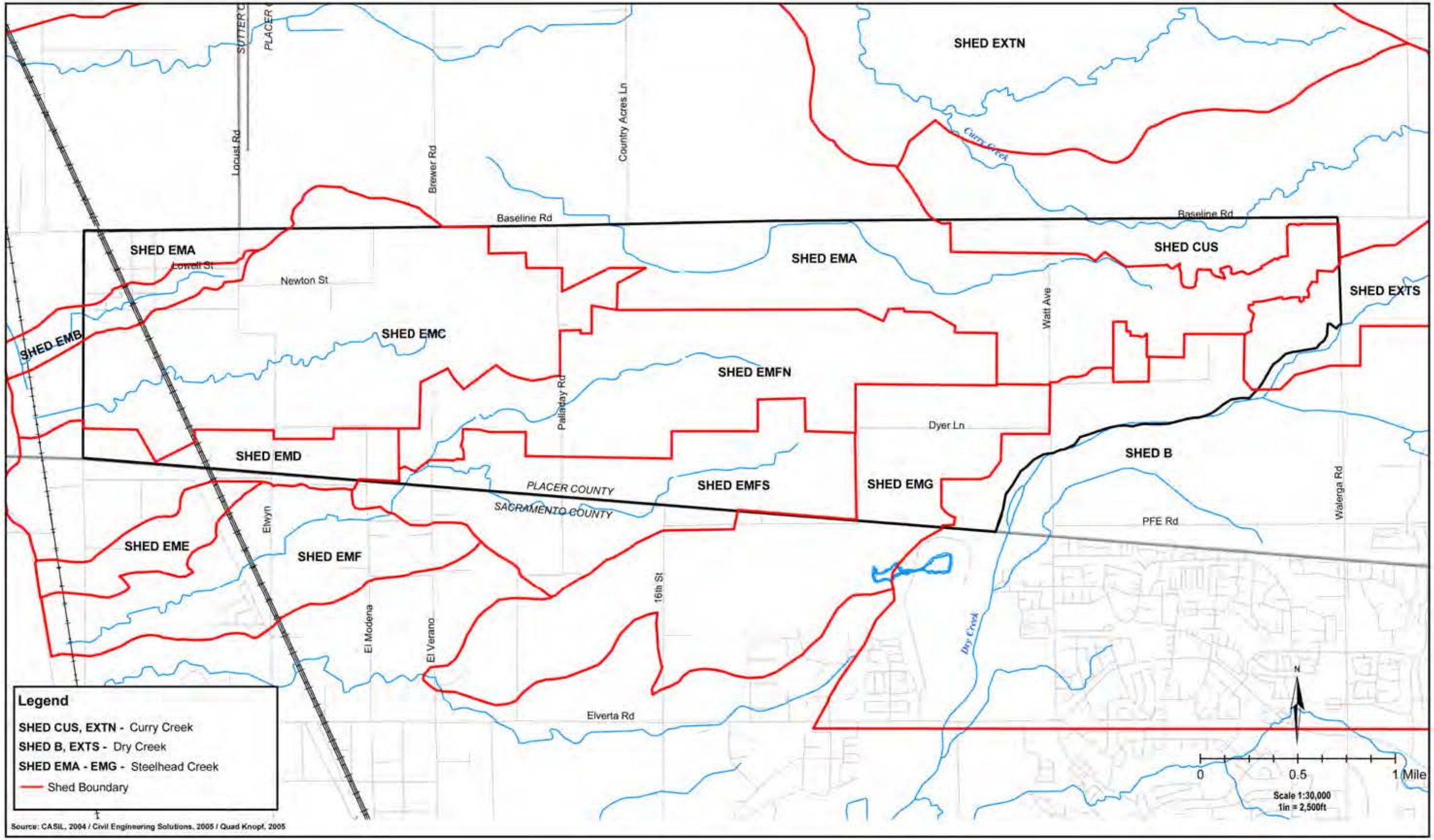

FIGURE **3.10-1**

Project Site Watersheds

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3.10.2.2 Regional Flood Hazards

Flooding results when water flow cannot be contained within the banks of natural or artificial drainage courses. Flooding can be caused by an excessive storm event, snow melt, blockage of watercourses by human as well as wildlife activity (e.g., beavers), dam failure, or a combination of these or other events. A flood event can cause injury or loss of property such as the flooding of structures, including homes and businesses; uplift vehicles and other objects; damage roadways, bridges, infrastructure, and public services; and cause soil instability, erosion, and land sliding. The Federal Emergency Management Agency (FEMA) develops flood risk data for use in insurance rating and floodplain management. Based on this data, FEMA prepares Flood Insurance Rate Maps (FIRMs) that delineate areas that are subject to inundation from a 100-year flood event (i.e., a flood that has a 1 percent chance of occurring in a given year).

The 100-year flood plain within the project site has been partially delineated by FEMA, including portions of the Dry Creek Drainage Basin and the Steelhead Creek Drainage Basin. The Steelhead Creek delineations are partial delineations to the extent that they only depict the lower reach of the drainage system, and not the entirety of the defined channels and swales (see **Figure 3.10-2, FEMA 100-Year Floodplains**).

Steelhead Creek is part of a flood control system that surrounds the Natomas Basin located west of the project site in Sutter and Sacramento counties. Steelhead Creek intercepts drainage from the Steelhead Creek Drainage Basin and diverts it around and through the Natomas Basin. The Natomas Basin is historically an area that experienced significant flooding and is now partially protected by a system of levees, canals, and pumps. In the 100-year storm event, the capacity of the current system is exceeded and flows enter the Natomas Basin where Sankey Road crosses Steelhead Creek. The location where the flows occur is referred to as the Sankey Gap. With additional upstream development in Placer County, there is the potential for increased flows into the Natomas Basin at Sankey Gap and into areas of Sutter County east of Steelhead Creek.

Flooding presently occurs in the sump area upstream of the Natomas Cross Canal–Pleasant Grove Canal confluence when the Sacramento River rises above a stage of 37.0 at the Verona Gage, and additional runoff discharged into Pleasant Grove canal by Curry Creek could increase the depth of flooding during this type of event.

3.10.2.3 Regional Flood Control

Flood control throughout the region is afforded by a comprehensive system of dams, levees, overflow weirs, drainage pumping plants, and flood control bypass channels provided by the Sacramento River Flood Control Project (SRFCP) and the American River Flood Control Project (ARFCP) (Placer County 2006). Folsom Dam and Reservoir provide additional flood protection for the Sacramento area as part of the Central Valley Project (CVP). Each of these is discussed in more detail below.

Sacramento Area Flood Control Facilities

After the 1986 flood, the U.S. Army Corps of Engineers (USACE) initiated a comprehensive evaluation of the entire Sacramento River and American River flood control systems. Conclusions from USACE's evaluation downgraded flood protection for the residents and businesses occupying low-lying areas of the Sacramento

area to a 63-year level of flood protection. Flood control facilities for the Sacramento area were once thought to provide flood protection at approximately a 120-year level. As a result of USACE's findings, FEMA reassessed the 100-year floodplain in the Sacramento area and issued new FIRMs. This placed about 110,000 additional acres (44,515.4 hectares) in the revised 100-year floodplain. These revised insurance maps became effective in November 1989 (SAFCA 1994).

In order to address the deficiencies of the flood control systems, USACE recommended bifurcation of the Sacramento and American river problems, clearing the way for the Sacramento Urban Levee Reconstruction Project to repair structurally deficient levees along the Sacramento River, and the American River Watershed Investigation to evaluate the alternatives available to increase the capacity of the American River flood control system and the levees around Natomas. The State of California, through the Department of Water Resources (DWR) and the State Reclamation Board, joined these efforts as the non-federal sponsor (SAFCA 1994).

The Sacramento Area Flood Control Agency (SAFCA) completed the needed repairs to the Sacramento River levees, undertaking levee improvements around North Natomas, and negotiating an interim arrangement with Reclamation in 1994 to re-operate Folsom Dam and Reservoir to provide for at least a 100-year level of flood protection. Thus the improved levee system, in conjunction with interim re-operation of Folsom Dam and Reservoir, is thought to provide the Sacramento metropolitan area with a 100-year level of flood protection (PCWA 2002).

American River

Approximately 820,000 acre-feet (af) of storage capacity exist in American River basin reservoirs upstream from Folsom Reservoir, of which approximately 200,000 af is usable flood storage capacity in the three largest upstream reservoirs (French Meadows, Union Valley, and Hell Hole). These facilities attenuate inflow to Folsom Reservoir, although the extent of this beneficial effect is limited by four factors: (1) these reservoirs were constructed and are operated for water supply and hydropower generation (they do not include dedicated space or physical features for flood control); (2) they control only 14 percent of the drainage area; (3) they are concentrated in the upstream area of the Middle Fork American River; and (4) their benefit is apparent only during the early part of the annual runoff period because, once filled, they are not effective in reducing flood volume and peak flow.

American River Flood Control Project (ARFCP)

The ARFCP was constructed by the USACE in 1958 and is operated and maintained by the State of California. The ARFCP consists of a levee extending along the north side of the American River. This levee originates upstream near Carmichael and extends approximately 7 miles (11.3 kilometers) downstream to a previously existing levee near the Capital City Freeway crossing. Two pumping plants located in low areas of the levee discharge storm drainage into the lower American River. The presence of this levee permits Folsom Reservoir to operate to its maximum design release of 115,000 cubic feet per second (3256.4 cubic meters per second) (SMWA 1996).

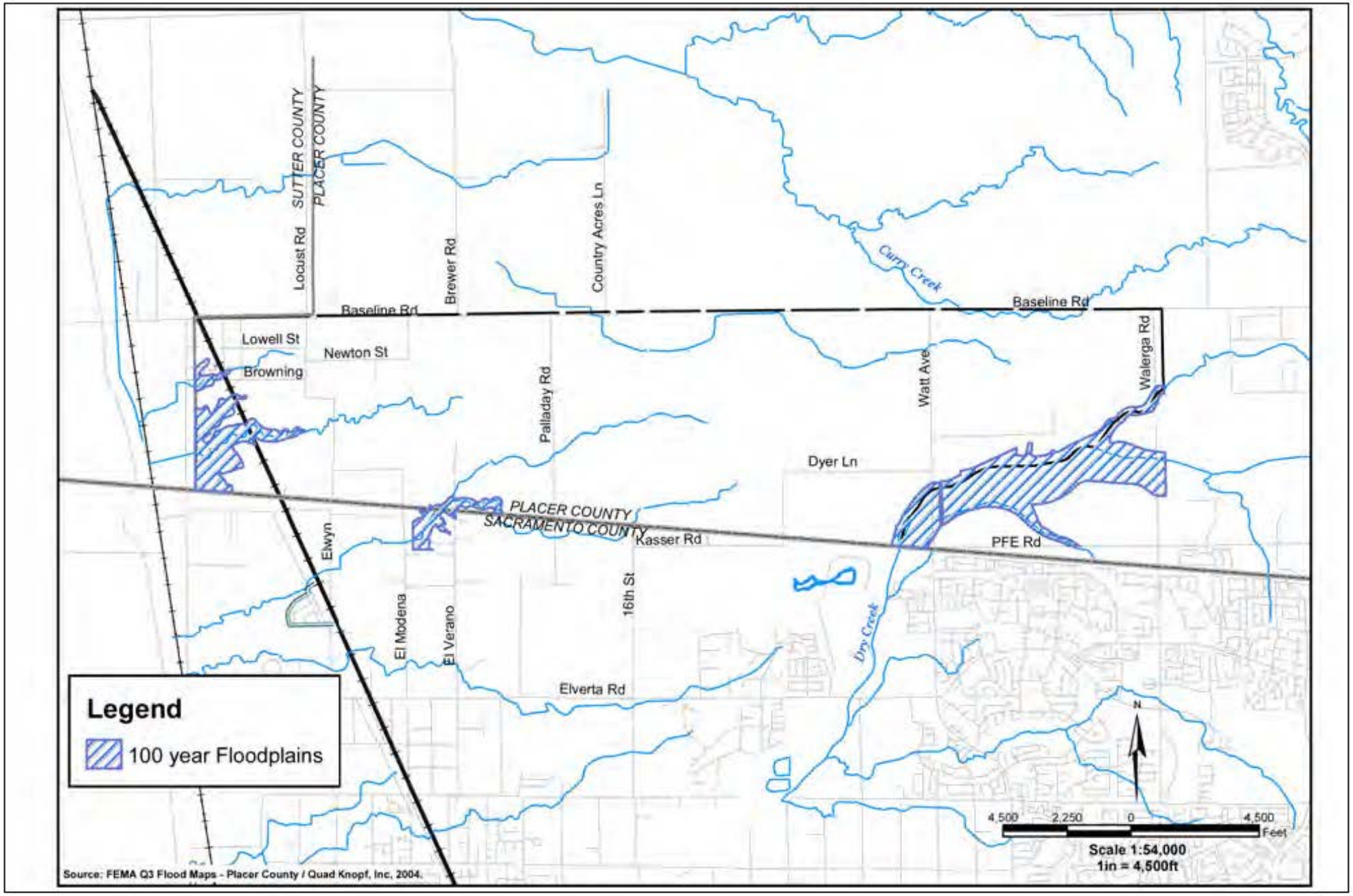

FIGURE **3.10-2**

FEMA 100-Year Floodplains

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Folsom Dam and Reservoir

Folsom Dam and Reservoir is a unit of the CVP and is the major flood control project in the American River basin. Folsom Reservoir is the only reservoir operated for flood control on the American River. It provides critical flood protection for approximately 350,000 residents occupying the floodplain in the Sacramento metropolitan area. Folsom Dam regulates runoff from about 1,875 square miles (4856.2 kilometers) of drainage area. Folsom Reservoir has a normal full pool storage capacity of 975,000 af (120,265 hectare-meter [hm]), with a seasonally designated flood control storage space of up to 670,000 af (82,643 hm) which would permit containment of a 100-year flood event (SMWA 1996).

3.10.2.4 Regional Groundwater Hydrology

Groundwater is the water beneath the surface that can be collected with wells, tunnels, or drainage galleries, or that flows naturally to the earth's surface via seeps or springs. Drawdown of groundwater and decrease in water tables are generally the result of water pumped by wells. Groundwater is recharged by rainwater infiltration that reaches the subsurface saturated zone of the soil. Flow rate and quality of the water depends on factors that include the amount, duration of precipitation, soil type, moisture content, and vertical permeability of the unsaturated zone.

The project site is located in the North American subbasin of the Sacramento Valley groundwater basin. The North American subbasin has an area of almost 550 square miles (1424.5 square kilometers) and is bounded on the north by the Bear River, on the south by the Sacramento River, on the west by the Feather River, and on the east by an artificial north-south line extending from the Bear River south to Folsom Lake, passing about 2 miles (3.2 kilometers) east of the City of Lincoln and approximately corresponding to the edge of the Sacramento Valley alluvial basin. The western portion of the subbasin comprises the flood basin of the Bear, Feather, Sacramento, and American Rivers and tributary drainages.

Groundwater in the North American subbasin is produced from two aquifer systems. The upper aquifer system consists of the Quaternary Victor, Fair Oaks, and Laguna Formations and is typically unconfined. The lower aquifer is primarily within the Mehrten Formation of Miocene age and is semi-confined. Average well yields are on the order of 800 gallons per minute (gpm) (3,028 liters per minute [lpm]) (DWR 2003). Total storage capacity in the North American subbasin is estimated at approximately 4.9 million acre-feet (maf), and data suggest that withdrawals of up to 95,000 to 97,000 acre-feet per year (afy) (11,718 to 11,965 hectare-meter per year [hmy]) are within the basin's safe yield. The majority of groundwater production occurs in the northern portion of the subbasin (PCWA 2005).

Urbanization can affect groundwater recharge through reduction of pervious surface, which in turn limits the percolation process. This, combined with drawdown from pumping for agricultural and urban purposes, can lower groundwater levels.

Groundwater Use

The upper aquifer has historically been pumped for agricultural use, while urban water providers have relied on the lower, semi-confined aquifer. The County and other participants in the West Placer

Groundwater Management Plan (see **Subsection 3.10.3, Regulatory Framework**, below) have publically stated their intent to manage their groundwater use consistent with the plan's objectives.

The Placer County Water Agency relies primarily on surface water for potable supply (see related discussion in **Section 3.15, Utilities and Service Systems**), but groundwater provides additional short-term emergency or backup supply during dry years. Existing groundwater use in western Placer County is mostly limited to supplying agricultural demands, with some use by the Cities of Lincoln and Roseville, and some use by private wells.

Groundwater Levels and Groundwater Recharge

The project site currently contains a number of private groundwater wells serving agricultural uses. Groundwater pumping in this area contributes to the total groundwater use. The project site is dominated (in excess of 90 percent) by Type D hydrologic soils, which have a slow infiltration rate with high runoff potential. As such, the project does not qualify as an important groundwater recharge area as defined by Placer County General Plan Policy 6.A.10b (protection of important groundwater recharge areas). The most likely area for recharge to occur is along Dry Creek within the Type A soils area (Placer County 2006).

The total acreage within the project site committed to irrigated agricultural uses is approximately 950 acres (384 hectares), and the water demand for these agricultural activities is approximately 2,400 afy (296 hmy), assuming 2.5 af per acre (0.31 hm per hectare) annually (Placer County 2006). There are approximately 150 dwelling units within the project site. Assuming 1.5 afy (0.19 hmy) of water demand per unit for rural residential uses, total groundwater usage within the project site, therefore, is approximately 2,650 afy (327 hmy).

3.10.2.5 Water Quality

The quality of surface water within the project site is affected by runoff from undeveloped land, agricultural uses, and scattered residential development. Because of low existing land use intensity, the primary water quality concern is related to organic contamination. Undeveloped land typically produces more suspended solids on a per-acre basis than developed areas, due to urban stabilization of the land by pavement and landscaping (solids in urban runoff, however, are more likely to be higher in mineral and human-made products and may have other contaminants absorbed into them).

As discussed in **Subsection 3.10.3 Regulatory Framework**, each Regional Water Quality Control Board is required to develop and periodically update a water quality control plan (basin plan) that designates beneficial uses for the major water bodies under its jurisdiction. Water quality standards must be adopted to protect the designated beneficial uses, and for water bodies that are impaired (affected by the presence of pollutants or contaminants), total maximum daily load (TMDL) programs are developed to limit pollutant input and ensure a return to standards. To identify water bodies for which TMDLs may be needed, each Regional Water Quality Control Board (RWQCB) maintains a Section 303(d) list of impaired water bodies. The Section 303(d) lists are periodically reviewed and updated so they reflect prevailing water quality conditions.

Table 3.10-1 shows the currently designated beneficial uses and listed impairments for water bodies in the project region. The U.S. EPA approved California's 2008-2010 Section 303(d) list of impaired waters requiring TMDLs, including this list, on November 12, 2010.

Table 3.10-1
Designated Beneficial Uses and Listed Water Quality Impairments in Project Area

Water Body	Beneficial Uses	Listed Impairments
Curry Creek	None designated[1]	Placer and Sutter Counties: pyrethoids (urban runoff/storm sewers)
Pleasant Grove Canal	None designated[1]	None identified
Natomas Cross Canal	None designated[1]	Sutter County: mercury (resource extraction)
Sacramento River		
Below Chico	Irrigation, stock watering, water contact recreation, canoeing and rafting, warm freshwater habitat, cold freshwater habitat, coldwater migration, warmwater spawning, wildlife habitat	Knights Landing to Delta reach: mercury (resource extraction), unknown toxicity (source unknown), chlordane (agriculture), DDT (agriculture), dieldrin (agriculture), Polychlorinated biphenyls (PCBs) (source unknown)
Colusa Basin Drain to I Street Bridge (Sacramento)	Municipal and domestic supply, irrigation, water contact recreation, canoeing and rafting, other noncontact recreation, warm freshwater habitat, cold freshwater habitat, warmwater spawning, coldwater spawning, wildlife habitat, navigation	
Sacramento – San Joaquin Delta	Municipal and domestic supply, irrigation, stock watering, industry (process supply, service supply), water contact recreation, other noncontact recreation, warm and cold freshwater habitat, warmwater migration, coldwater migration, warmwater spawning, wildlife habitat, navigation	Northern portion: chlordane (agriculture), chlorpyrifos (agriculture, urban runoff/storm sewers), DDT (agriculture), diazinon (agriculture, urban runoff/storm sewers), dieldrin (agriculture), exotic species (source unknown), Group A pesticides (agriculture), mercury (resource extraction), PCBs (source unknown), unknown toxicity (source unknown) Central portion: chlorpyrifos (agriculture, urban runoff/storm sewers), DDT (agriculture), diazinon (agriculture, urban runoff/storm sewers), invasive species (source unknown), Group A pesticides (agriculture), mercury (resource extraction), unknown toxicity (source unknown) Export area: chlorpyrifos (agriculture, urban runoff/storm sewers), DDT (agriculture), diazinon (agriculture, urban runoff/storm sewers), electrical conductivity (agriculture), invasive species (source unknown), Group A pesticides (agriculture), mercury (resource extraction), unknown toxicity (source unknown)

Water Body	Beneficial Uses	Listed Impairments
Sacramento Valley groundwater	Municipal and domestic supply, agricultural supply (irrigation and stock watering), industry (process supply, service supply), unless specifically designated otherwise by the RWQCB	None identified

Sources: Central Valley RWQCB 2006, 2009a

[1] *The Central Valley RWQCB will evaluate the beneficial uses of these water bodies on a case-by-case basis. Water bodies that do not have beneficial uses designated are assigned the designation of municipal and domestic supply in accordance with the provisions of State Water Board Resolution No. 88-63. Exceptions listed in Resolution No. 88-63 may apply to these water bodies.*

3.10.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

3.10.3.1 Federal Regulations

Clean Water Act

The Clean Water Act (CWA) (33 USC 1251 et seq.) is the principal federal law protecting the quality and integrity of the nation's surface waters. The CWA offers a range of mechanisms to reduce pollutant input to waterways, manage polluted runoff, and finance municipal wastewater treatment facilities. Permit review serves as the CWA's principal regulatory tool; CWA regulation operates on the premise that discharges to jurisdictional waters are unlawful unless authorized by a permit. The following CWA sections are particularly relevant to the proposed project.

- Section 303 – water quality standards and implementation plans
- Section 401 – State Water Quality Certification or waiver
- Section 402 – National Pollutant Discharge Elimination System (NDPES)
- Section 404 – Discharge of dredged or fill materials into waters of the U.S.

CWA Section 404 is administered by the USACE, but the federal government delegates implementation and enforcement authority for Sections 303 and 401–402 to the individual states. In California, they are the responsibility of the State Water Resources Control Board (SWRCB), which in turn delegates authority to the individual Regional Water Quality Control Boards (RWQCBs). The following paragraphs discuss Section 404 in more detail; additional information on Sections 401–402 and 303 is provided under **Subsection 3.10.3.2, State Regulations**, since these sections are administered by state agencies.

CWA Section 404 regulates the discharge (placement) of dredged and fill materials into waters of the United States. Project proponents must obtain a permit from the USACE for any such discharge before proceeding with the proposed activity. This requires the preparation of a delineation of jurisdictional waters of the United States consistent with USACE protocols, in order to define the boundaries of the jurisdictional waters potentially affected by the project.

Jurisdictional waters include areas within the ordinary high water mark of a stream, including non-perennial streams that have a defined bed and bank, as well as any stream channel that conveys natural runoff, even if

it has been realigned. They also include seasonal and perennial wetlands, including coastal wetlands. Wetlands are defined for regulatory purposes as areas "inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3, 40 CFR 230.3).

Section 404 permits may be issued only for the "least environmentally damaging practicable alternative" (LEDPA). That is, authorization of a proposed discharge is prohibited if there is a practicable alternative that would have less adverse impacts on wetlands and other waters and lacks other significant adverse consequences. Applicants for a Section 404 permit must also obtain certification from the state that the activity will not adversely affect water quality, as required by CWA Section 401.

Safe Drinking Water Act

The Safe Drinking Water Act of 1974, amended in 1986 and again in 1996, is the cornerstone federal law protecting drinking water quality. It gives the U.S. Environmental Protection Agency (USEPA) authority to establish drinking water standards and to oversee the water providers (cities, counties, water districts, and agencies) who implement those standards, and also includes provisions for the protection of surface waters and wetlands in support of drinking water quality.

In California, the USEPA delegates some of its Safe Drinking Water Act implementation authority to the California Department of Public Health's Division of Drinking Water and Environmental Management (DPH), which administers a wide range of regulatory programs relevant to potable water supply quality and safety.

Floodplain Management

The National Flood Insurance Act and the Flood Disaster Protection Act were passed in response to the rising cost of disaster relief, in 1968 and 1973 respectively (42 USC 4001 et seq.). Together, these acts reduce the need for large publicly funded flood control structures and disaster relief by restricting development on floodplains. FEMA administers the National Flood Insurance Program (NFIP) and issues flood insurance rate maps (FIRMs) delineating flood hazard zones for the areas participating in the program.

Executive Order 11988 (Floodplain Management), issued in 1977, addresses floodplain issues related to public safety, conservation, and economics. It generally requires federal agencies constructing, permitting, or funding projects to avoid incompatible floodplain development, be consistent with the standards and criteria of the NFIP, and restore and preserve natural and beneficial floodplain values.

3.10.3.2 State Regulations

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (Cal. Water Code, Division 7) established the SWRCB; divided the state into nine regions, each overseen by a RWQCB; and gave the SWRCB and RWQCBs statutory authority to regulate water quality. Originally passed in 1969, the Porter-Cologne Act was amended in 1972 to extend the federal CWA authority to the SWRCB and RWQCBs (see **Clean Water Act** above). The SWRCB is the primary state agency responsible for protecting the quality of the

state's surface and groundwater supplies, but much of the daily implementation of water quality regulations is carried out by the nine RWQCBs. The following paragraphs summarize their principal responsibilities. The project area is within Region 5 and is under the jurisdiction of the Central Valley RWQCB.

Basin Plans and Water Quality Standards

The Porter-Cologne Act provides for the development and periodic review of water quality control plans (basin plans) that designate beneficial uses for the state's principal water bodies that may be protected against quality degradation. Each RWQCB prepares a basin plan for the waters under its jurisdiction in order to protect and enhance existing and potential beneficial uses. CWA Section 303 requires the states to adopt water quality standards for water bodies and have those standards approved by the U.S. Environmental Protection Agency (EPA). Water quality standards consist of designated beneficial uses (e.g., wildlife habitat, agricultural supply, fishing, etc.) for a particular water body, along with water quality criteria necessary to support those uses. Specific objectives are provided for the larger water bodies within the region as well as general objectives for surface and groundwater. Basin plans are primarily implemented by using the CWA Section 402 National Pollutant Discharge Elimination System (NPDES) permitting system to regulate waste discharges so that water quality objectives are met.

Water bodies that fail to meet water quality standards are considered impaired and, under CWA Section 303(d), are placed on a list of impaired waters for which a TMDL program must be developed to control input of the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, non-point, and natural sources that a water body may receive without exceeding applicable water quality standards. Once established, the TMDL is allocated among current and future pollutant sources to the water body. Contributions toward the TMDL limit are controlled through the issuance of waste discharge requirements under CWA Section 402.

Water Quality Certification

CWA Section 401 requires all applicants for other CWA permitting to meet requirements such that the RWQCB with jurisdiction can certify that the proposed activity will comply with specific sections of the CWA and will not adversely affect water quality. This is accomplished by implementing effluent limitations ("waste discharge requirements" or "WDRs") and establishing a monitoring program to ensure that the limitations are met.

NPDES Program

Amendments to the CWA in 1972 created the National Pollutant Discharge Elimination System (NPDES) and rendered point-source discharge of pollutants to waters of the United States unlawful unless authorized under an NPDES permit. Further amendments in 1987 added Section 402(p), which establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. The NPDES program provides for general permits that cover a number of similar or related activities, as well as individual permits covering a single project or activity. Each permit includes WDRs limiting the concentration of specific contaminants likely to be contained in the permitted discharge.

The SWRCB has elected to adopt a single statewide General Permit that applies to all storm water discharges associated with construction activity, except those on Tribal Lands, those in the Lake Tahoe Hydrologic Unit, and those from activities performed by the California Department of Transportation (Caltrans). The Construction General Permit requires all dischargers where construction activity disturbs 1 acre (0.4 hectare) or more to develop and implement a Storm Water Pollution Prevention Plan (SWPPP) that specifies Best Management Practices (BMPs) to prevent construction pollutants from contacting storm water and control off-site delivery of sediment and other construction-related pollutants, eliminate or reduce non-storm water discharges to storm sewer systems and other jurisdictional waters, and inspect and monitor the success of all BMPs.

Effective July 1, 2010, all dischargers are required to obtain coverage under the Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009. The new Construction General Permit includes augmented requirements for the SWPPP, including a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a water body that is 303(d)–listed for sediment.

In addition, all new undertakings that are over 1 acre (0.4 hectare) in size and that are not already covered by the current stormwater permit must identify the project as a Risk Level 1, 2, or 3 project, based on the project's potential to impact waters of the US, and the sensitivity of the potentially affected waters. Risk Level 2 and 3 projects must prepare a Rain Event Action Plan (REAP) applicable to every event where there is a forecast of 50 percent or greater probability of measurable precipitation (0.01 inch or 0.02 centimeter) or more).

Under the new permit, existing and new projects will also have to comply with post-construction water balance requirements that become applicable in September 2012. The previous Construction General Permit (99-08-DWQ) required the SWPPP to include a description of all post-construction BMPs on a site and a maintenance schedule. The new Construction General Permit requires dischargers to replicate the pre-project runoff water balance for the smallest storms up to the 85th percentile storm event, or the smallest storm event that generates runoff, whichever is larger. The permit emphasizes runoff reduction through on-site storm water reuse, interception, evapotranspiration and infiltration using a combination of non-structural controls and conservation design measures (e.g., downspout disconnection, soil quality preservation/enhancement, interceptor trees). The new Construction General Permit also requires dischargers to maintain pre-development drainage densities and concentration times in order to protect channels, and encourages dischargers to implement setbacks to reduce channel slope and velocity changes that can lead to aquatic habitat degradation.

Senate Bill 1938

Senate Bill (SB) 1938 (Cal. Water Code Chapter 603), signed into law in 2002, requires public agencies seeking state funding for groundwater projects to develop and implement a groundwater management plan. SB 1938 is intended to ensure planning for the state's larger groundwater basins as well as those not specifically discussed in the California Department of Water Resources' official summary, Bulletin 118 (*California's Groundwater*).

Required components of the groundwater management plan include an inventory of water supplies and uses in the region, Basin Management Objectives (BMOs) to protect and enhance the groundwater basin, a plan to involve other local agencies and stakeholders in cooperative planning, along with a public information plan, and monitoring protocols to ensure that BMOs are being met.

3.10.3.3 Local Plans, Policies, and Ordinances

Placer County Flood Control and Water Conservation District

The Placer County Flood Control and Water District (PCFCD) was formed in 1984. Its primary purpose is to protect lives and property from flood effects through comprehensive, coordinated flood prevention planning. In support of this goal, the PCFCD implements regional flood control projects, conducts hydrologic and hydraulic modeling to better understand County watersheds, and develops and implements master plans for County watersheds. It also provides information and technical support relevant to flood control to the County, cities, and developers. The PCFCD operates and maintains the county flood warning system, reviews proposed development projects for compliance with PCFCD standards, and provides technical support for Office of Emergency Services activities.

The 1994 PCFCD Stormwater Management Manual (SWMM) contains policy, guidance, and specific standards for evaluating hydrologic and hydraulic impacts of new development in the context of regional stormwater issues. When stormwater detention or retention facilities are used to mitigate downstream increases in stormwater flows due to development, the SWMM requires that post-project peak flows be reduced by comparison with pre-project peak flows. The objective flow is determined by estimating the predevelopment peak flow rate and subtracting 10 percent of the difference between the estimated pre- and post-development peak flow rates. The objective flow shall never be less than 90 percent of the estimated predevelopment flow.

Western Placer Groundwater Management Plan

The 2007 Western Placer Groundwater Management Plan (WPCGMP) was developed by the Cities of Roseville and Lincoln in partnership with the Placer County Water Agency and the California American Water Company in response to Senate Bill (SB) 1938 requirements. The goal of the plan is to "maintain the quality and ensure the long term availability of groundwater to meet backup, emergency, and peak demands without adversely affecting other groundwater uses within the WPCGMP area."

Placer County Municipal Code

The following relevant regulations have been adopted by the Placer County Board of Supervisors to regulate grading and related runoff in Placer County.

Grading and Erosion Prevention Ordinance

Section 15.48.020 Purpose. The ordinance codified in this article is enacted for the purpose of regulating grading on property within the unincorporated area of Placer County to safeguard life, limb, health, property and public welfare; to avoid pollution of watercourses with hazardous materials, nutrients, sediments, or other earthen materials generated on or caused by surface runoff on or across the permit area;

and to ensure that the intended use of a graded site is consistent with the Placer County General Plan, any specific plans adopted thereto and applicable Placer County ordinances including the Zoning Ordinance, Flood Damage Prevention Ordinance, (Article 15.52) Environmental Review Ordinance (Chapter 18 Placer County Code) and applicable chapters of the California Building Code. In the event of conflict between applicable chapters and this article, the most restrictive shall prevail.

Section 15.48.050 Water Obstruction. No person shall do or permit to be done any grading which may obstruct, impede, or interfere with the natural flow of stormwaters, in such manner as to cause flooding where it would not otherwise occur, aggravate any existing flooding condition, or cause accelerated erosion. This section applies whether such waters are unconfined upon the surface of the land or confined within land depressions or natural drainage ways, unimproved channels or watercourses, or improved ditches, channels or conduits.

Section 15.48.090 Levee work. No person shall excavate or remove any material from or otherwise alter any levee required for river, creek, bay, or local drainage control channel, without prior approval of the local governmental agency responsible for the maintenance of the levee.

Section 15.48.570 Drainage – General. Any drainage structure(s) or device(s) carrying surface water runoff required by this article shall be designed and constructed in accordance with standards herein, the current Placer County Flood Control and Water Conservation District Stormwater Management Manual and criteria authorized by the Director of Public Works.

Section 15.48.580 Drainage discharge requirements. All drainage facilities shall be designed and engineered to carry surface and subsurface waters to the nearest adequate street, storm drain, natural watercourse, or other juncture, and shall be subject to the approval of the Director of Public Works.

Section 15.48.590 Drainage – Water accumulation. All areas shall be graded and drained so that drainage will not cause erosion or endanger the stability of any cut or fill slope or any building or structure.

Section 15.48.600 Drainage protection of adjoining property. When surface drainage is discharged onto any adjoining property, it shall be discharged in such a manner that it will not cause erosion or endanger any cut or fill slope or any building or structure.

Section 15.48.610 Terrace drainage. Terraces at least 8 feet (2.4 meters) in width shall be established at not more than 25 feet (7.6 meters) in height intervals for all cut and fill slopes exceeding 30 feet (9.1 meters) in height. Where only one terrace is required, it shall be at approximately mid-height. Suitable access shall be provided to permit proper cleaning and maintenance of terraces and terrace drains. Swales or ditches on terraces shall have a minimum depth of 1 foot, a minimum longitudinal grade of 4 percent, and a maximum longitudinal grade of 12 percent. Down-drains or drainage outlets shall be provided at approximately 300-foot intervals along the drainage terrace. Down-drains and drainage outlets shall be of approved materials and of adequate capacity to convey the intercepted waters to the point of disposal. If the drainage discharges onto natural ground, adequate erosion protection shall be provided.

Section 15.48.630 Erosion and sediment control. The following shall apply to the control of erosion and sediment from grading operations:

A. Grading plans shall be designed with long-term erosion and sediment control as a primary consideration.

B. Grading operations during the rainy season shall provide erosion and sediment control measures except upon a clear demonstration, to the satisfaction of the Director of Public Works, that at no stage of the work will there be any substantial risk of increased sediment discharge from the site.

C. Should grading be permitted during the rainy season, the smallest practicable area of erodible land shall be exposed at any one time during grading operations and the time of exposure shall be minimized.

D. Natural features including vegetation, terrain, watercourses, and similar resources shall be preserved wherever possible. Limits of grading shall be clearly defined and marked to prevent damage by construction equipment.

E. Permanent vegetation and structures for erosion and sediment control shall be installed as soon as possible.

F. Adequate provision shall be made for long-term maintenance of permanent erosion and sediment control structures and vegetation.

G. No topsoil shall be removed from the site unless otherwise directed or approved by the director of public works. Topsoil overburden shall be stockpiled and redistributed where appropriate within the graded area after rough grading to provide a suitable base for seeding and planting. Runoff from the stockpiled area shall be controlled to prevent erosion and resultant sedimentation of receiving water.

H. Runoff shall not be discharged from the site in quantities or at velocities substantially above those, which occurred before grading except into drainage facilities, whose design has been specifically approved by the Director of Public Works.

The permittee shall take reasonable precautions to ensure that vehicles do not track or spill earth materials into public streets and shall immediately remove such materials if this occurs.

Section 15.48.670 Vehicular ways – Drainage. Vehicular ways shall be graded and drained in such a manner that will not allow erosion or endanger the stability of any adjacent slope. Surface discharge onto adjoining property shall be controlled in such a manner that it does not cause erosion or endanger existing improvements. Bridges and culverts installed in watercourses may be reviewed by the Placer County Flood Control and Water Conservation District and must be approved by the Public Works Director, and any other required permitting agency.

Dry Creek Watershed Drainage Improvement Zone

Section 15.32.010 Purpose.

A. New development, and the expansion of existing development, within the watershed of Dry Creek, as shown on Exhibit A attached to the ordinance codified in this article and incorporated herein by reference, imposes a burden on the creeks and drainage infrastructure within the watershed by adding additional impervious surface and accelerating runoff, thereby adding more runoff and

increasing discharge rates. This creates a need for new drainage infrastructure and improvements. Such burdens may vary depending upon the type of land use and location within the watershed.

B. Analysis of the land use expected at buildout of the community plans within the Dry Creek watershed makes it possible to estimate the amount of additional runoff generated by different types of land use, to analyze the drainage infrastructure or facilities necessary to mitigate that runoff, and to determine which land uses will require various portions of such infrastructure. It is, therefore, possible to charge a fee, based on land use and location, which equitably distributes the burden of providing drainage infrastructure or facilities within the Dry Creek watershed among those who will create the need for them. It is further the purpose of this article to assist with the implementation of the affected community plans by ensuring that adequate public facilities are financed and provided to serve the community.

C. This article establishes a drainage improvement zone for the Dry Creek watershed area. It requires the payment of specified fees and annual assessments as a condition of new development and the expansion of existing development within the watershed area for the installation and maintenance of roadway drainage and stormwater drainage improvements.

D. The intent of this program is to supplement existing county policies of requiring on-site and off-site drainage improvements, where appropriate, to accommodate increased runoff resulting from new development and the expansion of existing development.

E. The fee requirements and annual assessments established herein shall be applicable to all new development and the expansion of existing development in the unincorporated area of Placer County located within the boundaries of the various tributary areas identified on said Exhibit A. (Prior code Section 4.2000)

Flood Damage Prevention Ordinance

The County's Flood Damage Prevention Ordinance implements floodplain management in the County. The ordinance limits construction in areas within the 100-year flood zone to prevent damage to structures and to limit the effect of development on flood elevations.

Placer County General Plan Goals and Policies

The Placer County General Plan defines certain policies pertaining to drainage and flood control.

Section 3 – Transportation and Circulation

Policy 3.A.3. The County shall require that roadway rights-of-way be wide enough to accommodate the travel lanes needed to carry long-range forecasted traffic volumes (beyond 2010), as well as any planned bikeways and required drainage, utilities, landscaping and suitable separations.

Section 4 – Public Facilities and Services

Policy 4.A.1.	Where new development requires the construction of new public facilities, the new development shall fund its fair share of the construction. The County shall require dedication of land within newly developing areas for public facilities, where necessary.
Policy 4.E.1.	The County shall encourage the use of natural stormwater drainage systems to preserve and enhance natural features.
Policy 4.E.2.	The County shall support efforts to acquire land or obtain easements for drainage and other public uses of floodplains where it is desirable to maintain drainage channels in a natural state.
Policy 4.E.3.	The County shall consider using stormwater of adequate quality to replenish local groundwater basins, restore wetlands and riparian habitat, and irrigate agricultural lands.
Policy 4.E.4.	The County shall ensure that new storm drainage systems are designed in conformance with the Placer County Flood Control and Water Conservation District's Stormwater Management Manual and the County Land Development Manual.
Policy 4.E.5.	The County shall continue to implement and enforce its Grading Ordinance and Flood Damage Prevention Ordinance.
Policy 4.E.6.	The County shall continue to support the programs and policies of the watershed flood control plans developed by the Flood Control and Water Conservation District.
Policy 4.E.8.	The County shall consider recreational opportunities and aesthetics in the design of stormwater ponds and conveyance facilities.
Policy 4.E.9.	The County shall encourage good soil conservation practices in agricultural and urban areas and carefully examine the impact of proposed urban developments with regard to drainage courses.
Policy 4.E.11.	The County shall require new development to adequately mitigate increases in stormwater peak flows and/or volume. Mitigation measures should take into consideration impacts on adjoining lands in the unincorporated area and on properties in jurisdictions within and immediately adjacent to Placer County.
Policy 4.E.14:	The County shall require projects that have significant impacts on the quantity and quality of surface water runoff to allocate land as necessary for the purpose of detaining post-project flows and/or for

the incorporation of mitigation measures for water quality impacts related to urban runoff.

Section 6 – Natural Resources

Policy 6.A.1. The County shall require the provision of sensitive habitat buffers which shall, at a minimum, be measured as follows: one hundred feet (30.5 meters) from the centerline of perennial streams, 50 feet (15.2 meters) from centerline of intermittent streams, and 50 feet (15.2 meters) from the edge of sensitive habitats to be protected including riparian zones, wetlands, old growth woodlands, and the habitat of rare, threatened or endangered species (see discussion of sensitive habitat buffers in Part I of this Policy Document). Based on more detailed information supplied as a part of the review for a specific project, the County may determine that such setbacks are not applicable in a particular instance or should be modified based on the new information provided. The County may, however, allow exceptions, such as in the following cases:

a. Reasonable use of the property would otherwise be denied;

b. The location is necessary to avoid or mitigate hazards to the public;

c. The location is necessary for the repair of roads, bridges, trails, or similar infrastructure; or

d. The location is necessary for the construction of new roads, bridges, trails, or similar infrastructure where the County determines there is no feasible alternative and the project has minimized environmental impacts through project design and infrastructure placement.

Policy 6.A.2. The County shall require all development in the 100-year floodplain to comply with the provisions of the Placer County Flood Damage Prevention Ordinance.

Policy 6.A.3. The County shall require development projects proposing to encroach into a creek corridor or creek setback to do one or more of the following, in descending order of desirability:

a. Avoid the disturbance of riparian vegetation;

b. Replace riparian vegetation (on-site, in-kind);

c. Restore another section of creek (in-kind); and/or

d. Pay a mitigation fee for restoration elsewhere (e.g., wetland mitigation banking program).

Policy 6.A.6. The County shall require that natural watercourses are integrated into new development in such a way that they are accessible to the public and provide a positive visual element.

3.10.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.10.4.1 Significance Thresholds

Council on Environmental Quality (CEQ) guidance requires an evaluation of the effect of proposed actions on the human environment. The USACE has determined that the Proposed Action or its alternatives would result in significant adverse effects related to hydrology and water quality if the Proposed Action or an alternative would:

- substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- place housing or structures within a 100-year floodplain or place structures that would impede or redirect flood flows;
- 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;
- during and post construction, create substantial additional sources of polluted runoff that could affect water quality;
- cause an exceedance of applicable effluent discharge standards;
- interfere substantially with groundwater recharge or substantially deplete groundwater supplies such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level; or
- substantially increase runoff such that the geomorphology of creeks is altered.

3.10.4.2 Analysis Methodology

Hydrology and water quality effects of the Proposed Action and alternatives are evaluated in this EIS based on professional judgment of the EIS preparers in consideration of the applicable regulatory standards and the prevailing standard of care.

Analysis of effects of the Proposed Action related to surface hydrology, flooding, and water quality is based on the Master Project Drainage Study prepared for the PVSP (Civil Engineering Solutions 2005).

Impacts on groundwater reserves are evaluated based on water demand analyses in the County's PVSP EIR (Placer County 2006).

Impacts of alternatives on surface water hydrology and flooding are evaluated qualitatively based on the increase in impervious surfaces (as reflected by the development footprint) under the Proposed Action and each alternative. **Table 3.10-2** presents the development footprint under each alternative.

Table 3.10-2
Development Footprint

Alternative	Development Footprint (in acres)	Percent greater or less than Proposed Action
Proposed Action	4,521	--
No Action	3,297	- 27%
Alternative 1	4,504	- 0.5%
Alternative 2	4,516	- 0.1%
Alternative 3	4,473	- 1%
Alternative 4	4,519	- 0.05%
Alternative 5	4,502	- 0.5%

3.10.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact HYDRO-1 Effects related to Off-site Flood Hazards

No Action Alt. The No Action Alternative would have the potential to increase peak flood flows over the on-site reaches of Curry, Dry, and Steelhead Creeks. Although the potential drainage area anticipated to be developed within the project site would be small in comparison to the 26,000-square-mile (67339.7 square kilometers) drainage basin of the Sacramento River, the increase in the volume of runoff as a result of urbanization and roadway improvements would be substantial in relation to existing runoff volumes. Given the existing potential for flooding in some of the downstream areas, the increase in runoff associated with urbanization could contribute to downstream (off-site) flooding. This would be a **significant** effect. **PVSP EIR Mitigation Measure 4.3.2-1** would reduce this effect to a **less than significant** level.

The project site is mostly undeveloped, other than the large lot rural development areas located in the western portion of the site. Development under the No Action Alternative would modify existing topography and drainage on the project site through grading activities to create pads for construction of residences and commercial development and to construct roadways. Assuming the use of conventional hardscape, build out under the No Action Alternative would add approximately 3,297 acres (1,334.2 hectares) of impervious surfaces to the site, with approximately 1,933 acres (782.3 hectares) preserved as open space. The No Action Alternative would potentially increase peak flood flows and contribute to downstream flooding. This would be a **significant** effect.

PVSP EIR Mitigation Measure 4.3.2-1 would address the effect of the No Action Alternative related to flooding. This mitigation measure requires that individual developments within the project site reduce 2-year, 10-year, and 100-year storm flows by installing retention/detention facilities. The USACE assumes that Placer County would impose the same mitigation measure on the No Action Alternative to address this effect.

With respect to the Proposed Action, the County concluded that this mitigation measure would reduce the risk from flooding to a less than significant level. The USACE finds that the mitigation measure would mitigate the effect of the No Action Alternative to a **less than significant** level.

Proposed Action (Base Plan and Blueprint Scenarios)

The increase in runoff associated with urbanization of the project site under the Proposed Action could contribute to downstream (off-site) flooding. This would be a **significant** effect. **PVSP EIR Mitigation Measure 4.3.2-1** would reduce this effect to a **less than significant** level.

Assuming the use of conventional hardscape, build out under the Proposed Action would add approximately 4,521 acres (1,829.6 hectares) of impervious surface to the site, with approximately 709 acres (286.9 hectares) preserved as open space. This increase in impervious surface would potentially increase peak storm flows.

A site-specific model was created for the project as part of the drainage analysis included in the Master Project Drainage Study (Civil Engineering Solutions 2005). The model included the project site and contributing watersheds and used pre-project, post-project unmitigated, and post-project mitigated conditions for the 2-year, 10-year, and 100-year events. Results of the modeling showed that downstream flooding impact would result if the additional flows were not detained on site. This impact would be a **significant** effect.

To address this impact and to satisfy the Placer County Flood Control District (PCFCD) Storm Water Management Manual (SWMM) requirement to avoid increasing the water surface elevation off-site, the Master Project Drainage Study recommended the use of several types of facilities to provide attenuation to reduce peak-flow discharges from the project site. The main method of providing attenuation would be through the use of existing swales and excavated flood control channel detention facilities upstream of regulating culvert facilities. Other types of proposed attenuation facilities include excavated lake areas, constructed wetlands, and water quality basin and channels. The Drainage Study analyzed various detention facilities for their ability to mitigate the project's impact and provided specific recommendations for each of the three major creeks on the project site.

For the Curry Creek watershed, the Proposed Action would mitigate 100-year event peak flows with an in-line dual-purpose detention/retention weir structure. A slide gate structure would be added to the weir structure such that the required impoundment volume could be retained within the project as needed. The weir structure would be designed such that retention could occur, while maintaining capacity to pass peak flows. However, the normal (non-retention) operation of the control structure would be open, or if applicable, whatever configuration is necessary for detention.

For the 100-year event at Dry Creek, modeling indicated that peak flow rates would be higher if the Proposed Action were to provide detention basins on-site. The Sacramento

County Department of Water Resources indicated that the increased water surface elevations due to development in Placer Vineyards would be negligible (Placer County 2006). Therefore, detention is not recommended at Dry Creek for the Proposed Action. The Sacramento County Department of Water Resources has, however, requested that the Proposed Action "pay a fair share volume mitigation fee as listed on the Fee Schedule for Zone 11C, Sheds Flowing to NEMDC Tributaries, updated annually" (Placer County 2006).

A variety of on-site attenuation facilities are proposed to be constructed in the tributaries to Steelhead Creek. The results of the 100-year comparison analysis for Steelhead Creek indicate that the proposed detention adequately mitigates the peak discharge rates to less than the pre-project amounts. In the 200- year analysis, the pre-project and post-project mitigated peak flows are virtually identical (Civil Engineering Solutions 2005).

Implementation of **PVSP EIR Mitigation Measure 4.3.2-1** would require that individual developments within the Proposed Action reduce 2-year, 10-year, and 100-year storm flows by installing retention/detention facilities. This mitigation measure was adopted by Placer County at the time of project approval and will be enforced by the County. With these floodplain storage features in place, peak 2-year, 10-year, and 100-year storm flows on the project site, and peak flows delivered off site in these events, would be lower than under existing conditions. The water surface elevation would also be lowered under 100-year flood conditions for most on-site locations. Consequently, the County determined that although the Base Plan and Blueprint scenarios would modify site topography and add impervious surfaces, mitigation measures would reduce adverse effects related to increased peak flow flood risks to a less than significant level (Placer County 2006). The USACE agrees with the conclusion in the PVSP EIR and finds that the effect would be **less than significant** after mitigation.

Alts. 1 through 5

Alternatives 1 through 5 would increase the amount of open space on five parcels within the project site compared to the Proposed Action. However, these alternatives combined would still decrease the amount of open space on the project site by approximately 59 percent compared to the No Action Alternative. As the total amount of development on site and resultant impervious surfaces would be only slightly lower than the Proposed Action (approximately 0.05 to 1 percent lower), these alternatives would also have the potential to increase peak flows within on-site drainages and contribute to off-site flooding. This would be a **significant** effect. Retention/detention facilities would be required to address the impact of this alternative. **PVSP EIR Mitigation Measure 4.3.2-1** would address the effect of Alternatives 1 through 5 related to peak flow flood risk. The USACE assumes that Placer County would impose the same mitigation measure on Alternatives 1 through 5 to address this effect. With the floodplain storage features in place, peak 2-year, 10-year, and 100-year storm flows on the project site, and peak flows delivered off site in these events, would be lower than under existing conditions. The water surface elevation would also be lowered under 100-year flood conditions for most on-site locations. The

USACE finds that the mitigation measure would fully mitigate the effect of Alternatives 1 through 5 (individually or combined). Implementation of **PVSP EIR Mitigation Measure 4.3.2-1** would reduce the effect related to increased peak flow flood risk to a **less than significant** level.

PVSP EIR Mitigation Measure 4.3.2-1: Site-Specific Drainage
(*Applicability - Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.3.2-1 *requires a site-specific drainage report prepared in conformance with the Placer County Storm Water Management Manual and Placer County Code, retention/detention facilities for the Curry Creek and Steelhead Creek watersheds, and payment of drainage improvement, flood control, and storm water volume mitigation fees. The full text of the mitigation measure is presented in* ***Appendix 3.0****.*

Impact HYDRO-2 Effects on Culvert Capacity

No Action Alt.

Increased flows conveyed to existing culverts could result in overtopping and flooding due to inadequate capacity for urbanized flow-rates and potential clogging from construction debris, sediment, and/or vegetation. Flooding is not limited to 100-year events alone, and often occurs in areas that restrict, prohibit, or obstruct the flow of runoff during lower-frequency rainfalls. Flooding within an area intended for emergency access purposes could result in delayed response to emergencies and limited access. PCFCD policy requires the center 12 feet (3.7 meters) (one lane in each direction) of collector roadways remain unobstructed by runoff during 100-year events and all roadways to remain unobstructed during 10-year events. Culvert sizing for the No Action Alternative has not been completed although it is anticipated that it would be optimized to maximize on-site attenuation, while providing the passage of the 100-year peak flows. Furthermore, the No Action Alternative would leave large portions of the project site that contain wetlands, drainages, and creeks undeveloped. Therefore the runoff generated under this alternative would be substantially less than that generated under the Proposed Action. Nonetheless, increased impervious surfaces would be constructed on the site and potential for localized flooding due to inadequate culvert capacity would exist. Any emergency access limitations, runoff within the travel path of the roadway, and associated potential adverse impacts resulting from flooding and less than adequate culvert capacity would be a potentially **significant** effect.

PVSP EIR Mitigation Measures 4.3.2-2a and **4.3.2-2b**, **4.3.2-3a** through **4.3.2-3f**, and **4.3.2-11a** and **4.3.2-11b** would address the effect of the No Action Alternative related to culvert capacity. These mitigation measures include measures to ensure that roadway and storm drain improvements do not result in reduced culvert capacity. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this effect. With respect to the Proposed Action, the County concluded that these mitigation measures would reduce the risk from localized flooding to a less than significant

level. The USACE finds that the mitigation measures would fully mitigate the effect of the No Action Alternative to a **less than significant** level.

Proposed Action (Base Plan and Blueprint Scenarios)

According to the Master Project Drainage Study, culvert sizing for the project is optimized to maximize on-site attenuation, while providing the passage of the 100-year peak flows. However, emergency access limitations, runoff within the travel path of the roadway, and associated potential adverse impacts resulting from flooding and less than adequate culvert capacity would be a potentially **significant** effect.

However, with implementation of **PVSP EIR Mitigation Measures 4.3.2-2a** and **4.3.2-2b**, **4.3.2-3a** through **4.3.2-3f**, and **4.3.2-11a** and **4.3.2-11b**, which include measures to ensure that roadway and storm drain improvements do not result in reduced culvert capacity, it is unlikely that these improvements would redirect flood flows such that flood hazards are created or exacerbated. These measures were adopted by Placer County at the time of project approval and will be enforced by the County. The PVSP EIR determined that these mitigation measures would reduce the effect on culvert capacity under the Base Plan and Blueprint scenarios to a less than significant level (Placer County 2006). The USACE agrees with the conclusion in the PVSP EIR and finds that the effect would be **less than significant** after mitigation.

Alts. 1 through 5

Alternatives 1 through 5 would increase the amount of open space on five parcels within the project site compared to the Proposed Action under the Base Plan scenario. However, these alternatives combined would still decrease the amount of open space on the project site by approximately 59 percent compared to the No Action Alternative. Similar to the No Action and Proposed Action, flooding of culverts could occur due to inadequate capacity for peak flows or clogging from debris, which would be a potentially **significant** impact. **PVSP EIR Mitigation Measures 4.3.2-2a** and **4.3.2-2b**, **4.3.2-3a** through **4.3.2-3f**, and **4.3.2-11a** and **4.3.2-11b** would address the effect of Alternatives 1 through 5 related to culvert capacity. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 5 to address this effect. For the same reasons presented above for the Proposed Action, the USACE finds that the mitigation measures would fully mitigate the effect of Alternatives 1 through 5. **PVSP EIR Mitigation Measures 4.3.2-2a** and **4.3.2-2b**, **4.3.2-3a** through **4.3.2-3f**, and **4.3.2-11a** and **4.3.2-11b** would reduce the effect to culvert capacity to a **less than significant** level.

PVSP Mitigation Measure 4.3.2-2a through
PVSP Mitigation Measure 4.3.2-2b,
PVSP Mitigation Measure 4.3.2-3a through
PVSP Mitigation Measure 4.3.2-3f, and
PVSP Mitigation Measure 4.3.2-11a through
PVSP Mitigation Measure 4.3.2-11b: Design of Culverts
(*Applicability - Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measures 4.3.2-2a-b, 4.3.2-3a-f, *and* ***4.3.2-11a-b*** *include measures to ensure that roadway and storm drain improvements do not result in reduced culvert capacity. The full mitigation measure text is available in* ***Appendix 3.0****.*

Impact HYDRO-3 Effects on Flood Capacity

No Action Alt.

As noted above, the No Action Alternative would leave large portions of the project site that contain wetlands, drainages, and creeks undeveloped. Therefore the runoff generated under this alternative would be substantially less than that generated under the Proposed Action. Nonetheless, increased impervious surfaces would be constructed on the site and potential flooding of natural drainageways could occur due to inadequate capacity to handle the increased flows from urban development. Furthermore, the No Action Alternative would result in no drainage improvements. All old crossings that are left in place to avoid the need for permits would be undersized for the new impervious surfaces. Similarly, a low dam constructed of uncemented rock and broken concrete located across Dry Creek immediately downstream of the Watt Avenue bridge within the FEMA-designated floodplain would also be left in place to avoid DA permits. Left in place, the dam would impede flows, causing runoff backwater and clogging. Therefore, the No Action Alternative would result in a **significant** impact related to the flood capacity of the on-site drainages.

PVSP EIR Mitigation Measures 4.3.2-3a through **4.3.2-3e** would address the effect of the No Action Alternative related to flood capacity. These mitigation measures would prohibit grading or other disturbance within the post-project 100-year floodplain limit and would require a site-specific drainage report that demonstrates compliance with the Placer County SWMM and Placer County Code. The USACE assumes that Placer County would impose these mitigation measures on the No Action Alternative to address this effect. However, as no improvements could be made within drainages under this alternative, USACE finds that the mitigation measures would not fully mitigate the effect of the No Action Alternative and the impact would remain **significant**.

Proposed Action (Base Plan and Blueprint Scenarios)

Existing capacity of the natural drainage courses relies upon open undeveloped areas for shallow flooding and runoff storage. Loss of these existing pervious surfaces due to development would result in the need for additional channel capacity.

A hydraulic evaluation was performed for the 2-, 5-, 10-, 25-, 50-, 100-, 200- and 500-year events. The HEC-RAS summary tables for all events are provided in the Master Project Drainage Study for the pre-project and post-project mitigated events respectively.

The Proposed Action would collect runoff within storm drainage systems that would discharge into channels and retention/detention facilities. These facilities would generally follow or be placed along the natural drainage courses within the project site. Floods would be confined within the channels, generally providing 3 feet (0.9 meter) of 100-year event freeboard to the nearest proposed structures. The channels would be excavated below existing grades and would daylight downstream to natural grades beyond the floodplain boundary. A low flow channel would be constructed throughout the project site to confine the conveyance of year-round nuisance waters.

The low dam located within Dry Creek, along with the pump, intake structure, and pipeline conveying the water, would no longer be required with build out of the Proposed Action. Although removal of the dam is not proposed as part of the Proposed Action, if left in place, the dam would unnecessarily impede flows, causing runoff backwater and clogging.

Although the Master Project Drainage Study proposes a design solution, flooding, and increase of flows within drainage courses would be a potentially **significant** effect.

PVSP EIR Mitigation Measures 4.3.2-3a through **4.3.2-3f** would address this effect. These mitigation measures were adopted by Placer County at the time of project approval and will be enforced by the County. These mitigation measures prohibit grading or other disturbance within the post-project 100-year floodplain limit, require a site-specific drainage report that demonstrates compliance with the Placer County SWMM and Placer County Code, and require removal of the dam from Dry Creek. The County determined that these mitigation measures would reduce the effect on natural drainage capacity under the Base Plan and Blueprint scenarios to a less than significant level (Placer County 2006). The USACE agrees with the conclusion in the PVSP EIR and finds that the effect would be **less than significant** after mitigation.

Alts. 1 through 5

Alternatives 1 through 5 would increase the amount of open space on five parcels within the project site compared to the Proposed Action under the Base Plan scenario. However, these alternatives combined would still decrease the amount of open space on the project site by approximately 59 percent compared to the No Action Alternative. Similar to the No Action Alternative and the Proposed Action, flooding of natural drainageways could occur due to inadequate capacity from additional impervious surfaces, which would be a potentially **significant** impact. **PVSP EIR Mitigation Measures 4.3.2-3a** through **4.3.2-3f** would address the effect of Alternatives 1 through 5 related to flood capacity. The USACE assumes that

Placer County would impose the same mitigation measures on Alternatives 1 through 5 to address this effect. For the same reasons presented above for the Proposed Action, USACE finds that the mitigation measures would fully mitigate the effect of Alternatives 1 through 5. **PVSP EIR Mitigation Measures 4.3.2-3a** through **4.3.2-3f** would reduce the effect to culvert capacity to a **less than significant** level.

PVSP EIR Mitigation Measures 4.3.2-3a through
PVSP EIR Mitigation Measure 4.3.2-3e: Flood Capacity
(*Applicability – No Action Alternative*)

PVSP EIR Mitigation Measures 4.3.2-3a *through* ***4.3.2-3e*** *would prohibit grading or other disturbance within the post-project 100-year floodplain limit, require a site-specific drainage report that demonstrates compliance with the Placer County SWMM and Placer County Code. The full mitigation measure text is available in* ***Appendix 3.0.***

PVSP EIR Mitigation Measure 4.3.2-3a through
PVSP EIR Mitigation Measures 4.3.2-3f: Flood Capacity
(Applicability – Proposed Action and Alternatives 1 through 5)

PVSP EIR Mitigation Measures 4.3.2-3a *through* ***4.3.2-3f*** *would prohibit grading or other disturbance within the post-project 100-year floodplain limit, require a site-specific drainage report that demonstrates compliance with the Placer County SWMM and Placer County Code, and require removal of the dam from Dry Creek. The full mitigation measure text is available in* ***Appendix 3.0.***

Impact HYDRO-4 Effects from Construction within a Floodplain

No Action Alt., Proposed Action, Alts. 1 through 5

None of the alternatives would impede or redirect flood flows in a hazardous manner, and adequate conveyance capacity will be provided to convey flood flows. This effect would be **less than significant**. Mitigation is not required.

Construction within a floodplain area can be of concern because it has the potential to impede flood conveyance and/or redirect flood flows, and can exacerbate existing flood hazards or create new hazards in areas not presently subject to flooding.

As discussed in **Affected Environment** above and shown in **Figure 3.10-2**, portions of the Dry Creek Drainage Basin and the lower reaches of the Steelhead Creek Drainage are within the FEMA 100-year floodplain on the project site. Both the Dry Creek and Steelhead Creek corridors would be protected as open space as part of all of the alternatives and County policies and ordinances independently prohibit construction within the FEMA 100-year floodplain. As a result, no major structures would be placed within the floodplain, but minor, localized construction could take place within the open space corridors, potentially including areas within the FEMA 100-year floodplain, to accommodate improvements such as drainage culverts, weir structures, utility lines, and new roadways.

All of the alternatives are unlikely to redirect flood flows such that flood hazards are created

or exacerbated, although the project as a whole may slightly modify the boundaries of the 10- and 100-year floodplains. Prior to issuance of approval of improvement plans for any area which the then current FEMA Flood Insurance Rate Maps show within a 100-year flood plain (Zone A), the Applicants shall submit a Letter of Map Revision for FEMA review once the County and PCFCD have reviewed and approved the hydraulic modeling conducted for the project. Because flood flows would not be impeded or redirected in a hazardous manner, and adequate conveyance capacity will be provided, this effect would be **less than significant**. Mitigation is not required.

Impact HYDRO-5 Exposure to Flood Hazards related to Dam or Levee Failure

No Action Alt., Proposed Action, Alts. 1 through 5

The project site is within an area that could experience flooding in the event that Folsom Lake Dikes 4, 5, and 6 fail. The National Inventory of Dams considers the Folsom Lake Dikes high hazard structures, reflecting a potential for loss of human life in the event of a failure. According to the Folsom Dam Safety and Flood Damage Reduction Joint Federal Project, Dikes 4, 5, and 6 could fail due to overtopping during a major storm event. However, the likelihood of reservoir inflows that could cause overtopping is extremely low, and would be reduced upon completion of the new Folsom Dam spillway that is currently under construction and scheduled for completion by 2015. Therefore, the risk of damage to property and loss of human life associated with inundation of the Folsom Dam would be low and the impact would be **less than significant**. Mitigation is not required.

Impact HYDRO-6 Water Quality Effects during Construction

No Action Alt., Proposed Action, Alts. 1 through 5

With compliance with NPDES requirements, the effects of any of the alternatives on water quality during construction would **be less than significant**.

Construction under all of the alternatives would entail ground disturbance, with the potential to result in accelerated erosion and delivery of increased sediment loads to surface waters in the project area. Construction and site finishing would also use a variety of substances—such as vehicle fuels and lubricants, paints, paving media, adhesives, paints, fertilizers, etc.—with the potential to degrade water quality in the event they are spilled or released. However, a variety of mechanisms and policies are in place to require erosion and sediment control measures and appropriate handling of the various substances used in construction. The most important and enforceable protections are afforded through the NPDES permitting system. Because each construction phase would likely exceed the 1-acre (0.4 hectare) trigger threshold, development under any of the alternatives would be required to obtain coverage under the current Construction General Permit, which requires implementation of a SWPPP stipulating BMPs to prevent construction pollutants from contacting storm water, elimination or reduction of non-storm water discharges to storm

sewer systems and other jurisdictional waters, and inspection and monitoring to ensure that BMPs are functioning properly.

Effective July 1, 2010, all dischargers must obtain coverage under the Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009, which is substantially more stringent than previous requirements. With NPDES compliance in place, the effects on water quality as a result of construction under all of the alternatives would **be less than significant**. Mitigation is not required.

Impact HYDRO-7 Water Quality Effects from Project Occupancy and Operation

No Action Alt., Proposed Action, Alts. 1 through 5

With mitigation, urban runoff from the project site would have a **less than significant** effect on the quality of surface waters.

Development under all of the alternatives would convert currently undeveloped lands to urban/suburban uses, including residential areas, commercial areas, roadways, parking areas, and developed recreational areas. The introduction of extensive impervious surfaces would have the potential to increase net runoff from the site, and because of the introduction of developed uses, would also have the potential to decrease the quality of runoff waters. Runoff waters from the project site would be typical of developed urban areas, where a variety of activities contribute pollutants such as petroleum products, coliform bacteria, nitrogen, phosphorus, heavy metals, pesticides, herbicides, and byproducts of pavement wear. If this input were to be uncontrolled, the long-term potential for degradation of receiving waters would be substantial.

However, as discussed above, the current NPDES Construction General Permit includes a requirement for post-construction water quality control measures. Consistent with NPDES requirements and the County's Stormwater Management Plan, implementation of BMPs would be required to reduce impervious surface and ensure runoff quality. However, the Placer Vineyards Specific Plan does not specify LID measures that would reduce water quality effects. The effect on water quality would be potentially **significant**.

PVSP EIR Mitigation Measure 4.3.4-1 requires that the developers identify methods and designs to reduce storm water runoff and protect surface water quality. This mitigation measure was adopted by Placer County at the time of project approval and will be enforced on the Proposed Action by the County. The USACE assumes that Placer County would impose the same mitigation measure on the No Action Alternative and Alternatives 1 through 5 to address this effect. **PVSP EIR Mitigation Measure 4.3.4-1** would ensure that all development incorporates adequate measures to prevent urban runoff from the project site from substantially degrading the quality of surface waters. The Placer Vineyards Specific Plan EIR determined that this mitigation measure would reduce the effect on water quality under the Base Plan and Blueprint scenarios to a less than significant level (Placer County

2006). The USACE agrees with the conclusion in the Placer Vineyards Specific Plan EIR and finds that the effect would be reduced to **less than significant** after mitigation if mitigation is applied to any of the alternatives.

PVSP EIR Mitigation Measure 4.3.4-1: Stormwater Management Standards
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.3.4-1 *would ensure that all development incorporates adequate measures to prevent urban runoff from the project site from substantially degrading the quality of surface waters. The full mitigation measure text is available in* ***Appendix 3.0****.*

Impact HYDRO-8 Effect on Groundwater Recharge

No Action Alt., Proposed Action, Alts. 1 through 5

As discussed in **Groundwater Hydrology** above, the project site is in the North American subbasin of the Sacramento Valley groundwater basin. All of the alternatives would add extensive new impervious surfaces at a currently undeveloped site, reducing the potential for infiltration. However, the project site is dominated by Type D hydrologic soils, which have a slow infiltration rate with high runoff potential. As a result, the project site is not a significant recharge area. The most likely area for recharge to occur would be along Dry Creek within the Type A soils area. This area would remain in open space under all alternatives and its recharge potential would be unaffected. Since the project site currently has a low infiltration rate and is not important for groundwater recharge, the potential effect would be **less than significant**. Furthermore, implementation of **PVSP EIR Mitigation Measure 4.3.4-1** above would increase infiltration to the extent feasible and minimize the effects of the new impervious surfaces.

Impact HYDRO-9 Effects on Groundwater Basin

No Action Alt.

Development of the No Action Alternative would have a **less than significant** effect on the groundwater basin. Water supply for the project is analyzed in detail in **Section 3.15, Utilities and Service Systems** of this EIS. This analysis focuses specifically on the potential for project-related use of groundwater to result in withdrawals in excess of the basin's safe yield.

During wet and normal water years, the County plans to continue its current practice of using a combination of surface and recycled water supply, with groundwater used only for redundant backup source if surface and recycled water supply is insufficient. During dry years, the Sacramento River Central Valley Project water supply could be reduced by up to 25 percent.

The Western Placer County Groundwater Storage Study recommends a sustainable yield for the Placer County portion of the North American River subbasin of 95,000 afy (11,718

hectare-meter per year [hmy]). Historical groundwater use in Placer County by individual homes, farms, and businesses is estimated to be about 90,000 afy (11,101 hmy). However, due to the removal of agricultural land from production, changes in cropping patterns and irrigation techniques, and introduction of surface water supplies to serve urban development, it is currently estimated that groundwater use is in the range of 65,000 to 75,000 afy (8,018 to 9,251 hmy) in western Placer County (Placer County 2006).

Development under the No Action Alternative would substantially increase water demand. Based on the No Action Alternative's average demand of approximately 6,431,521 gallons per day (gpd) (24,345,955 liters per day [lpd]) at buildout, or 7,209 afy (889 hmy), the backup groundwater demand (25 percent) for any given day would be approximately 1,607,880 gallons (6,086,487 liters), or approximately 1,802 afy (222 hmy).

While groundwater resources are currently used for water supply in the project site, that supply would gradually shift to surface water as the area is built out. Approximately 2,400 afy (296 hmy) are required to meet current agricultural needs within the project site and will not be required with build out. This is greater than the backup groundwater demand of 1,802 afy (222 hmy) under build out of the No Action Alternative, which provides an opportunity to develop groundwater for use in meeting urban domestic and irrigation demands without adversely affecting groundwater levels or long-term groundwater reliability. Therefore, the effect would be **less than significant**. Mitigation is not required.

Proposed Action (Base Plan and Blueprint Scenarios)

Development under the Proposed Action would substantially increase water demand. Based on the Proposed Action Base Plan scenario's average demand at buildout of 10,458,694 gpd (39,590,464 lpd), or approximately 11,723 afy (1,446 hmy), the backup groundwater demand (25 percent) for any given day would be approximately 2,614,674 gallons (9,897,618 lpd), or approximately 2,931 afy (362 hmy). In the highest groundwater use scenario analyzed for the Proposed Action Blueprint scenario, a groundwater backup supply of approximately 3,635 afy (448 hmy) would be necessary.

As discussed above, approximately 2,400 afy (296 hmy) currently used for agricultural uses on the project site would no longer be needed with build out. The range of densities that could be developed under the Proposed Action would demand more than 2,400 afy (296 hmy) of backup groundwater. The Placer County Water Agency determined that the groundwater basin in western Placer County has a sustainable yield of 95,000 afy (11,718 hmy) (PCWA 2005). As of 2006, groundwater use in western Placer County was estimated to range between 65,000 and 75,000 afy (8,018 and 9,251 hmy) (PCWA 2005). Therefore, drawdown of an additional 500 to 1,200 afy (62 to 148 hmy) from the groundwater basin would not result in an adverse effect on supply. The Proposed Action would have a **less than significant** effect related to groundwater use. Mitigation is not required.

Alts. 1 through 5 Build out of Alternatives 1 through 5 would result in an average demand for water including groundwater of approximately 11,582 afy (1,429 hmy). As this is slightly less than the demand under the Proposed Action Base Plan scenario, these alternatives would also have a **less than significant** effect related to groundwater use. Mitigation is not required.

Impact HYDRO-10 Indirect Effects to Hydrology and Water Quality from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5 The construction and operation of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which would be used by No Action Alternative, Proposed Action, and Alternatives 1 through 5, would result in **less than significant** effects to hydrology and water quality with implementation of mitigation. As analyzed in the PVSP Second Partially Recirculated RDEIR dated March 2007, the pipeline route would be constructed along existing roadways and utility easements. The pipeline would primarily be underground. Construction would generally replace the existing surface material with similar or in-kind surface materials. Therefore, construction of the pipeline would not result in a substantial increase in impervious surfaces or runoff.

The proposed pipeline route would cross waterways and 100-year floodplains. However, the pipeline would be buried and enclosed and would not cause any impacts to the waterways or floodplains.

Grading operations would result in loss of vegetation and expose soils to erosion. Construction equipment and vehicles could release contaminants. Storm water could transport eroded soil and contaminants into nearby waterways contributing to higher sediment loads. The increased sediment loads and turbidity in local waterways would be a significant short-term water quality impact.

PVSP EIR Mitigation Measures 4.3.4-7a through **4.3.4-7c** were adopted by Placer County at the time of project approval of the PVSP (Off-site improvements associated with the Proposed Action). The USACE assumes that Placer County would impose the same mitigation measure on the No Action Alternative and Alternatives 1 through 5 to address this effect. **PVSP EIR Mitigation Measures 4.3.4-7a** through **4.3.4-7c** require the developer to prepare plans and incorporate adequate measures to prevent runoff from the project site from substantially degrading the quality of surface waters. The Placer Vineyards Specific Plan EIR identified these mitigation measures to reduce the effect on water quality from off-site infrastructure to a less than significant level (Placer County 2006). However, in the California Environmental Quality Act (CEQA) Findings of Fact and Statement of Overriding Considerations for the PVSP EIR, the County acknowledged that it did not have the authority to impose these mitigation measures on PCWA's project and the impact would remain significant. USACE concurs with the County that if the PCWA imposes these

or similar mitigation measures on the infrastructure project, the effect on water quality would be less than significant. However, USACE also does not have the authority to impose mitigation measures on a project that would be built by the PCWA and finds that the effect would remain **significant**.

PVSP EIR Mitigation Measure 4.3.4-7a through
PVSP EIR Mitigation Measure 4.3.4-7c: Sediment Load
(*Applicability – No Action Alternative*)

PVSP EIR Mitigation Measures 4.3.4-7a** through **4.3.4-7c** would require the developer to submit a Storm Water Pollution Prevention Plan (SWPP), as well as prepare an erosion control plan and best management practices to reduce erosion and siltation of waterways. The full mitigation measure text is available in **Appendix 3.0.

3.10.6 RESIDUAL SIGNIFICANT IMPACTS

PVSP EIR Mitigation Measures 4.3.2-3a through **4.3.2-3f** would prohibit grading or other disturbance within the post-project 100-year floodplain limit, but would be insufficient to reduce the post-project flood flows of the No Action Alternative. The No Action Alternative would have a residual **significant** effect on flood capacity because the dam within Dry Creek at the Watt Avenue crossing cannot be removed and other drainage improvements cannot be completed without a DA permit.

3.10.7 REFERENCES

California Department of Water Resources (DWR). 2003. "California's groundwater" *Bulletin 118, Update 2003.* http://www.water.ca.gov/groundwater/bulletin118/bulletin118update2003.cfm.

Civil Engineering Solutions, Inc. 2005. "Placer Vineyards Master Project Drainage Study."

Placer County. 2006. Placer Vineyards Specific Plan Final EIR. (State Clearinghouse No. 1999062020). October.

Placer County Water Agency (PCWA). 2002. American River Pump Station Project EIS/EIR.

Placer County Water Agency (PCWA). 2005. Western Placer County Groundwater Storage Study Final Report.

Sacramento Area Flood Control Agency (SAFCA). 1994. Interim Reoperation of Folsom Dam and Reservoir Final EIR/Environmental Assessment.

Sacramento Metropolitan Water Authority (SMWA). 1996. American River Water Resources Investigation, Planning Report and Draft EIR/EIS.

3.11 LAND USE AND PLANNING

3.11.1 INTRODUCTION

This section describes the existing land uses in the project vicinity that could be affected by implementation of the Proposed Action and its alternatives. It also describes the relevant land use plans, policies, and regulations governing the project area affected by the Proposed Action and alternatives considered in this Draft Environmental Impact Statement (EIS). The focus of this section is consistency with applicable land use plans and policies. Impacts on agricultural and recreational land uses, as well as those related to growth inducement, are discussed in other sections of this EIS. The following sources were used to prepare this section:

- Placer Vineyards Specific Plan EIR prepared by Placer County (2006);
- Placer County General Plan;
- Placer County Zoning Ordinance, Edition #10;
- Placer Vineyards Specific Plan;
- Elverta Specific Plan;
- Sutter County General Plan; and
- Sacramento Region Blueprint Transportation/Land Use Plan prepared by Sacramento Area Council of Governments.

3.11.2 AFFECTED ENVIRONMENT

The Proposed Action is located in the southwest portion of unincorporated Placer County and is characterized by gently rolling topography and large, open annual grassland area. The City of Roseville is located to the east and the community of Antelope, in Sacramento County, is located to the south. The project site is bounded on the north by Baseline Road, on the east by Dry Creek and Walerga Road, on the south by the Sacramento/Placer County line, and on the west by the Sutter/Placer County line and Pleasant Grove Road. The project site contains approximately 5,230± gross acres (2,117± gross hectares), with an east-west length of approximately 6 miles (10 kilometers) (Placer County 2006).

3.11.2.1 Project Site – Existing Land Uses and Designations

The Proposed Action and alternatives would develop a large-scale, mixed-use, mixed-density master planned community on approximately 5,230 acres (2,117 hectares) of the project site. Another 243 acres (98 hectares) both on- and off-site would be dedicated to infrastructure needed to support the community.

The predominant land use within the project site is agriculture, consisting mostly of grazing land. There are approximately 150 residences within the project site. Although there are a few residences scattered throughout the agricultural properties, rural residential development occurs primarily in the northwest and southwest corners of the project site. A number of home occupation/ancillary uses are located throughout the rural residential areas. A mini-storage facility is located on the east side of Pleasant Grove

Road in the southwest corner of the project site. A convenience store is located on the southeast corner of Baseline Road and Pleasant Grove Road in the northwestern portion of the project site. An abandoned portion of the Union Pacific Railroad right-of way traverses the westernmost portion of the project site (Placer County 2006).

The project site is also crossed by three electrical transmission and distribution line easements. These transmission and distribution lines are part of Western Area Power Administration (WAPA), Pacific Gas & Electric (PG&E) and Sacramento Municipal Utility District (SMUD) systems (Placer County 2006).

The project site is currently designated as Urban in the Placer County General Plan. The Placer Vineyards Specific Plan was approved by Placer County in 2007. Following the approval of the plan, the project site was rezoned by the County. Participating properties within the project site to be developed were zoned SPL-PVSP (Placer Vineyards Specific Plan) while non-participating properties in the area to be developed were zoned F (Farm) with combining designations. The rural residential areas located in the Special Planning Area (SPA) were zoned RA (Residential-Agriculture) with a 10-acre (4-hectare) minimum parcel size. The DR (Combining Development Reserve) designation was applied over the non-participating properties and the SPA. The convenience store located at the northwest corner of the SPA was zoned C1 (Neighborhood Commercial) and the mini-storage facility located at the southwest corner of the SPA was zoned IN (Industrial). The area along the north side of Dry Creek was zoned O (Open Space) to correspond with the Greenbelt and Open Space land use designation (Placer County 2006).

3.11.2.2 Off-site Infrastructure – Existing Land Uses and Designations

Water Transmission Lines

As discussed, in **Chapter 2.0, Proposed Action and Alternatives**, water would be provided to the project site on a long-term basis from the Sacramento River and on an initial basis from the American River via pipelines built by Placer County Water Agency (PCWA). As shown in **Figure 2.0-7** in the project description, the long-term transmission pipeline would extend from the Sacramento River to the project site along Elverta Road, Pleasant Grove Road, and Baseline Road. Current land uses along Elverta Road are primarily agricultural with some rural residential while current land uses along Pleasant Grove Road and Baseline Road include agriculture, rural residential, and a small amount of commercial and industrial uses (Placer County 2006).

The initial surface water supply would be routed through the City of Roseville's existing water distribution system, and as shown in **Figure 2.0-7** in the project description, the water would be extended to the project site from the City's distribution system near Baseline Road and Fiddyment Road via a proposed 24-inch (61-centimeter) diameter pipeline along Baseline Road. Current land uses along this section of Baseline Road are agricultural and low density residential (Placer County 2006).

An additional, complementary scenario for conveying PCWA's American River Pump Station (ARPS) water would deliver the water via a pipeline from the future Ophir Water Treatment Plant (**Figure 2.0-5b, Alternate Water Supply Infrastructure**). The water pipelines would be installed generally along Ophir Road, which becomes Taylor Road, connecting to the transmission main from the Foothill Water

Treatment Plant at Penryn Road. The proposed transmission system includes a water pipeline branching to the northwest before the Penryn connection, and running through the Bickford Ranch planned development. After Bickford Ranch, the water pipelines would connect to the existing PCWA Zone 1 system just north of the Sunset Water Treatment Plant in Rocklin. The proposed water pipelines would then be constructed through the existing Whitney Ranch development within existing road right-of-ways. Beyond Whitney Ranch, the water pipelines would cross under SR 65, and extend westerly through a mixture of industrial and open space, crossing Industrial Avenue. From that point, a water pipeline would be constructed through agricultural land, continuing to the south and connecting to the Regional University planned development project. The water pipeline would be constructed further south through agricultural land, eventually ending at the intersection of Baseline Road and Watt Avenue, abutting the project site.

A secondary initial surface water supply from the American River could be made available if the Sacramento River supply is not available when the initial supply, as described above, has been fully used. The supply would be conveyed to the project site via a new pipeline extending from the Cooperative Transmission Pipeline that currently ends near Antelope and Walerga Roads, as shown in **Figure 2.0-7** in the project description. This pipeline would be extended westerly along Antelope Road to Watt Avenue and then north to the project site. Current land uses along this section of Antelope Road and Watt Avenue are primarily low-density residential, including a school and a small amount of commercial. Alternatively, this supply could be conveyed in a proposed 16-inch (41-centimeter) diameter pipeline constructed in PFE Road from Cook Riolo Road to Watt Avenue and northerly to the project site. Current land uses along this section of PFE Road are primarily single-family residential, including a school, along the eastern segment and agricultural along the western segment (Placer County 2006).

Recycled Water Transmission Lines

As discussed in **Chapter 2.0, Proposed Action and Alternatives**, it is also proposed that recycled water be provided to the project site from the Dry Creek Wastewater Treatment Plant (DCWWTP) and ultimately from the Pleasant Grove Wastewater Treatment Plant (PGWWTP). As shown in **Figure 2.0-7** in the project description, initially, a connection would be made to an existing 24-inch (61-centimeter) gravity recycled water line that currently terminates south of Dry Creek on the east side of Walerga Road. The pipeline would be extended from the south of Dry Creek, in a northerly direction along Walerga Road to Baseline Road where it would turn west to the project site. In the future, as the west Placer area builds out, it is anticipated a recycled water line would be constructed from the PGWWTP to serve the project site and surrounding areas. As depicted in **Figure 2.0-7** in the project description, the future recycled water line would extend westward from PGWWTP along Phillip Road to the alignment of Watt Avenue, and then south to Baseline Road where it would tie into other recycled water infrastructure. The PGWWTP supply would supplement and/or ultimately replace the DCWWTP supply. Current land uses in the areas traversed by the proposed pipeline from DCWWTP are generally agricultural, open space, and low-density residential in nature. A pipeline extending from the PGWWTP would largely cross open space and agriculturally used land (Placer County 2006).

Sewer Trunk Lines

As discussed in **Chapter 2.0, Proposed Action and Alternatives**, the Applicant's proposed option for sewer service is to connect the entire project site to the DCWWTP. Under this option, wastewater flows from the western 4,340 acres (1756.3 hectares) (Shed A) of the site would be directed to DCWWTP via two 16 to 20 inch (41 to 51 centimeter) diameter force main pipelines in the same utility corridor which would extend from the project site southerly along the alignment of Watt Avenue, then easterly along the alignment of PFE Road and northerly to the plant. Current land uses along Watt Avenue, PFE Road, Hilltop Circle, and Cook Riolo Road include agriculture, undeveloped land, rural residential and a small amount of low density residential, commercial, industrial and public uses (Placer County 2006). In addition, under the Applicant's proposed option, a majority of wastewater flows from the eastern 890 acres (360.2 hectares) (Shed B) of the site would discharge to an off-site trunk sewer line connection point at its southerly boundary, and then cross Dry Creek and be carried by a gravity sewer trunk line to a lift station. From the lift station, wastewater flows will be carried in a 12-inch (30-centimeter)-diameter force main along the south side of Dry Creek, to an existing force main located approximately 1,400 feet (426.7 meters) east of Walerga Road. Existing land uses along this alignment are primarily agricultural and undeveloped lands south of Dry Creek, with Dry Creek located north of the alignment (Placer County 2006).

As discussed in **Chapter 2.0, Proposed Action and Alternatives**, as a second option, flows from Shed A could be discharged to the Sacramento Regional Wastewater Treatment Plant (SRWWTP). The utility corridor would extend from the project site to the south, following the alignment of Sorrento Road to the Sacramento Regional County Sanitation District (SRCSD) Upper Northwest Interceptor at a point in Elkhorn Boulevard. Current land uses along this section of Sorrento Road include rural residential, agriculture and undeveloped land. An alternative corridor has also been identified for the proposed connection to SRCSD which would extend south from the project site following the alignment of Elwyn Avenue, west along Elverta Road and finally south along the alignment of West 6th Street to the SRCSD Upper Northwest Interceptor at a point in Elkhorn Boulevard. Current land uses along these sections of Elwyn Avenue, Elverta Road and the alignment of West 6th Street include agriculture, undeveloped land, and rural residential (Placer County 2006).

Roadway Improvements

As discussed in **Chapter 2.0, Proposed Action and Alternatives,** a number of off-site roadway improvements are planned as part of the Proposed Action. Baseline Road, the existing arterial roadway that forms the northern boundary of the project site, would be improved in phases, with an ultimate buildout of six travel lanes (typically equivalent to a 100-foot-wide [30-meter-wide] ROW). Baseline Road improvements would include roadway widening on the south side of the existing roadway from the Walerga/Fiddyment Road intersection to the Sutter County line. Current land uses north of Baseline Road are primarily agricultural with a small amount of rural residential, industrial, and commercial. Additionally, five intersections along Baseline/Riego Road would also be improved. Current land uses surrounding these intersections are primarily agricultural with a small amount of rural residential,

commercial, and industrial. Three of these intersections are located entirely within Sutter County (Placer County 2006).

Watt Avenue, the existing north-south arterial roadway that crosses through the central-eastern portion of the project site, would be improved in phases. Watt Avenue would be widened to six lanes from Baseline Road on the north to approximately 1,000 feet (304.8 meters) south of the Sacramento County line. In some areas, the road would be widened to eight lanes with two lanes dedicated for bus transit right-of-way. Current land uses along this section of Watt Avenue are primarily agricultural and rural residential with a small amount of public and low-density residential to the south of the Project site. The widening of Watt Avenue would require the acquisition of one or more existing houses near PFE Road, as well as a small portion of the McClellan High School campus, and the frontage along a small cemetery (Placer County 2006).

3.11.2.3 Existing and Planned Land Uses in the Vicinity of Project Site

Lands to the north of the project site are located in Roseville and unincorporated Placer County, and include the Curry Creek Community Plan area and Sierra Vista Specific Plan area. Areas immediately adjacent to the project site in these areas currently include undeveloped dry pastureland and rural residential uses, generally similar to the conditions on the project site (Placer County 2006).

Lands to the east/southeast of the project site are located in the Dry Creek/West Placer Community Plan area. Areas immediately adjacent to the project site in this area include low-density residential to the east and grazing lands and irrigated cropland (field crops and orchard) to the southeast (Placer County 2006).

Lands to the south of the project site, in Sacramento County, are located in the Elverta Specific Plan area and the Antelope Community Plan area. Moving from west to east, land uses to the south comprise rural residential, agriculture (undeveloped grazing), open space (Gibson Ranch Park), and low-density residential (community of Antelope) (Placer County 2006).

Lands to the west of the project site are located in the South Sutter County Industrial/Commercial Reserve. The current land use in this area is predominantly rural residential (Placer County 2006).

Placer Country has recently approved several large development projects in the vicinity of the project site. These include Regional University and Community Specific Plan project which is located to the north of the Curry Creek Community Plan area and the Riolo Vineyards Specific Plan project which is located in the Antelope Community Plan area to the southeast of the project site.

3.11.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

This section summarizes relevant policies contained in the Placer County General Plan that have been developed by the County to guide urban development. This section also summarizes relevant policies contained in the Sacramento Area Council of Governments Blueprint.

3.11.3.1 Placer County General Plan

The following is a list of goals and policies found in the Land Use Chapter of the Placer County General Plan relating to land use.

General Land Use

Goal 1.A. To promote the wise, efficient, and environmentally sensitive use of Placer County lands to meet the present and future needs of Placer County residents and businesses.

Policy 1.A.1. The County will promote the efficient use of land and natural resources.

Policy 1.A.3. The County shall distinguish among urban, suburban, and rural areas to identify where development will be accommodated and where public infrastructure and services will be provided. This pattern shall promote the maintenance of separate and distinct communities.

Policy 1.A.4. The County shall promote patterns of development that facilitate the efficient and timely provision of urban infrastructure and services.

Residential Land Use

Goal 1B. To provide adequate land in a range of residential densities to accommodate the housing needs of all income groups expected to reside in Placer County.

Policy 1.B.1. The County shall promote the concentration of new residential development in higher-density residential areas located along major transportation corridors and transit routes.

Policy 1.B.2. The County shall encourage the concentration of multi-family housing in and near downtowns, village centers, major commercial areas, and neighborhood commercial centers.

Policy 1.B.3. The County shall encourage the planning and design of new residential subdivisions to emulate the best characteristics (e.g., form, scale, and general character) of existing, nearby neighborhoods.

Policy 1.B.5. The County shall require residential project design to reflect and consider natural features, noise exposure of residents, visibility of structures, circulation, access, and the relationship of the project to surrounding uses. Residential densities and lot patterns will be determined by these and other factors. As a

result, the maximum density specified by General Plan designations or zoning for a given parcel of land may not be realized.

Policy 1.B.6. The County shall require new subdivided lots to be adequate in size and appropriate in shape for the range of primary and accessory uses designated for the area.

Policy 1.B.7. The County shall require multi-family developments to include private, contiguous, open space for each dwelling.

Policy 1.B.9. The County shall discourage the development of isolated, remote, and/or walled residential projects that do not contribute to the sense of community desired for the area.

Policy 1.B.10. The County shall require that all residential development provide private and/or public open spaces in order to insure that each parcel contributes to the adequate provision of light, air and open space.

Commercial Land

Goal 1.D. To designate adequate commercial land for and promote development of commercial uses to meet the present and future needs of Placer County residents and visitors and maintain economic vitality.

General Commercial Areas Policies

Policy 1.D.1. The County shall require that new commercial development be designed to encourage and facilitate pedestrian circulation within and between commercial sites and nearby residential areas rather than being designed primarily to serve vehicular circulation.

Policy 1.D.2. The County shall require new commercial development to be designed to minimize the visual impact of parking areas on public roadways.

Policy 1.D.3. The County shall require that new, urban, community commercial centers be located adjacent to major activity nodes and major transportation corridors. Community commercial centers should provide goods and services that residents have historically had to travel outside of the area to obtain.

Policy 1.D.4. The County shall require that significant new office developments locate near major transportation corridors and concentrations of residential uses. New office development may

serve as buffers between residential uses and higher-intensity commercial uses.

Downtown Areas/Village Centers Policies

Policy 1.D.5. The County shall encourage existing and new downtowns/village centers to provide a variety of goods and services, both public and private.

Policy 1.D.6. The County shall promote use of first floor space in new buildings in downtowns/village centers for retail, food service, financial institutions, and other high-volume commercial uses.

Policy 1.D.7. The County shall encourage new downtowns/village centers and new commercial projects and areas to be designed to maintain a continuous retail façade on all street frontages, except for public plazas and pedestrian passages between the front and rear of buildings.

Policy 1.D.8. The County shall require minimal, or in some cases no, building setbacks for commercial and office uses in new downtowns/village centers.

Policy 1.D.9. The County shall encourage parking in downtown/village centers to be consolidated in well-designed and landscaped lots or in well-located parking structures.

Policy 1.D.11. The County shall require that existing and new downtown/village centers and development within them be designed to integrate open spaces into the urban fabric where possible, especially taking advantage of any natural amenities such as creeks, hillsides, and scenic views.

Industrial Land Use

Goal 1.E. To designate adequate land for and promote development of industrial uses to meet the present and future needs of Placer County residents for jobs and maintain economic vitality.

Policy 1.E.1. The County shall only approve new industrial development that has the following characteristics:

a. Adequate infrastructure and services;

b. Convenient connections to the regional transportation network, including connections to existing transit and other non-automobile transportation;

c. Sufficient buffering from residential areas to avoid impacts associated with noise, odors and the potential release of hazardous materials;

d. Minimal significant adverse environmental impacts; and

e. Minimal adverse effects on scenic routes, recreation areas, and public vistas.

Policy 1.E.2. The County shall designate specific areas suitable for industrial development and reserve such lands in a range of parcel sizes to accommodate a variety of industrial uses.

Goal 1.G. To designate for and promote the development and expansion of public and private recreational facilities to serve the needs of residents and visitors.

Policy 1.G.2. The County shall strive to have new recreation areas located and designed to encourage and accommodate non-automobile access.

Policy 1.G.3. The County shall continue to require the development of new recreational facilities as new residential development occurs.

In addition to the goals and policies outlined above, the General Plan requires the use of buffer zones in several types of developments. Land use buffer zones are to be reserved in perpetuity through land use acquisition, purchase of development rights, conservation easements, deed restrictions, or similar mechanisms, with adjacent proposed development projects providing the necessary funding. The exact dimensions of the buffer zones and specific uses allowed in buffer zones are determined through the specific plan, land use permit, and/or subdivision review process. In general buffer zones must conform to the following standards, however, the County process allows for different buffer zone standards to be established within a Specific Plan as part of the Specific Plan approval:

Agricultural/Timberland Buffers

1. **Agriculture/Timberland Buffers**. These buffer zones are required to separate urban uses (particularly residential) from lands designated Agriculture or Timberland on the Land Use Diagram, where noise from machinery, dust, the use of fertilizers and chemical sprays, and other related agricultural/timber harvesting activities would create problems for nearby residential and other sensitive land uses. These buffers also serve to minimize disturbance of agricultural operations from nearby urban or suburban uses, including trespassing by nearby residents and domestic animals.

   a. **Buffer Dimensions:** Timber harvesting and agricultural practices associated with crop production can contribute to land use conflicts when development occurs adjacent to agricultural and timberland areas. Since production practices vary considerably by crop type, buffer distances may vary accordingly. The separations shown in the table below are required between areas designated Agriculture or Timberland and residential uses, commercial/office uses, business park uses, and some types of recreational uses; no buffers

are required for other uses. The buffer widths are expressed as ranges because of the possible influences of site or project-specific characteristics.

b. **Uses Allowed in Buffer:** Low-density residential uses on parcels of one to 20 acres (8.1 hectares) or open space uses are permitted within the buffer, although the placement of residential structures is subject to the minimum "residential exclusion areas" shown in the table below. Non-habitable accessory structures and uses may be located in the exclusion area, and may include barns, stables, garages, and corrals.

Table 3.11-1
Minimum Agriculture/Timberland Buffer Zone Width

Agriculture/Timberland Use	Buffer Zone Width	
	Residential Exclusion Area[1]	Buffer Range Width[2]
Field Crops	100 feet	100 to 400 feet
Irrigated Orchards	300 feet	300 to 800 feet
Irrigated Vegetables, Rice	400 feet	200 to 800 feet
Rangeland/Pasture	50 feet	50 to 200 feet
Timberland	100 feet	100 to 400 feet
Vineyard	400 feet	400 to 800 feet

[1] *Residential structures prohibited; non-habitable accessory structures permitted.*
[2] *Required buffer dependent on site or project-specific characteristics as determined through County's specific plan, land use permit, and/or subdivision review process.*

Industrial/Residential Buffers

2. **Industrial/Residential Buffers.** These buffer zones are required to separate residential land uses from areas designated Business Park/Industrial where noise from vehicles and equipment, the use of hazardous materials in manufacturing processes, truck traffic, and otherwise heavy traffic volumes would be incompatible with nearby residential uses.

   a. **Buffer Dimensions:** Generally, industrial/residential buffers shall be a minimum width of 300 feet (91.4 meters), but may be reduced to not less than 100 feet (30.5 meters) where the buffer includes such features as screening walls, landscaped berms, and/or dense landscaping, with guarantees of proper, ongoing landscaping maintenance.

   b. **Uses Allowed in Buffer:** Commercial and office uses; open space and recreation uses such as greenbelts, parks, and playfields.

General Public Facilities and Services

Goal 4.A. To ensure the timely development of public facilities and the maintenance of specified service levels for these facilities.

Policy 4.A.1. Where new development requires the construction of new public facilities, the new development shall fund its fair share of the

construction. The County shall require dedication of land within newly developing areas for public facilities, where necessary.

Policy 4.A.2. The County shall ensure through the development review process that adequate public facilities and services are available to serve new development. The County shall not approve new development where existing facilities are inadequate unless the following conditions are met:

a. The applicant can demonstrate that all necessary public facilities will be installed or adequately financed (through fees or other means); and

b. The facilities improvements are consistent with applicable facility plans approved by the County or with agency plans where the County is a participant.

Policy 4.A.3. The County shall require that new urban development is planned and developed according to urban facility standards.

3.11.3.2 Sacramento Area Council of Governments

The Sacramento Area Council of Governments (SACOG) is a regional organization that provides a variety of planning functions over its six-county region (Sacramento, Yolo, Placer, Sutter, Yuba, and El Dorado counties). SACOG's primary functions are to provide transportation planning and funding for the region and to study and support resolution of regional issues. The SACOG conducted several local community workshops to help determine how the Sacramento region should grow through the year 2050. In December 2004, the SACOG Board of Directors adopted the Preferred Blueprint Scenario (hereinafter SACOG Blueprint), a vision for growth that promotes compact, mixed-use development and more transit choices as an alternative to low-density development. The SACOG Blueprint is based on the following set of smart growth principles:

Transportation Choices: Developments should be designed to encourage people to sometimes walk, ride bicycles, ride the bus, ride light rail, take the train or carpool. Use of Blueprint growth concepts for land use and right-of-way design will encourage use of these modes of travel and the remaining auto trips will be, on average, shorter.

Mixed-Use Developments: Buildings homes and shops, entertainment, office and even light industrial uses near each other can create active, vital neighborhoods. This mixture of uses can be either in a vertical arrangement (mixed in one building) or horizontal (with a combination of uses in close proximity). These types of projects function as local activity centers, contributing to a sense of community, where people tend to walk or bike to destinations and interact more with each other. Separated land uses, on the other hand, lead to the need to travel more by auto because of the distance between uses.

Compact Development: Creating environments that are more compactly built and use space in an efficient but aesthetic manner can encourage more walking, biking, and public-transit use and shorten auto trips.

Housing Choice and Diversity: Providing a variety of places where people can live— apartments, condominiums, townhouses, and single-family detached homes on varying lot sizes—creates opportunities for the variety of people who need them: families, singles, seniors, and people with special needs. This issue is of special concern for people with very low, low, and moderate incomes. By providing a diversity of housing options, more people would have a choice.

Use of Existing Assets: In urbanized areas, development on infill or vacant lands, intensification of the use of underutilized parcels, or redevelopment can make better use of existing public infrastructure. This can also include rehabilitation and reuse of historic buildings; denser clustering of buildings in suburban office parks; and joint use of existing public facilities, such as schools and parking garages.

Quality Design: The design details of any land use development—such as the relationship to the street, setbacks, placement of garages, sidewalks, landscaping, the aesthetics of building design, and the design of the public rights-of-way—are factors that can influence the attractiveness of living in a compact development and facilitate the ease of walking and biking to work or neighborhood services. Good site and architectural design is an important factor in creating a sense of community and a sense of place.

Natural Resources Conservation: This principle encourages the incorporation of public use open space (such as parks, town squares, trails, and greenbelts) within development projects, above state requirements; it also encourages wildlife and plant habitat preservation, agricultural preservation, and promotion of environmentally friendly practices, such as energy-efficient design, water conservation and stormwater management, and planting of shade trees.

The project site is designated in the SACOG Blueprint for medium- and high-density mixed residential uses and low- and medium-density mixed-use commercial centers in the near term.

3.11.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.11.4.1 Significance Thresholds

Council on Environmental Quality (CEQ) guidance requires an evaluation of a proposed action's effect on the human environment. The U.S. Army Corps of Engineers (USACE) has determined that the Proposed Action or its alternatives would result in significant adverse effects related to land use and planning if the Proposed Action or an alternative would:

- result in incompatible land uses;
- physically divide an established community; or
- conflict with applicable plans, policies, or regulations.

3.11.4.2 Analysis Methodology

Land use-related impacts would result if development under the Proposed Action or an alternative would result in land uses on the project site that are incompatible with adjacent land uses, or physically divide an existing community, or conflict with adopted plans or policies.

3.11.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact LU-1 Result in Incompatible Land Uses

No Action Alt. As explained below, the No Action Alternative would not result in the development of incompatible land uses as existing County regulations would prevent such occurrences. The impact would be **less than significant**. Mitigation is not required.

The No Action Alternative provides for a mixed-use, mixed density regional residential community, which could lead to land use incompatibilities. However, all development on the project site would be guided by existing County regulations which would reduce the severity of potential conflicts so that differing off-site and on-site land uses would be compatible with each other. For example, all proposed commercial and employment uses within the project site will be subject to Design Review, which will permit the County to review proposed uses for compatibility with adjacent existing and proposed land uses and impose compatibility requirements.

With adherence to buffer requirements contained in the County's General Plan, development within the project site would be compatible with adjacent agricultural uses to the north and to the south. This issue is addressed in **Section 3.2, Agricultural Resources**.

Off-site improvements along utility corridors and roadways would not conflict with neighboring agricultural, rural and urban land uses as construction of these improvements would be temporary and would mostly occur within existing rights of way. Only a proposed lift station and force main would be located outside existing rights of way on land that is presently under agricultural production. However, these facilities would be located along the edge of the fields and would not interfere with agricultural production. In addition, most utility improvements would be located underground after construction. As discussed in **Section 3.1, Aesthetics**, mitigation would require the revegetation of all areas containing natural vegetation or landscape material that are disturbed during utility line and roadway construction and that all permanent utility line-related structures extending above ground be screened where feasible.

In summary, land uses within the project site would be compatible with each other and would be compatible with adjacent off-site land uses under the No Action Alternative. In addition, no land use incompatibilities are expected from off-site utility and roadway improvements. Impacts as a result of incompatible land uses are expected to be **less than significant.** No mitigation is required.

Proposed Action (Base Plan and Blueprint Scenarios)

Implementation of the Proposed Action under either scenario would not result in incompatible uses. As discussed above, all development on the project site would be guided by existing County regulations which would reduce the severity of potential conflicts so that differing off-site and on-site land uses would be compatible with each other. In addition, all development on the project site would also be guided by the goals, policies and guidelines contained in the Specific Plan. For example, the Specific Plan contains policies that address compatibility of adjoining land uses, compatibility of adjoining large lot rural and agricultural uses, and compatibility of residential uses adjacent to commercial and employment uses. As described in more detail in **Section 3.2**, with adherence to buffer requirements contained in the County's General Plan, development within the project site under the Proposed Action would be compatible with adjacent agricultural uses to the north and to the south. In addition, no land use incompatibilities are expected from off-site utility and roadway improvements. The effect as a result of incompatible land uses are expected to be **less than significant.** No mitigation is required.

Alts. 1 through 5

The effects as a result of incompatible land uses from Alternatives 1 through 5 combined or each alternative individually, are expected to be **less than significant.**

Alternative 1 would not result in incompatible uses. Alternative 1 would affect Parcel 1B by eliminating the proposed religious land use, shifting high-density residential uses to the northern portion of the parcel, and creating open space in the central portion of the parcel. Medium density residential uses would remain in the southern portion of the parcel. The shifting of high-density residential use to the north would not conflict with adjacent uses as the proposed high density residential use would be bordered on the north, east, and south by open space. The high-density residential land use could conflict with low-density residential uses to the west on Parcel 5A. However, as described above, development of these uses would be guided by the goals, policies and guidelines contained in the Specific Plan and existing County regulations which would reduce the severity of potential conflicts. The proposed open space land use would be compatible with all adjacent land uses.

Alternative 2 would not result in incompatible uses. Alternative 2 would affect Parcel 3 by eliminating the proposed commercial, medium density residential, high density residential, and park uses and replacing these uses with a Power Center. In addition, the roadway proposed for the southern portion of the parcel would be realigned to the north to create open space. The religious use located in the southeastern corner of the parcel would remain substantially unchanged. The proposed power center would be compatible with the proposed power center to the west on Parcel 20. Some conflicts could occur between the proposed power center and low-density single-family residential uses to the east on Parcel 1A thus resulting in potentially incompatible land uses. But the two types of land uses would be separated by a major arterial and these

uses would be guided by the goals, policies, and guidelines contained in the Specific Plan and existing County regulations which would reduce the severity of potential conflicts. In addition, all proposed commercial and employment uses within the project site, such as the proposed power center, will be subject to Placer County Design Review, which would place conditions on development to ensure compatibility. The proposed open space use in the southern portion of Parcel 3 would buffer the proposed power center from low, medium, and high residential uses to the south on Parcels 5A and 1B. The proposed religious use in the southeastern portion of Parcel 3 would be compatible with the single-family residential use to the east on Parcel 1A, the religious use to the south in Parcel 1B, and open space uses to the west on the same parcel.

Alternatives 3 and 4 would not result in incompatible uses. Alternative 3 would affect Parcel 16 by eliminating the proposed religious and low-density residential uses and scaling back the planned medium density residential uses in order to create a large open space area. In addition, the park uses proposed on Parcel 16 would be consolidated and moved to the southeastern corner of the parcel. The large open space area created on Parcel 16 would not conflict with proposed uses on the parcel nor would it conflict with agricultural uses to the south and west. Under Alternative 3, medium density residential uses would be located adjacent to low density residential uses to the west on Parcel 17 and a park to the east on Parcel 9 and this could result in conflicts due to incompatibility of land uses. However, development of these uses would be guided by the goals, policies and guidelines contained in the Specific Plan and existing County regulations which would reduce the severity of potential conflicts.

Alternative 4 would affect Parcel 17 by carving out a small area in the southeastern corner of Parcel 17 for open space that would be connected to the large open space area on Parcel 16. The location of the low and medium density residential uses planned for Parcel 17 would not be changed. The small pocket of open space on Parcel 17 would not conflict with the adjacent planned low-density residential uses on the parcel.

Alternative 5 would not result in incompatible uses. Alternative 5 would affect Parcel 23 by scaling back proposed low and medium density residential and park uses on the southern portion of the parcel in order to create a large open space area. In addition, Alternative 5 would adjust the alignment of the proposed roadway on the western half of Parcel 23 to the north. The enlarged open space area would not conflict with the proposed low and medium density residential and park uses on the northern portion of the parcel and would be compatible with the planned open space use to the south on Parcel 24. The proposed open space area would also be compatible to the existing rural residential uses to the west and the planned open space uses to the east on Parcel 19.

If for purposes of analysis, it is assumed that all five alternatives (Alternatives 1 through 5) would be implemented, land uses under these alternatives combined would generally be compatible with each other and surrounding uses for the reasons given

above. In addition, no land use incompatibilities are expected from off-site utility and roadway improvements. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative and the Proposed Action, impacts as a result of incompatible land uses from Alternatives 1 through 5 combined or each alternative individually, are expected to be **less than significant.** No mitigation is required.

Impact LU-2 Physically Divide an Established Community

No Action Alt. As explained below, the No Action Alternative would not physically divide a community as the project site consists of an undeveloped rural area and the No Action Alternative would not displace a majority of the residences currently located on the project site. In addition, off-site infrastructure would not physically divide a community as most improvements would occur within existing rights of way or would be placed underground. The effect would be **less than significant**. Mitigation is not required.

As discussed in **Chapter 2.0, Proposed Action and Alternatives,** the project site is characterized by gently rolling topography and large, open grazing land with a few stands of native and non-native trees. About 150 rural residences are located in the northwestern corner of the project site with a few other rural residences scattered throughout the remainder of the site. The No Action Alternative would develop the undeveloped portions of the project site. The 150 rural residences are located in a Special Planning Area (SPA). These residences would remain in place and the SPA would continue to be used for large lot rural residential development under the No Action Alternative.

Most off-site infrastructure improvements would occur within existing rights of way and/or would be placed underground and therefore would not physically divide an established community. Only a lift station and force main would be located outside existing rights of way on land that is presently in agricultural production. However, these facilities would be located along the edge of the fields and would not divide an existing community. The No Action Alternative would not physically divide an established community, and therefore, effects of the No Action Alternative are **less than significant**. No mitigation is required.

Proposed Action (Base Plan and Blueprint Scenarios) The Proposed Action would not physically divide an established community as no community is present within the development area and the Proposed Action would not develop the SPA. Off-site infrastructure associated with the Proposed Action would not physically divide an established community as most improvements would occur within existing rights of way. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative, the Proposed Action would result in a **less than significant** effect. No mitigation is required.

Alts. 1 through 5 Alternatives 1 through 5 would not physically divide an established community. Similar to the Proposed Action, all of the alternatives would be developed on undeveloped portions of the project site and would not affect the 150 residences located in the SPA as these residences would remain in place. In addition, most off-site infrastructure improvements associated with the alternatives would occur within existing rights of way. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative and Proposed Action, Alternatives 1 through 5 would result in a **less than significant** effect. No mitigation is required.

Impact LU-3 Conflict with Placer County General Plan

No Action Alt. The No Action Alternative would provide buffers between the project site and adjacent land uses and between uses within the project site. These buffers generally meet the ranges outlined in the General Plan for agricultural and industrial uses. Therefore, no conflict with agricultural and industrial buffer standards contained in the General Plan would result.

Concerning on- and off-site infrastructure, General Plan Policy 4.A.2 requires that the County ensure through the development review process that adequate public facilities and services are available to serve new development. In compliance with County requirements, the No Action Alternative would include a financing plan which describes how backbone infrastructure and public facilities needed to serve new development on the project site would be funded. The financing plan would describe the costs and financing mechanisms that will be used to create these backbone and public facility improvements, including arterial roadways; major sewer, water, storm drainage, and recycled water trunk systems. As a result, added public facilities and services would be provided as required by the General Plan. No conflict with General Plan policies governing the provision of infrastructure would occur.

In summary, no conflict with agricultural and industrial buffer standards contained in the General Plan would result and no conflict with General Plan policies governing the provision of infrastructure would occur. The effect would be **less than significant** and no mitigation is required.

Proposed Action (Base Plan and Blueprint Scenarios) Similar to the No Action Alternative, the Proposed Action provides buffers between the project site and adjacent land uses and between uses within the project site that generally meet the ranges outlined in the General Plan for agricultural and industrial uses. Therefore, no conflict with agricultural and industrial buffer standards contained in the General Plan and open space buffer standards in the Specific Plan would result. In addition, no conflict with General Plan policies governing the provision of on- and off-site infrastructure would occur as the Proposed Action would be required to

undergo development review to ensure that adequate public facilities and services are provided and would include a financing plan detailing how backbone infrastructure and public facilities would be funded. The effect would be **less than significant** and no mitigation is required.

Alts. 1 through 5 Alternatives 1 through 5 differ from the Proposed Action in that they place additional acreage in open space. The alternatives would develop the project site with urban uses and an overall density of development similar to the Proposed Action and preserve additional open space in order to avoid jurisdictional waters. Based on the significance criteria listed above and for the same reasons presented above for the No Action Alternative and Proposed Action – Base Plan scenario, the alternatives individually or combined would not conflict with the Placer County General Plan. The effect would be **less than significant** and no mitigation is required.

Impact LU-4 Conflict with SACOG Blueprint

No Action Alt. The No Action Alternative would develop a mixed-use, mixed-density community that would not be consistent with the SACOG Blueprint designations for the project site and would be a **significant** effect.

The amount of residential and non-residential uses provided under the No Action Alternative would not be consistent with the SACOG Blueprint Designations for the project site as the No Action Alternative would provide fewer homes and less acreage for commercial uses than allocated by the Blueprint. In addition, development of the No Action Alternative would conflict with smart growth principles listed in the SACOG Blueprint and thus result in more substantial environmental impacts than would occur under the SACOG Blueprint. For example, the following impacts have the potential to occur:

- An increase in congestion on regional roadways as well as an increase in air pollution from vehicle exhaust would occur under the No Project Alternative as future development on the project site would be more spread out thus violating the smart growth principle of compact growth.
- Less efficient use of natural resources would occur under the No Project Alternative as greater amounts of land, water and energy would be required to provide a greater number of large-lot, detached single-family homes. In addition, greater potential to impact sensitive species, wetlands, agricultural lands, and cultural and historic resources would occur under the No Action Alternative as development that would have occurred on the project site under the Blueprint would be pushed out into existing open space areas. All of these impacts would conflict with the smart growth principle of natural resources conservation.

In contrast, development of the project site under the SACOG Blueprint would adhere to the growth principle of compact development as development on the project site

would be denser and compactly built thus encouraging more walking, biking, and public-transit use and shorten auto trips. In addition development of the project site under the SACOG Blueprint would adhere to the growth principle of providing transportation choices by concentrating high-density development along the proposed Bus Rapid Transit line on Watt Avenue, thus increasing ridership and reducing vehicle miles traveled and emissions. Denser development under the SACOG Blueprint would also adhere to the smart growth principle of natural resources conservation as this scenario would reduce per capita water consumption due to a decrease in irrigated landscaping associated with large residential lots. However, overall water consumption may go up as the reduction from irrigation may be offset by increased water consumption that would occur with an increase in the density of development. Finally, development under the SACOG Blueprint also offers the potential to preserve habitat and avoid sensitive resources in other parts of the Sacramento region by providing an increased supply of housing on the project site that would preclude providing housing in areas that are currently in agriculture/open space.

In summary, development of the No Action Alternative would not be consistent with the SACOG Blueprint designations for the project site and conflicts with smart growth principles listed in the SACOG Blueprint would result in more substantial environmental impacts. The No Action Alternative would therefore result in a **significant** effect from conflict with the SACOG Blueprint. There is no feasible mitigation available to address this effect.

Proposed Action (Base Plan and Blueprint Scenarios)

The Proposed Action – Base Plan scenario would develop a mixed-use, mixed-density community that would not be consistent with the SACOG Blueprint designations for the project site and would be a **significant** effect. Conflicts with the SACOG Blueprint designations under the Proposed Action – Blueprint scenario would not occur as the scenario is based on those designations.

Similar to the No Action Alternative, the amount of residential and non-residential uses provided by the Proposed Action – Base Plan scenario would not be consistent with the SACOG Blueprint Designations for the project site as the Base Plan scenario would provide fewer homes and less acreage for commercial uses than allocated by the Blueprint.

In summary, development of the Proposed Action – Blueprint scenario would be consistent with the SACOG Blueprint for the project site. While development of the Proposed Action – Base Plan scenario would not conflict with smart growth principles listed in the Blueprint, it would not be consistent with the SACOG Blueprint designations for the project site and would produce substantially fewer dwelling units than the Blueprint scenario. As a result, the Proposed Action – Base Plan scenario would result in a **significant** effect from conflict with the SACOG Blueprint. There is no feasible mitigation available to address this effect.

Alts. 1 through 5

Implementation of Alternatives 1 through 5 individually or combined would construct a project broadly similar to the Proposed Action – Base Plan scenario. Alternatives 1 through 5 combined would develop similar types of land uses at the same density as the Proposed Action under the Base Plan scenario, but with slightly smaller development footprints. However, the number of residential units under Alternative 1 through 5 combined would remain the same as under Proposed Action – Base Plan scenario. As a result, Alternatives 1 through 5 individually or combined would not fulfill the SACOG Blueprint objectives as effectively as they would still provide fewer dwelling units than provided by SACOG Blueprint for the project site. As with the Proposed Action, development of the project site under these alternatives would adhere to some of the smart growth principles of compact development, providing transportation choices, natural resources conservation, and preserving habitat and sensitive resources similar to the Blueprint scenario (see discussion above). However, compared to the Blueprint, less development would be built on the project site under these alternatives thus necessitating the construction of additional units off-site. As a result, Alternatives 1 through 5 would result in a **significant** effect from conflict with the SACOG Blueprint. There is no feasible mitigation available to address this effect

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Impact LU-5 Indirect Effects on Land Use and Planning from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5

The construction and operation of off-site water pipeline infrastructure by the PCWA that would be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5, would result in **less than significant** effect on land use and planning.

The water pipelines would not conflict with neighboring agricultural, rural and urban land uses as construction of these improvements would be temporary and would mostly occur within existing rights of way. Use of agricultural land may be temporarily disturbed during construction. The majority of the proposed infrastructure would be underground and would not disturb any adjacent land uses during or divide existing communities.

As described above for on- and off-site infrastructure that would be built as part of the Proposed Action, General Plan Policy 4.A.2 requires that the County ensure through the development review process that adequate public facilities and services are available to serve new development. The pipelines would be constructed to supply water to projects in the area, including the No Action Alternative, Proposed Action, and Alternatives 1 through 5, as required by the General Plan. There would be no conflict with General Plan policies.

Therefore, the effect on land use and planning from the water pipeline infrastructure project would be **less than significant**. Mitigation is not necessary.

3.11.6 RESIDUAL SIGNIFICANT IMPACTS

There are no feasible mitigation measures available to reduce **significant** effects related to the conflict of the Proposed Action – Base Plan scenario with SACOG Blueprint. This effect would also remain **significant** under the No Action Alternative and all on-site alternatives.

3.11.7 REFERENCES

County of Placer. 1994. "Placer County General Plan."

County of Placer. 1995. "Placer County Zoning Ordinance, Edition #10." July 1995, as amended.

County of Placer. 2006. "Final Environmental Impact Report for the Placer Vineyards Specific Plan." Quad Knopf.

County of Placer. 2007. "Placer Vineyards Specific Plan."

County of Sacramento. 2007. "Final Elverta Specific Plan." http://www.msa2.saccounty.net/planning/Pages/ElvertaSpecificPlan.aspx.

County of Sutter. 2011. "Sutter County General Plan."

3.12 NOISE

3.12.1 INTRODUCTION

This section presents existing noise levels at and surrounding the project site, summarizes relevant regulations and policies, and analyzes the anticipated noise effects from the implementation of the Proposed Action and its alternatives.

Sources of information used in this analysis include:

- Placer Vineyards Specific Plan EIR prepared by Placer County, and
- Placer County General Plan Noise Element.

3.12.2 AFFECTED ENVIRONMENT

3.12.2.1 Characteristics of Environmental Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is amplitude of sound waves combined with the reception characteristics of the ear. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). The human ear does not respond uniformly to sounds at all frequencies, being less sensitive to very low and high frequencies than to medium frequencies that correspond with human speech. The A-weighted noise level (or scale) better corresponds to the human ear's subjective perception of sound levels. This A-weighted sound level is called the "noise level" and is measured in units of dB(A). Changes in noise levels of less than 3 dB(A) are not typically noticed by the human ear (U.S. Department of Transportation 1980). Individuals extremely sensitive to changes in noise may notice changes in noise levels from 3 to 5 dB(A). A 5 dB(A) increase is readily noticeable, while the human ear perceives a 7 dB(A) increase in sound level to be a doubling of sound.

Noise sources are classified into two types: (1) point sources, such as pieces of stationary equipment; and (2) line sources, such as roadways with large numbers of point sources (motor vehicles). Sound generated by a point source typically diminishes (attenuates) at a rate of 6.0 dB(A) for each doubling of distance from the source to the receptor at an acoustically "hard" site (such as paved roads) and 7.5 dB(A) at an acoustically "soft" site (such as grass-covered soil or soft sand) (U.S. Department of Transportation 1980). For example, a 60 dB(A) noise level measured at 50 feet (15.2 meters) from a point source at an acoustically hard site would be 54 dB(A) at 100 feet (30.5 meters) from the source and 48 dB(A) at 200 feet (61 meters) from the source. Sound generated by a line source typically attenuates at a rate of 3.0 dB(A) and 4.5 dB(A) per doubling of distance from the source to the receptor for a hard and soft site, respectively (U.S. Department of Transportation 1980). Sound levels can also be attenuated by man-made or natural barriers. Solid walls, berms, or elevation differences typically reduce noise levels by 5 to 10 dB(A) (U.S. Department of Transportation 1980).

The Equivalent Noise Level (Leq), the day-night sound level (Ldn), and the Community Noise Equivalent Level (CNEL) average varying noise exposures over time and quantify the results in terms of a single number descriptor. Leq is the average A-weighted sound level measured over a given time interval. Leq can be measured over any period, but is typically measured for 1-minute, 15-minute, 1-hour, or 24-hour periods.

Ldn is the energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 PM to 7:00 AM. CNEL is the average A-weighted sound level measured over a 24-hour period and is adjusted to account for increased sensitivity of some individuals to noise levels during the evening and nighttime hours. A CNEL noise measurement is obtained by adding 5 dB(A) to sound levels occurring during the evening from 7:00 PM to 10:00 PM, and 10 dB to sound levels occurring during the nighttime from 10:00 PM to 7:00 AM. The 5 and 10 dB "penalties" are applied to account for peoples' increased sensitivity during the evening and nighttime hours. The logarithmic effect of these additions is that, for example, a 60 dB(A) 24-hour Leq would result in a CNEL of 66.7 dB(A).

In addition to the energy-average level, it is often desirable to know the acoustic range of the noise source being measured. This is accomplished through the maximum Leq (Lmax) and minimum Leq (Lmin) indicators that represent the root-mean-square maximum and minimum noise levels measured during the monitoring interval.

3.12.2.2 Existing Noise Conditions in Project Area

Transportation

Noise levels along all project area roadways, with the exception of 16th Street north of Elverta Road, exceed the Placer County General Plan residential noise standard of 60 dB CNEL in the vicinity of the project area **(Table 3.12-1, Traffic Noise Levels [2005])**. These levels were estimated by Placer County in 2006 based on traffic counts conducted in 2005. A comparison of traffic counts conducted in 2004 and 2009 at several study area intersections was performed by DKS Associates to determine whether the study area traffic had increased since 2005 and therefore the noise levels reported in the table below are no longer representative of existing conditions in the project area. The comparison of the traffic counts showed that overall the traffic decreased in the study area by about 4 percent and with the exception of four locations, traffic volumes in 2009 were lower at all the study area intersections (DKS 2011). Because the decline in traffic ranged between -1 to -20 percent, the decline was not sufficient to appreciably change the noise levels reported in the table below. At the four locations where the traffic was found to have increased between 2004 and 2009, the increase (+2 to +17 percent) was not sufficient to appreciably change the noise levels reported below.

Table 3.12-1
Traffic Noise Levels (2005)

Roadway	Segment	Traffic Noise Level (CNEL dB(A) at 75 feet from road center)
Baseline Road	East of County Line	66
Baseline Road	East of Locust Road	66
Baseline Road	East of Brewer Road	66
Baseline Road	East of Palladay Road	66
Baseline Road	East of 16th Street	67
Baseline Road	East of Tanwood Avenue	67
Baseline Road	East of Watt Avenue	67
Baseline Road	East of Dyer Lane	67
Baseline Road	East of Walerga Road	66
Fiddyment Road	North of Baseline Road	62
Walerga Road	South of Baseline Road	62
Watt Avenue	South of Baseline Road	63
Watt Avenue	South of Dyer Lane	63
PFE Road	East of Watt Avenue	61
PFE Road	East of Walerga Road	63
Elverta Road	East of SR 70/99	63
Elverta Road	East of Rio Linda Boulevard	65
Elverta Road	East of 16th Street	67
Elverta Road	West of Watt Avenue	69
Watt Avenue	North of Elverta Road	67
Watt Avenue	North of Antelope Road	64
Watt Avenue	North of Elkhorn Boulevard	65
Walerga Road	North of Elverta Road	63
Walerga Road	North of Antelope Road	65
Walerga Road	North of Elkhorn Boulevard	69
16th Street	North of Elverta Road	49
Walerga Road	North of PFE Road	65
SR 70/99*	North of Riego Road	70
SR 70/99*	North of Riego Road	71
Riego Road	East of SR 70/99	63

Source: Placer County, 2006.
* *Calculated at 150 feet from road center.*

Aircraft

McClellan Airfield is located approximately 2.5 miles (4 kilometers) south of the project site. The County of Sacramento Department of Economic Developments owns and oversees McClellan Airfield. The airfield is available for both daytime and nighttime use. The airfield could experience 70,000 or more flight operations, defined as a take-off or landing, per year. While McClellan is no longer a military facility, military air traffic, including helicopters and U.S. Coast Guard cargo planes, continue to use the airfield. The other types of flights that may use McClellan are small jets and other general aviation planes. Aviation activity associated with McClellan Airfield has the potential to occur over the project site.

Project Site Ambient Noise Levels

Placer County conducted continuous background noise level measurements on October 12 and 13, 2005, at two locations on the project site to characterize existing ambient noise levels. Site #1 was at 4998 Wallbrook Place, near Baseline and Walerga Roads. Site #2 was at 8382 Locust Road. Noise levels from Site #1 were primarily from Baseline Road traffic. At Site #2, the major source of noise was local traffic. The CNEL at Site #1 was 69.5 dB, and at Site #2 was 60.1 dB.

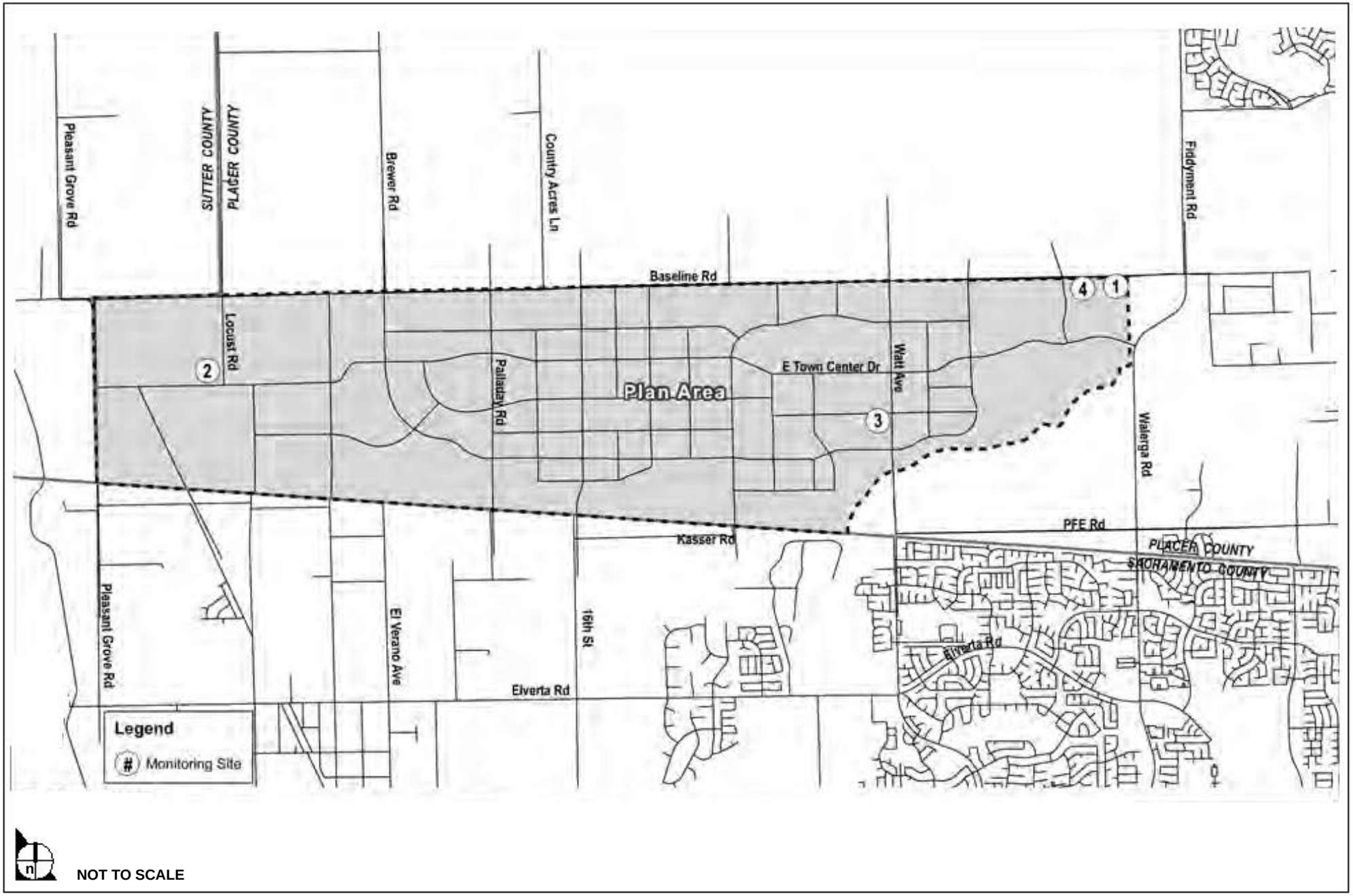
In addition, the County conducted spot checks of measured traffic noise levels versus noise levels predicted by the Federal Highway Administration (FHWA) Model at two locations. Site #3 was adjacent to Watt Avenue near Dyer Lane and Site #4 was adjacent to Baseline Road near Walerga Road. **Figure 3.12-1, Noise Monitoring Sites**, shows the locations of Sites #1 through #4. **Table 3.12-2, Comparison of Measured and Modeled Noise Levels**, compares measured and modeled noise levels at Sites #3 and #4.

Table 3.12-2
Comparison of Measured and Modeled Noise Levels

Location	Date/Time	Measured Leq, dB(A)	Modeled Leq, dB(A)
Site #3 – Watt Avenue near Dyer Lane	10/12/05 – 4:28 PM	65.9	66.1
Site #4 – Baseline Road near Walerga Road	10/13/05 – 4:10 PM	73.7	73.2

Source: Placer County, 2007.

Although the measured and modeled data reported above are from 2005, these noise levels are still generally representative of current noise levels at these locations because as reported earlier, traffic volumes have decreased in the project area in recent years, including Sites #1 through 4. The decrease in traffic volumes has been on the order of -1 to -8 percent at these sites and this decrease in traffic is not substantial enough to appreciably change the measured or modeled noise levels reported above for the project site.



SOURCE: Quad Knopf – 2005

FIGURE **3.12-1**

Noise Monitoring Sites

1090-002•04/13

3.12.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

3.12.3.1 Federal Laws and Regulations

There are no federal laws and regulations related to noise that apply to the Proposed Action.

3.12.3.2 State Laws and Regulations

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB Ldn or CNEL in any habitable room. Title 24 also mandates that for structures containing noise-sensitive uses to be located where the Ldn or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept close, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

3.12.3.3 Local Plans, Policies, and Ordinances

Placer County General Plan

According to the Placer County General Plan, for transportation-related noise sources (e.g., traffic), the acceptable noise level in outdoor activity areas of residences, transient lodging, hospitals, theaters, and churches is 60 dB CNEL or less. The interior noise level standard is 45 dB CNEL. For non-transportation-related noise sources, the exterior noise level standard for residences and office/professional uses is 60 dB CNEL. For transient lodging and neighborhood/general commercial uses, the exterior noise level standards are 65 and 70 dB CNEL, respectively. The interior noise level standard for most land uses is 45 dB CNEL. (Note, all table references that follow in this section refer to tables in the Noise Element of the Placer County General Plan.)

The Placer County General Plan Noise Element includes the following goals and policies related to noise:

Goal 9.A. To protect County residents from the harmful and annoying effects of exposure to excessive noise.

Policy 9.A.1. The County shall not allow development of new noise-sensitive uses where the noise level due to non-transportation noise sources will exceed the noise level standards of Table 9-1 as measured immediately within the property line of the new development, unless effective noise mitigation measures have been incorporated into the development design to achieve the standards specified in Table 9-1.

Policy 9.A.2. The County shall require that noise created by new non-transportation noise sources be mitigated so as not to exceed the noise level standards of Table 9-1 as measured immediately within the property line of lands designated for noise-sensitive uses.

Policy 9.A.3. The County shall continue to enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) and Chapter 35 of the Uniform Building Code (UBC).

Policy 9.A.5. Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table 9-1 at existing or planned noise-sensitive uses, the County shall require submission of an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design. The requirements for the content of an acoustical analysis are listed in Table 9-2.

Policy 9.A.6. The feasibility of proposed projects with respect to existing and future transportation noise levels shall be evaluated by comparison to Figure 9-1.

Policy 9.A.8. New development of noise-sensitive land uses shall not be permitted in areas exposed to existing or projected levels of noise from transportation noise sources, including airports, which exceed the levels specified in Table 9-3, unless the project design includes effective mitigation measures to reduce noise in outdoor activity areas and interior spaces to the levels specified in Table 9-3.

Policy 9.A.9. Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in Table 9-3 at outdoor activity areas or interior spaces of existing noise-sensitive land uses.

Policy 9.A.10. Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 9-3 or the performance standards of Table 9-1, the County shall require submission of an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design. At the discretion of the County, the requirement for an acoustical analysis may be waived provided that all of the following conditions are satisfied:

a. The development is for less than five single-family dwellings or less than 10,000 square feet (929 square meters) of total gross floor area for office buildings, churches, or meeting halls;

b. The noise source in question consists of a single roadway or railroad for which up-to-date noise exposure information is available. An acoustical analysis will be required when the noise source in question is a stationary noise source or airport, or when the noise source consists of multiple transportation noise sources;

c. The existing or projected future noise exposure at the exterior of buildings which will contain noise-sensitive uses or within proposed outdoor activity areas (other than outdoor sports and recreation areas) does not exceed 65 dB DNL prior to mitigation. For outdoor sports and recreation areas, the existing or projected future noise exposure may not exceed 75 dB DNL prior to mitigation;

d. The topography in the project area is essentially flat; that is, noise source and receiving land use are at the same grade; and

e. Effective noise mitigation, as determined by the County, is incorporated into the project design to reduce noise exposure to the levels specified in Table 9-1 or 9-3.

Such measures may include the use of building setbacks, building orientation, noise barriers, and the standard noise mitigations contained in the Placer County Acoustical Design Manual. If closed windows are required for compliance with interior noise level standards, air conditioning or a mechanical ventilation system will be required.

Policy 9.A.11. The County shall implement one or more of the following mitigation measures where existing noise levels significantly impact existing noise-sensitive land uses, or where the cumulative increase in noise levels resulting from new development significantly impacts noise-sensitive land uses:

a. Rerouting traffic onto streets that have available traffic capacity and that do not adjoin noise-sensitive land uses;

b. Lowering speed limits, if feasible and practical;

c. Programs to pay for noise mitigation such as low cost loans to owners of noise-impacted property or establishment of developer fees;

d. Acoustical treatment of buildings; or

e. Construction of noise barriers.

Policy 9.A.12. Where noise mitigation measures are required to achieve the standards of Tables 9-1 and 9-3, the emphasis of such measures shall be placed upon site planning and project design.

The use of noise barriers shall be considered as a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.

Goal 9.B. To ensure that areas designated for industrial uses pursuant to Goal 1.E. and Policy 1.E.1. are protected from encroachment by noise-sensitive land uses.

Policy 9.B.1. The County shall require that new noise-sensitive land uses established next to existing industrial areas be responsible for self-mitigating noise impacts from industrial activities.

Policy 9.B.2. The County shall apply noise standards in a manner consistent with encouraging the retention, expansion, and development of new businesses pursuant to Goal 1.N. and Policy 1.N.2.

Policy 9.B.3. Because many industrial activities and processes necessarily produce noise which will likely be objectionable to nearby non-industrial land uses, existing and potential future industrial noise emissions shall be accommodated in all land use decisions.

Policy 9.B.4. Whenever noise exposure standards herein fall subject to interpretation relative to industrial activities, the benefit of the doubt shall be afforded to the industrial use.

3.12.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.12.4.1 Significance Thresholds

The National Environmental Policy Act (NEPA) does not specify significance thresholds that may be used to evaluate the effects of a proposed action on the noise environment. However, Council on Environmental Quality (CEQ) guidance requires an evaluation of a proposed action's effect on the human environment. The U.S. Army Corps of Engineers (USACE) has determined that the Proposed Action or its alternatives would result in significant adverse effects related to noise if the Proposed Action or an alternative would:

- Expose persons to or generate noise levels in excess of standards established in the Placer County Noise Ordinance or the Noise Element of the Placer County General Plan.
- Expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. (Because a noise increase of 3 decibels is generally regarded as the minimum perceptible increase, a substantial increase is defined by the USACE in this EIS as an increase of 3 decibels or more.)
- Be located in the vicinity of a public airport or private airstrip and expose people residing or working in the project area to excessive noise levels.

3.12.4.2 Analysis Methodology

The construction noise analysis uses data compiled for various pieces of construction equipment at a representative distance of 50 feet (15.2 meters), which is representative of the minimum likely distance from a residential receptor. **Table 3.12-3 Typical Construction Equipment Noise** presents maximum noise levels produced by commonly used construction equipment at 50 feet (15.2 meters) from source.

Table 3.12-3
Typical Construction Equipment Noise

Type of Equipment	Maximum Level (dB at 50 feet)
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

Source: Federal Highway Administration, FHWA-HEP-05-054, January 2006.

The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to estimate projected noise levels due to project-related traffic. The model is based on the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model predicts hourly Leq values for free-flowing traffic conditions. To predict traffic noise levels in terms of CNEL, it is necessary to adjust the input volume to account for the day/night distribution of traffic. Inputs to the FHWA model included average daily traffic volumes and truck usage, and vehicle speeds on the local area roadways. The predicted increases in traffic noise levels on the local roadway network for baseline and future with project conditions are presented in terms of CNEL at a standard distance of 100 feet (30.5 meters) from the centerline of the roadway.

Aviation noise is addressed through a review of adopted airport land use compatibility policies and noise contours.

3.12.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact NOISE-1 Construction Noise and Vibration

No Action Construction activities would generate noise levels that would result in a **significant** effect on existing residences adjacent to and on the project site as well as potential future residents

Alt. of other developments that may be implemented before construction commences on the project site. With mitigation, the potential significant effect would be **less than significant**.

Construction activities associated with the No Action Alternative would occur over a number of years, with portions of the area being developed in phases. The exact timing and duration of these phases would be determined by market conditions and other factors that are unpredictable over the course of development. The estimated period in which buildout of the No Action Alternative, if approved by Placer County, would occur is from 2013 through 2030 or 2040. Depending on conditions, construction may be delayed or reduced so that the year of full buildout could be well past that year.

On-site construction activities could expose existing residences to the southeast of the project site, as well as existing residences south of Baseline Road to construction noise. If the proposed Sierra Vista Specific Plan is approved and developed prior to the commencement of construction on the project site, the construction of the No Action Alternative adjacent to Baseline Road would expose those residents to construction noise. In addition, because construction would occur in phases, some on-site residential uses built during the early phases of the development would be exposed to noise generated during the construction of latter phases of development. Improvements to existing roadways such as Baseline Road and Watt Avenue would also expose residents in those areas to construction noise. Maximum noise levels typical of construction equipment, as indicated in **Table 3.12-6,** range from 84 to 89 dB at a distance of 50 feet (15.2 meters) from the noise source. No pile driving or other unusual construction practices are proposed. Noise would also be generated during the construction phase by increased truck traffic on area roadways, particularly trucks transporting heavy materials and equipment to and from construction sites. Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours. However, should construction be undertaken during nighttime hours, construction noise could result in annoyance or sleep disruption for nearby residents, or if equipment is not properly muffled or maintained, the noise levels could affect nearby residents. This would be a **potentially significant** effect.

PVSP EIR Mitigation Measure 4.9-3 would address this significant effect. This mitigation measure requires that the hours of operation of noise-producing equipment comply with Placer County's Standard Construction Noise Condition of Approval. The Placer County Environmental Health Services "Standard Construction Noise Conditions of Approval" (EH-15) restricts construction activities to the hours of 6:00 AM to 8:00 PM. Monday through Friday during daylight savings time, 7:00 AM to 8:00 PM Monday through Friday during standard time, and 8:00 AM to 6:00 PM Saturdays, with construction prohibited on Sundays and federal holidays. The mitigation measure also requires that effective mufflers are fitted to gas- and diesel- powered equipment to reduce noise levels as much as possible. The USACE assumes that Placer County would impose this mitigation measure on the No Action Alternative to address this effect. The County concluded that **PVSP EIR Mitigation**

Measure 4.9-3 would fully mitigate construction noise and vibration impacts of the Proposed Action to **less than significant**. The USACE finds that the effect of the No Action Alternative would be **less than significant** with mitigation.

Proposed Action (Base Plan and Blueprint Scenarios)

The Proposed Action under both scenarios would construct a project with similar land use mixes as the No Action Alternative. The distance to sensitive receptors would be similar and significant noise effects would result from project construction. The effect would be minimized by implementation of **PVSP EIR Mitigation Measure 4.9-3**, which was adopted by Placer County at the time of the approval of the PVSP (Base Plan). The USACE assumes that Placer County would impose the same mitigation measure on the Proposed Action Blueprint scenario (or any level of development under the Proposed Action) to address this effect. Placer County concluded that with this mitigation measure, the effects will be reduced to a less than significant level. The USACE also finds that the construction noise effect would be reduced to **less than significant** with mitigation.

Alts. 1 through 5

All of the alternatives would construct a project with similar land use mixes as the Propose Action. The distance to sensitive receptors would be similar and significant noise effects would result from construction activities. **PVSP EIR Mitigation Measure 4.9-3** would address this effect. The USACE assumes that Placer County would impose the same mitigation measure on Alternatives 1 through 5 (individually or combined) to address this effect. The mitigation measure described above would fully mitigate the effect to a **less than significant** level.

PVSP EIR Mitigation Measure 4.9-3: Construction Noise Reduction
(*Applicability – No Action, Proposed Action and All Alternatives)*

PVSP EIR Mitigation Measure 4.9-3 *requires that the hours of operation of noise-producing equipment comply with Placer County's Standard Construction Noise Condition of Approval and that effective mufflers be fitted to gas- and diesel-powered equipment to reduce noise levels as much as possible. The full text of the mitigation measure is presented in* ***Appendix 3.0****.*

Impact NOISE-2 Noise from Project Operations

No Action Alt.

The occupancy and operation of the No Action Alternative would generate noise levels that could adversely affect existing residences adjacent to and on the project site, potential future residents of other developments that may be implemented adjacent to the site, as well as future residents of the project site. However, the effect would be **less than significant** with mitigation.

Within the project site, commercial uses would be located adjacent to residential uses. Noise sources commonly associated with commercial/business park property and other stationary or area activity include air conditioning units, trash compactors, fans, compressors, heavy equipment operation, and truck deliveries. In addition, schools and public parks can cause excessive noise generated by the presence of playgrounds, public gatherings, alarms, and bells. These sources could generate noise levels that may exceed noise standards in the Placer County Noise Ordinance or the Noise Element at nearby residences. No specific site designs are proposed for commercial uses at this time; therefore, noise levels cannot be estimated with any specificity. Depending on the specific noise sources associated with the use and their proximity to noise-sensitive uses, the effect could be **potentially significant**.

PVSP EIR Mitigation Measure 4.9-2 would address this effect. The USACE assumes that Placer County would impose the same mitigation measure on the No Action Alternative. The mitigation measure requires that proposed specific uses shall be reviewed for their potential to produce significant noise impacts. Noise control measures shall be applied to assure that new stationary sources shall not exceed adopted noise standards. The County determined that **PVSP EIR Mitigation Measure 4.9-2** would fully mitigate noise from project operations to **less than significant**. The USACE also finds that the impact would be **less than significant** after mitigation.

Fire stations typically generate loud, intermittent noise from sirens and public address systems. These types of noise would be limited to emergency response and possible training and maintenance activities. Section 9.36.030 (6) of the Placer County Code states that "emergencies, involving the execution of the duties…providing emergency response to the general public, including but not limited to…emergency personnel…and the operation of emergency response vehicles and equipment" are exempt. Because these noise effects are generally infrequent and are exempt from the County Code, effects from fire station noise would be minor. Wastewater treatment plants and sewer lift stations generate some noise during operations, typically from fans, pumps, and odor scrubbers. Although the location of equipment to be added to the Dry Creek Wastewater Treatment Plant (DCWWTP) site is unknown, the Roseville Regional Wastewater Treatment Service Area Master Plan EIR (1996) determined that the nearest sensitive receptor to noise generating equipment was approximately 500 feet (152.4 meters). With the type of equipment used at the DCWWTP, noise would be about 44 dB CNEL at the nearest sensitive receptor with a threshold of 60 dB

CNEL (Placer County 2006). Therefore, the effect of noise from the operation of the DCWWTP on nearby sensitive receptors would be **less than significant**.

Proposed Action (Base Plan and Blueprint Scenarios)

The Proposed Action under both scenarios would construct a larger mixed use residential community project compared to the No Action Alternative and would include more noise sources (more areas with commercial uses, one high school, two middle schools, and six elementary schools adjacent to residential uses, more community and neighborhood parks, and two fire stations) than described above for the No Action Alternative. No specific site designs are proposed for on-site activities at this time; therefore, noise levels cannot be estimated with any specificity and the effectiveness of specific mitigation cannot be determined at this time.

However, the Proposed Action would be required to implement **PVSP EIR Mitigation Measure 4.9-2**, which was adopted by Placer County at the time of the approval of the Placer Vineyards Specific Plan (PVSP) (Base Plan). The USACE assumes that Placer County would impose the same mitigation measure on the Proposed Action Blueprint scenario (or any level of development under the Proposed Action) to address this effect. Placer County concluded that with this mitigation measure, the effects will be reduced to a less than significant level. The USACE also finds that the operational noise effect would be reduced to **less than significant** with mitigation.

Alts. 1 through 5

Alternatives 1 through 5 (individually or combined) would construct a project broadly similar to the Proposed Action and would include all of the noise sources described above for the Proposed Action (commercial uses, one high school, two middle schools, and six elementary schools adjacent to residential uses, community and neighborhood parks, and two fire stations). As with the Proposed Action, no specific site designs are proposed for on-site activities at this time; therefore, noise levels cannot be estimated with any specificity and the effectiveness of specific mitigation cannot be determined at this time.

However, **PVSP EIR Mitigation Measure 4.9-2** would address this effect. The USACE assumes that Placer County would impose the same mitigation measure on Alternatives 1 through 5 (individually or combined) to address this effect. The mitigation measure would fully mitigate the effect to a **less than significant** level.

PVSP EIR Mitigation Measure 4.9-2: Commercial Noise Controls
(Applicability – No Action, Proposed Action and All Alternatives)

PVSP EIR Mitigation Measure 4.9-2 *requires that proposed specific uses shall be reviewed for their potential to produce significant noise impacts. Noise control measures shall be applied to assure that new stationary sources shall not exceed adopted noise standards. The full text of the mitigation measure text is presented in* ***Appendix 3.0****.*

Impact NOISE-3 Increase in Traffic Noise at Buildout (Year 2025)

No Action Alt.

The No Action Alternative would result in **less than significant** effect related to traffic noise.

Exterior Noise Levels with Project Traffic

The No Action Alternative would be built out over time and 2025 is the earliest year by which build out could occur and produce the highest traffic levels. Traffic noise was not separately modeled for the No Action Alternative. However, as shown in **Table 3.12-4, Year 2025 Traffic Noise Levels**, traffic noise levels in 2025 under the Proposed Action are projected to result in a significant impact at only one location. The No Action Alternative would produce substantially less traffic than the Proposed Project which would result in a traffic noise increase less than 3 decibels. The effect would be **less than significant**.

Interior Noise Levels with Project Traffic

Traffic from the No Action Alternative would have a **less than significant** effect on interior noise levels under 2025 conditions. The Placer County interior noise level standard is 45 dB CNEL. It is generally understood that new construction practices consistent with the California Building Code (CBC) would result in an exterior to interior noise reduction of 25 to 30 dB CNEL. If this reduction is applied, traffic noise from the No Action Alternative would not exceed 45 dB CNEL in interior spaces either on- or off-site.

Proposed Action (Base Plan and Blueprint Scenarios)

The Proposed Action under both scenarios would result in a **significant** effect from traffic-related noise at off-site sensitive receptors. With mitigation, this effect would be reduced to a **less than significant** effect.

Exterior Noise Levels with Project Traffic

The analysis of traffic noise from the Proposed Action under both the Base Plan and Blueprint assumes a build out year of 2025. As shown in **Table 3.12-4, Year 2025 Traffic Noise Levels**, traffic noise levels in 2025 are projected to exceed the County's General Plan noise standard of 60 dB CNEL on 14 roadway segments in the vicinity, with or without the traffic added by the Proposed Action. Along one roadway segment, traffic noise would decrease by 1 dB CNEL with the implementation of the Proposed Action, but the change would not be perceptible. The traffic added by the Proposed Action would increase noise levels by 1 to 3 dB CNEL along three roadway segments under 2025 conditions. The 3 dB CNEL increase along 16th Street north of Elverta Road would represent a **significant** effect.

PVSP EIR Mitigation Measure 4.9-4 would address this effect. This measure was adopted by Placer County at the time of the approval of the PVSP (Base Plan). The USACE assumes that Placer County would impose the same mitigation measure on the Proposed Action Blueprint scenario (or any level of development under the Proposed Action) to address this effect. Placer County concluded that with this mitigation measure, the effect will be reduced

to a less than significant level. The USACE also finds that the traffic noise effect would be reduced to **less than significant** with mitigation.

Table 3.12-4
Year 2025 Traffic Noise Levels

Roadway	Segment	Traffic Noise Levels (CNEL dB(A) at 75 feet from road center)		
		2025 Background	2025 Background + Project	Change
Baseline Road	East of County Line	72	73	1
Fiddyment Road	North of Baseline Road	67	67	0
PFE Road	East of Walerga Road	67	67	0
Elverta Road	East of SR 70/99	70	71	1
Elverta Road	East of Rio Linda Boulevard	72	71	-1
Elverta Road	East of 16th Street	70	70	0
Watt Avenue	North of Elverta Road	72	72	0
Watt Avenue	North of Antelope Road	67	67	0
Watt Avenue	North of Elkhorn Boulevard	68	68	0
Walerga Road	North of Elverta Road	66	66	0
Walerga Road	North of Antelope Road	66	66	0
Walerga Road	North of Elkhorn Boulevard	70	70	0
16th Street	North of Elverta Road	64	67	3
Walerga Road	North of PFE Road	70	70	0

Source: Placer County, 2006.

Interior Noise Levels with Project Traffic

Traffic from the Proposed Action would have a **less than significant** effect on interior noise levels under 2025 conditions. The Placer County interior noise level standard is 45 dB CNEL. Generally, new construction practices consistent with the CBC would result in an exterior to interior noise reduction of 25 to 30 dB CNEL. If this reduction is applied, then traffic noise from the Proposed Action would not exceed 45 dB CNEL in interior spaces either on- or off-site.

Alts. 1 through 5

All of the alternatives (individually or combined) would construct a project broadly similar to the Proposed Action. As discussed in **Section 3.14, Transportation and Traffic**, Alternatives 1 through 5 would result in a similar trip generation as the Proposed Action. The trip distribution on project area roadways would be similar to the Proposed Action and therefore, the traffic would result in a **significant** noise effect.

PVSP EIR Mitigation Measure 4.9-4 would address this effect. The USACE assumes that Placer County would impose the same mitigation measure on Alternatives 1 through 5 (individually or combined) to address this effect. As described above, the mitigation measure would fully mitigate the effect to **less than significant**.

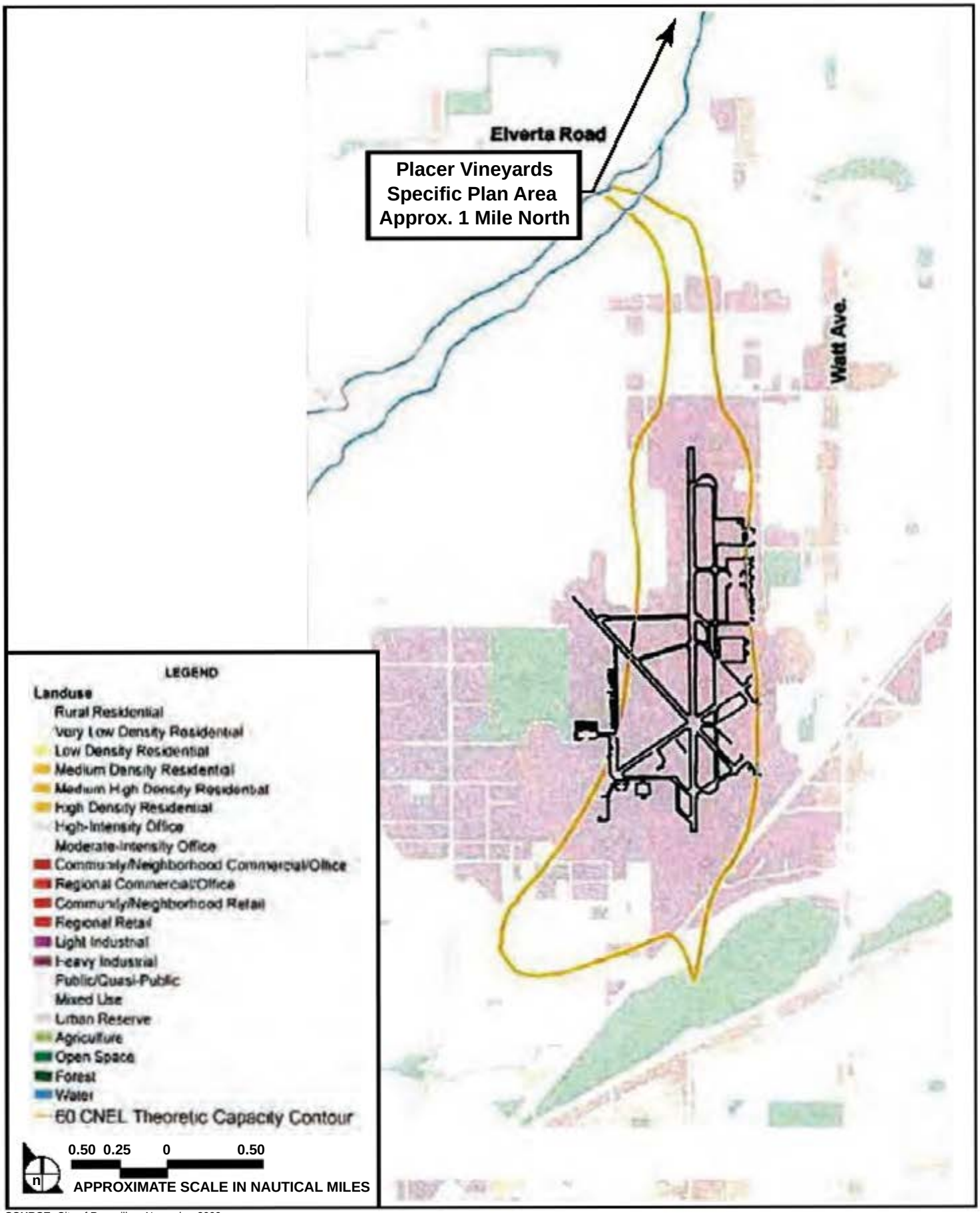
PVSP EIR Mitigation Measure 4.9-4: Traffic Noise Attenuation
(*Applicability – No Action, Proposed Action and All Alternatives)*

PVSP EIR Mitigation Measure 4.9-4 *requires site-specific acoustical analyses to determined setbacks and traffic noise abatement measures to reduce traffic noise. The full mitigation measure text is presented in* ***Appendix 3.0****.*

Impact NOISE-4 Aviation Noise

No Action Alt., Proposed Action, and Alts. 1 through 5

The impact from aircraft noise on future residents would be **less than significant.** McClellan Airport's most recent Airport Land Use Compatibility Plan (formerly known as Comprehensive Land Use Plans) was updated in 1987 when McClellan was still operated as an Air Force Base. The manner in which the airport is now operated is significantly different than when it was operated as an Air Force Base and the fleet utilizing the facility is also significantly different. These changes have resulted in a smaller area exposed to high levels of aircraft noise and a smaller area required for aircraft safety zones. As shown on **Figure 3.12-2, Full Capacity Noise Contour for McClellan Airport**, the 60 dB CNEL noise contour at full capacity is located south of Elverta Road. Therefore, exterior noise levels from aircraft operations are not predicted to exceed the Placer County 60 dB CNEL exterior noise level standard on the project site. Additionally, noise levels from aircraft operations are not predicted to exceed the City's interior standard of 45 dB CNEL on the project site. The No Action Alternative, Proposed Action, and Alternatives 1 through 5, would not expose future residents to excessive aircraft noise. This would be a **less than significant** effect.



SOURCE: City of Roseville – November 2009

FIGURE **3.12-2**

Full Capacity Noise Contour for McClellan Airport

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Impact NOISE-5 Indirect Effects on Noise from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5

The construction of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which would be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5, would result in **less than significant** effects to noise with mitigation. The water infrastructure would be primarily underground pipelines which would not disturb nearby noise sensitive land uses. Therefore, operational impacts would not be significant.

Construction of the proposed water pipelines would no use pile driving or other unusual construction practices which would result in higher noise levels. Increased truck traffic along area roadways would generate noise during construction. As analyzed in the PVSP Second Partially Recirculated RDEIR dated March 2007, construction activities would be temporary and generally occur during normal daytime working hours. However, should construction be undertaken during nighttime hours, construction noise could result in annoyance or sleep disruption for nearby residents, or if equipment is not properly muffled or maintained, the noise levels could affect nearby residents. This would be a potentially significant effect.

As stated in the PVSP EIR, the infrastructure project would comply with the Placer County Noise Element standards and the Placer County Noise Ordinance. Placer County also identified **PVSP EIR Mitigation Measure 4.9-3** to reduce the effect to less than significant. However, in the California Environmental Quality Act (CEQA) Findings of Fact and Statement of Overriding Considerations for the PVSP EIR, the County acknowledged that it did not have the authority to impose these mitigation measures on Placer County Water Agency's (PCWA's) project and the impact would remain significant. USACE concurs with the County that if the PCWA imposes these or similar mitigation measures on the infrastructure project, the noise effects would be less than significant. However, USACE also does not have the authority to impose mitigation measures on a project that would be built by the PCWA and finds that the effects would remain **significant**.

3.12.6 RESIDUAL SIGNIFICANT IMPACTS

All effects associated with noise would be mitigated to less than significant. Therefore, there would be no residual significant impacts for the Proposed Action and any of the alternatives.

3.12.7 REFERENCES

DKS Associates. 2011. Memorandum: Placer Vineyards EIS Traffic Counts.

Placer County. 2006. "Placer Vineyards Specific Plan Final Environmental Impact Report" (State Clearinghouse No. 1999062020).

Federal Highway Administration (FHWA). 2006. "FHWA Roadway Construction Noise Model User's Guide."

Placer County. 1994. "Placer County General Plan Update, Noise Element."

3.13 PUBLIC SERVICES

3.13.1 INTRODUCTION

This section describes the existing public services that serve the project site and its vicinity and potential effects to these services from the implementation of the Proposed Action or alternatives. The public services addressed in this section include law enforcement, fire protection, schools, and libraries. Regulations and policies affecting the public services in the project area are also described.

Sources of information used in this analysis include:

- Placer Vineyards Specific Plan EIR prepared by Placer County
- Placer County General Plan

3.13.2 AFFECTED ENVIRONMENT

3.13.2.1 Proposed Action and Alternatives

Law Enforcement Services

The Placer County Sheriff's Department provides general law enforcement services to the project site. The Sheriff's substation located nearest the project site is the South Placer Substation in Loomis at the intersection of Horseshoe Bar Road and Interstate 80, approximately 12 miles (19.3 kilometers) from the project site. The substation serves western Placer County south of Newcastle. There are currently 50 sworn officers assigned to this substation, as well as numerous volunteers and administrative staff (Placer County 2010).

Fire Protection Services

Fire protection services for the project site are provided by the California Department of Forestry and Fire Protection (CDF) through a contract with the Placer County Office of Emergency Services and by the Sacramento Metropolitan Fire District (SMFD). CDF provides fire protection for 83 percent of the Specific Plan area, and the remaining area on the west side of the Specific Plan area (Riego area) is served by SMFD. Placer County has mutual aid agreements with the Pleasant Grove Fire Protection District and the Roseville Fire Department, and is under an interim mutual aid agreement with the Sacramento Metropolitan Fire District (Placer County 2006).

The Dry Creek fire station serves most of the project site, and is located at 8350 Cook Riolo Road, approximately 3 miles (4.8 kilometers) east of the eastern boundary of the project site. Response times from this station vary from seven to 8 minutes. The Dry Creek fire station has two CDF contracted firefighters on duty on a 24-hour basis and 20 on-call volunteers (Placer County 2006). CDF provides structural and wildland fire protection, dispatch services, fire inspections, first response emergency medical services, disaster response, all hazards response, inspections and development review.

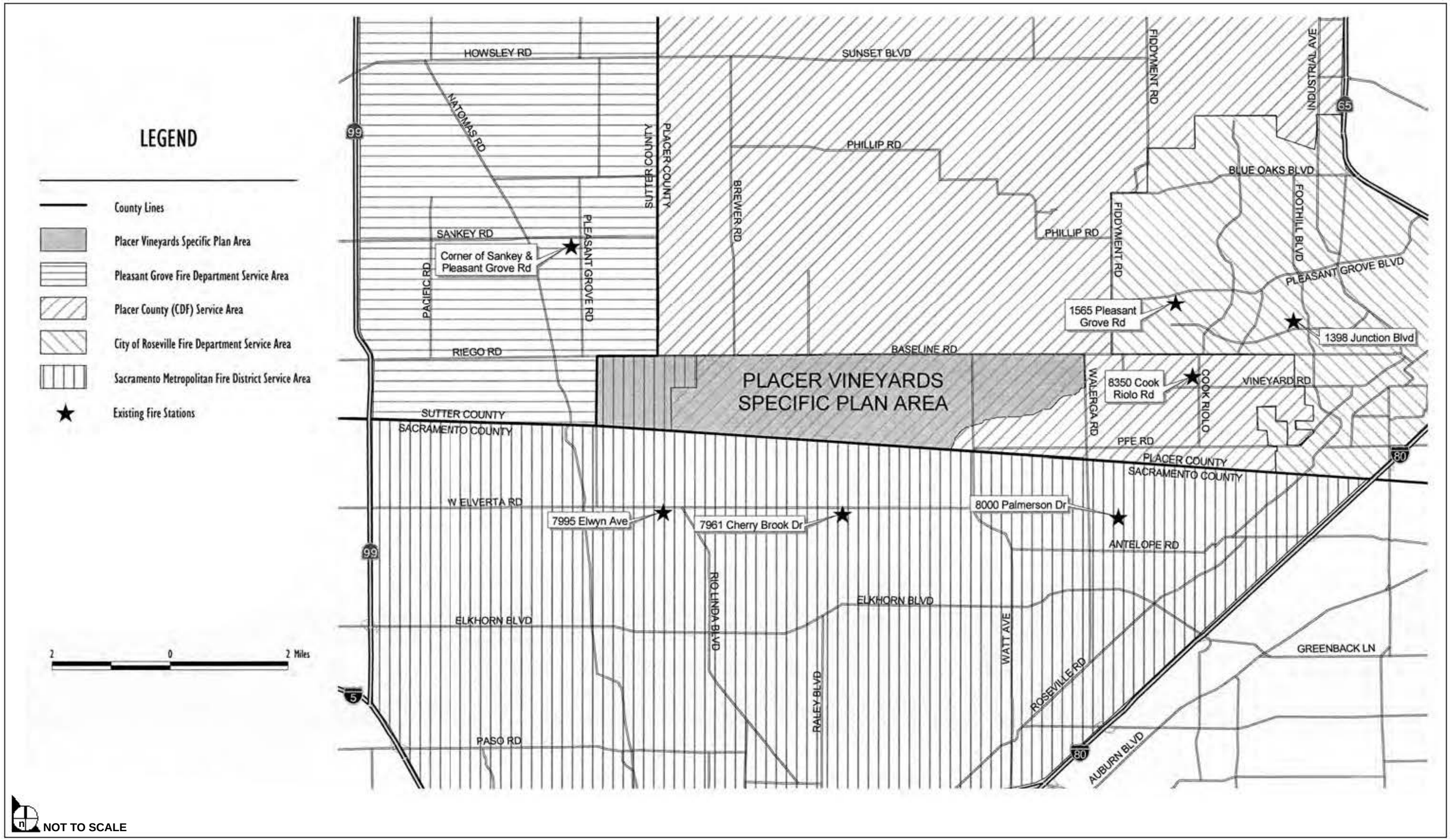
SMFD has four existing fire stations (Stations 116, 117, 25 and 26) that would provide services to the portion of the project site within its jurisdiction and to the remainder on a mutual aid basis. These fire stations are located in Sacramento County as shown in **Figure 3.13-1, Fire Station Locations**.

Schools

The eastern three-quarters of the project site fall within the boundary of the Center Joint Unified School District (CJUSD). The Elverta Joint Elementary School District (EJESD) and Grant Joint Union High School District (GJUHSD) have a common boundary that encompasses the western quarter of the project site. The boundaries of these school districts are shown in **Figure 3.13-2, School District Boundaries**. The CJUSD provides elementary, intermediate, and high school facilities that serve portions of Placer County, including the project site. CJUSD is a relatively small school district, located at the northern edge of Sacramento County, and southern edge of Placer County. The district is composed of two high schools (Center High School and McClellan High School), one middle School (Wilson Riles Middle School), four elementary schools (North Country Elementary, Oak Hill Elementary, Spinelli Elementary, and Dudley Elementary), and two charter schools (Antelope View and Global Youth). The EJESD is located west of the CJUSD and has two schools: Elverta Joint Elementary School and Alpha Technology Middle School. The GJUHSD has 15 middle, high, and alternative schools (Placer County 2006).

Libraries

Library services for the project site are provided by the Auburn-Placer County Library District. This system of libraries serves all of Placer County, with the exception of the Cities of Roseville and Lincoln, which own and operate their own municipal library systems. The Auburn-Placer County Library District operates a main branch in the City of Auburn, a law library, nine branch libraries, and a bookmobile that serves many areas throughout rural Placer County. The nearest branch library to the project site is located in the City of Rocklin at 5460 5th Street, approximately 8 miles (12.9 kilometers) to the northeast. The City of Roseville operates a library at 1501 Pleasant Grove Boulevard, approximately 4 miles (6.4 kilometers) to the northeast.



SOURCE: Quad Knopf – 2002

FIGURE **3.13-1**

Fire Station Locations

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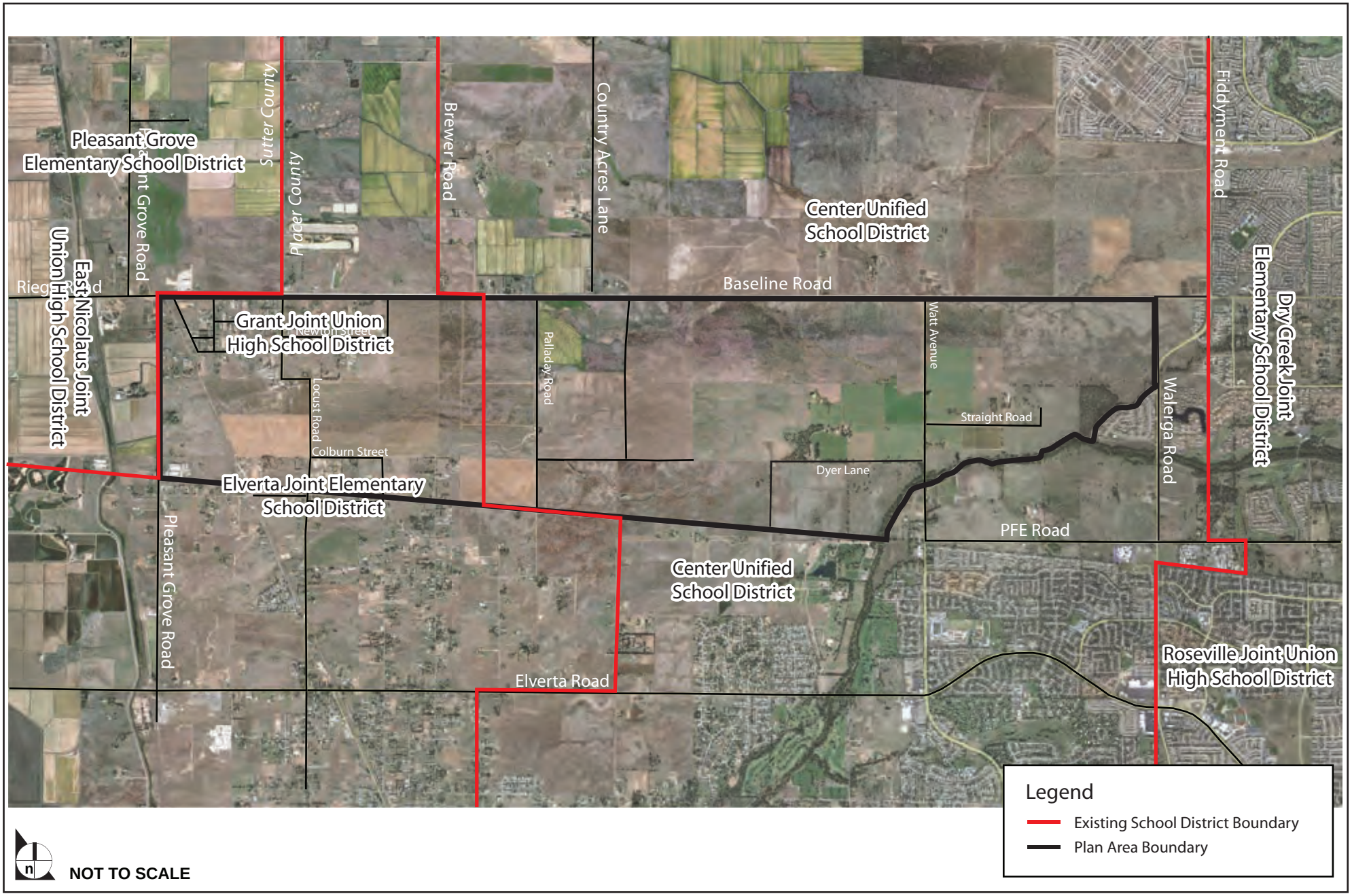

SOURCE: Quad Knopf – February 2005

FIGURE **3.13-2**

School District Boundaries

1090-002•10/12

3.13.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

3.13.3.1 Federal Laws and Regulations

There are no federal regulations pertaining to the provision of law enforcement services, fire protection services, schools, or libraries.

3.13.3.2 State Laws and Regulations

Senate Bill 50

The Leroy F. Greene School Facilities Act of 1998, or Senate Bill 50 (SB 50) (Government Code Section 65995), restricts the ability of a local agency to deny project approvals on the basis that public school facilities (classrooms, auditoriums, etc.) are inadequate. School impact fees are collected at the time building permits are issued. These fees are used by the local schools to accommodate the new students added by the project, thereby reducing potential impacts on schools. Payment of school fees is required by SB 50 for all new residential development projects and is considered full and complete mitigation of school impacts under state law.

The law does identify certain circumstances under which the statutory fee can be exceeded. These include preparation and adoption of a "needs analysis," eligibility for state funding, and other provisions. Assuming a district can meet the test for exceeding the statutory fee, the law establishes ultimate fee caps of 50 percent of costs where the state makes a 50 percent match, or 100 percent of costs where the state match is unavailable. All fees are levied at the time the building permit is issued. District certification of payment of the applicable fee is required before the City or County can issue a building permit.

3.13.3.3 Local Plans and Policies

Placer County General Plan

The following goals and policies from the Placer County General Plan are applicable to the Proposed Action.

Table 3.13-1
Relevant Placer County General Plan Goals and Policies

Goals	Policies
Law Enforcement Service	
4.H: To provide adequate sheriff's services to deter crime and to meet the growing demand for services associated with increasing population and commercial/industrial development in the county.	**1:** Within the County's overall budgetary constraints, the County shall strive to maintain the following staffing ratios (expressed as the ratio of officers to population): a. 1: 1,000 for unincorporated areas b. 1: 7 for jail population c. 1: 16,000 total county population for court and civil officers **2:** The County Sheriff shall strive to maintain the following average response times for emergency calls for service: a. 6 minutes in urban areas b. 8 minutes in suburban areas c. 15 minutes in rural areas d. 20 minutes in remote rural areas **3:** Within the County's overall budgetary constraints, the County shall provide sheriff facilities (including substation space, patrol, and other vehicles, necessary equipment, and support personnel) sufficient to maintain the above service standards. **4:** The County shall require new development to develop or fund sheriff facilities that, at a minimum, maintain the above standards. **5:** The County shall consider public safety issues in all aspects of commercial and residential project design, including crime prevention through environmental design.
Fire Protection Service	
4.1: To protect residents of and visitors to Placer County from injury and loss of life and to protect property and watershed resources from fires.	**1:** The County shall encourage local fire protection agencies in Placer County to maintain the following minimum fire protection standards (expressed as Insurance Service Organization (ISO) ratings): a. ISO 4 in urban areas b. ISO 6 in suburban areas c. ISO 8 in rural areas **2:** The County shall encourage local fire protection agencies in the county to maintain the following standards (expressed as average response times to emergency calls): a. 4 minutes in urban areas b. 6 minutes in suburban areas c. 10 minutes in rural areas **3:** The County shall require new development to develop or fund fire protection facilities, personnel, and operations and maintenance that, at a minimum maintains the above service level standards. **9:** The County shall ensure that all proposed developments are reviewed for compliance with fire safety standards by responsible local fire agencies per the Uniform Fire Code and other County and local ordinances. **11:** The County shall encourage local fire protection agencies to provide and maintain advanced levels of emergency medical services (EMS) to the public.

Goals	Policies
Schools	
4.J: To provide for the educational needs of Placer County residents.	**5:** The County should plan and approve residential uses in those areas that are most accessible to school sites in order to enhance neighborhoods, minimize transportation requirements and costs, and minimize safety problems. **6:** The County should include schools among those public facilities and services that are considered an essential part of the infrastructure that should be in place as development occurs. **7:** The County shall consider school district plans in establishing acceptable levels of service for schools, determining school location and land and facility needs, and determining appropriate financing methods. The County should designate existing and future school sites in community plans and specific plans to accommodate school district needs. **8:** The County shall encourage school facility siting that establishes schools as focal points within the neighborhood and community. **9:** The County shall encourage the location of schools in areas with safe pedestrian and bicycle access. **10:** The provision of adequate school facilities is a community priority. The County and school districts will work closely to secure adequate funding for new school facilities and, where legally feasible, the County shall provide a mechanism which, along with state and local sources, requires development projects to satisfy an individual school district's financing program based upon their impaction. **11:** The County and residential developers should coordinate with the school districts to ensure that needed school facilities are available for use in a timely manner. The County, to the extent possible, shall require that new school facilities are constructed and operating prior to the occupation of the residences which the schools are intended to serve. **13:** Before a residential development, which includes a proposed general plan amendment, rezoning or other legislative review can be approved by the Planning Commission or Board of Supervisors, it shall be demonstrated to the satisfaction of the hearing body that adequate school facilities shall be provided when the need is generated by the proposed development. **14:** Whenever possible, the County shall support and participate with school districts in joint development of recreation areas, turf areas, and multi-purpose buildings. **5:** The County and the school districts should work together in using existing school facilities for non-school-related and child care activities. **16:** The County should encourage use of schools as community centers to provide a range of services.
Library System	
4.A: To ensure the timely development of public facilities and the maintenance of specified service levels for these facilities.	**5:** The County shall ensure that library facilities are provided to current and future residents in the unincorporated area. The County shall also require new development to fund its fair share of library facilities.

Auburn-Placer County Library Long-Range Plan

The Auburn-Placer County Library Long-Range Plan, adopted in 2002, projects facilities needed to serve the existing and future population of Placer County. The Long-Range Plan identifies current facility standard as 0.40 square feet (0.04 square meter) of library space and 2.2 volumes of library materials per capita.

3.13.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.13.4.1 Significance Thresholds

Council on Environmental Quality (CEQ) guidance requires an evaluation of a proposed action's effect on the human environment. The U.S. Army Corps of Engineers USACE has determined that the Proposed Action or its alternatives would result in substantial adverse effects related to public services if, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services, the Proposed Action or an alternative would result in the need for new or physically altered facilities, the construction of which could cause significant environmental impacts.

3.13.4.2 Analysis Methodology

Public services-related impacts were evaluated by estimating the number of additional public service personnel and new facilities that would be needed to serve the population added to the project site under the Proposed Action or an alternative.

3.13.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact PUB-1 Demand for Law Enforcement Services

No Action Alt.

The increased residential population resulting from implementation of the No Action Alternative would create additional demand for law enforcement services, which would be a **significant** effect. With mitigation, the effect on law enforcement services would be **less than significant**.

Based on the desired service ratio, at buildout, the No Action Alternative's approximately 24,000 new residents would require approximately 24 to 30 new sworn and non-sworn officers and additional administrative staff to serve the project. The USACE assumes that as the project site is progressively built out under the No Action Alternative, the County would assess the need for additional law enforcement officers and add them as necessary.

With respect to the Proposed Action, the County has indicated that a substation approximately 19,000 square feet (1,765.2 square meters) in size would be required house the additional staff and serve the project site. It is anticipated that a similar substation would be needed to serve the mixed-use residential community under the No Action Alternative and would be located within the project site. Analysis of impacts related to construction within the project site is included in each of the topical areas contained in

this EIS. No additional environmental impacts related to construction of the substation have been identified.

The effect from the demand for law enforcement services would be **significant** for the No Action Alternative. **PVSP EIR Mitigation Measures PUB-1 4.11.3-1**, and **4.11.3-2a** and **4.11.3-2b** would address the effect. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this effect. These mitigation measures require a special benefit assessment district or other funding mechanism to ensure adequate funding for the ongoing maintenance and operation of law enforcement services. In addition, land shall be set aside for a substation and a Development Agreement for facilities, staffing and vehicles shall be arranged with Placer County. The Placer Vineyards Specific Plan EIR finds that these mitigation measures would fully mitigate the effect from the demand for law enforcement services to less than significant. The USACE also finds that the mitigation measures described above would fully mitigate the effect of the No Action Alternative, and this effect would be **less than significant** after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios), Alts. 1 through 5

The Proposed Action (Base Plan and Blueprint Scenarios) and all of the on-site alternatives would construct a large-scale, mixed-use residential community on the project site. Depending on the density of development, Proposed Action's 30,000 to 50,000 new residents would require between 42 to 80 new sworn and non-sworn officers and additional administrative staff to serve the project (Placer County, 2007). As the total residential population on the site under Alternatives 1 through 5 would generally be similar to the total population under the Proposed Action, a similar number of additional police officers and other staff would be needed to serve the development under these alternatives. As the site is progressively built out, the County would assess the need for additional law enforcement officers and add them as necessary. As with the No Action Alternative, a new Sheriff's substation would be required in order to adequately serve the populations associated with the Proposed Action and Alternatives 1 through 5. The PVSP provides a site for a new Sheriff's substation that would be co-located with other County administrative offices within the Town Center south of Baseline Road and east of 16th Street. Analysis of impacts related to construction within the project site is included in each of the topical areas contained in this EIS. No additional environmental impacts related to construction of the substation have been identified.

The effect from the demand for law enforcement services would be **significant** for the Proposed Action and the alternatives. **PVSP EIR Mitigation Measures PUB-1 4.11.3-1**, and **4.11.3-2a** and **4.11.3-2b** would address this effect. These mitigation measures were adopted by Placer County at the time of project approval and will be enforced by the County on the Proposed Action Base Plan. The USACE assumes that Placer County would impose the same mitigation measures on the Proposed Action Blueprint scenario and Alternatives 1 through 5 (individually or combined) to address this effect. These mitigation measures would fully mitigate the effect to **less than significant**.

PVSP EIR Mitigation Measure 4.11.3-1 and
Mitigation Measure 4.11.3-2a through
Mitigation Measure 4.11.3-2b: **Funding for Law Enforcement Services**
(Applicability – No Action, Proposed Action, and All Alternatives)

PVSP EIR Mitigation Measures 4.11.3-1 *and* ***4.11.3-2a*** *through* ***4.11.3-2b*** *require a special benefit assessment district or other funding mechanism to ensure adequate funding for the ongoing maintenance and operation of law enforcement services. In addition, land shall be set aside for a substation and a Development Agreement for facilities, staffing and vehicles shall be arranged with Placer County. The full mitigation measure text is available in* ***Appendix 3.0.***

Impact PUB-2 Demand for Fire Protection Services

No Action Alt.

The residential units and the commercial and public uses proposed under the No Action Alternative would require fire protection services. The effect on fire protection services would be **significant**. However, with mitigation, the effect on fire protection services would be **less than significant**.

Implementation of the No Action Alternative would result in the development of a large scale mixed use community with about 24,000 residents. According to County staffing ratios for fire protection personnel, full buildout of the No Action Alternative would require up to 21 firefighters and up to four support personnel. Existing fire services in the project area would be inadequate in terms of firefighters, equipment, and facilities to serve the proposed development.

Recognizing the need for fire service, two new fire stations are proposed as part of the No Action Alternative. As with the Proposed Action, it is anticipated that under the No Action Alternative, the western fire station would be constructed and equipped prior to issuance of a certificate of occupancy for the first dwelling unit located west of Watt Avenue. The eastern fire station would be constructed and equipped prior to issuance of a building permit for the 5,000th dwelling unit. Analysis of impacts related to construction of all development, including public facilities such as the two fire stations, is presented in each of the topical areas contained in this EIS. No additional environmental impacts from the construction and operation of the fire stations would occur. As the proposed fire stations would meet County standards for serving residents and businesses, the No Action Alternative would not adversely affect the provision of fire protection services to the project site or to the surrounding areas.

With respect to the adequate staffing of the fire stations, the Placer County Fire Department (PCFD) would monitor the development on the project site and add staff and equipment to ensure that the response time standard is met. Nonetheless, the No

Action Alternative would create a demand for fire services which will require the addition of personnel and equipment, and this effect would be **significant.**

In addition to providing fire protection services from existing and new fire stations, to minimize the risk from wildland fires, the PCFD would also implement a fire management plan that includes maintenance of firebreaks and periodic fuel reduction (mowing, grazing, etc.), subject to the management standards included in the Section 404 permits, especially within the open space areas on the site. Open space buffer areas, as determined adequate by the PCFD, would be maintained at the perimeter of all open space preserves for fuel modification and fire management, among other uses. All fences at the perimeter of the open space preserves would be constructed of non-combustible materials, except that wood posts may be used in post and cable barriers adjacent to landscape corridors and street edges. Firebreaks would provide a contained area to minimize the spread of fires. The lack of combustible fence materials would also minimize the risk of fire by reducing the amount of potential fire fuel. The PCFD's fire management plan would ensure that there is adequate access to the site, and that there is adequate fire staff to serve the project site in the event of a wildland fire.

PVSP EIR Mitigation Measure 4.11.2-1 would address the effect from demand for fire protection services. The USACE assumes that Placer County would impose this mitigation measure on the No Action Alternative to address this effect. The mitigation measure requires the applicants to establish a special benefit assessment district or other funding mechanism to assure adequate funding for the ongoing maintenance and operation of fire protection and related services, with funding responsibilities imposed on residential and commercial properties within the Specific Plan area. The benefit district or other funding mechanism shall be maintained until such time as the County determines that property tax revenues are adequate to maintain the required staffing. The PVSP EIR finds that this mitigation measure would fully mitigate the demand for fire protection services to less than significant. The USACE also finds that the mitigation measure would fully mitigate the effect of the No Action Alternative, and this effect would be **less than significant** after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios), Alts. 1 through 5

Implementation of the Proposed Action would result in the development of a large-scale mixed-use community with about 30,000 residents under the Base Plan scenario and about 50,000 residents under the Blueprint scenario. According to County staffing ratios for fire protection personnel, full buildout of the Proposed Action under the Base Plan would require up to 39 firefighters and up to 7 support personnel. Due to the higher density of development, primarily residential, up to 60 firefighters and up to 11 support personnel would be required if the site were developed under the Blueprint scenario. All of the alternatives would construct a project broadly similar to the Proposed Action and would be located on the same site as the Proposed Action, but with slightly different development footprints in order to avoid additional wetlands.

As with the No Action Alternative, development under the Proposed Action and the alternatives would require the construction of two new on-site fire stations to serve the project site. The new fire stations would be developed to have adequate capacity to meet County standards for serving residents and businesses at buildout. Therefore, these alternatives would not adversely affect the provision of fire protection services to the project site or to the surrounding areas.

However, as with the No Action Alternative, the Proposed Action and Alternatives 1 through 5 would result in the demand for fire protection services and this effect would be **significant**. **PVSP EIR Mitigation Measure 4.11.2-1** would address the effect from demand for fire protection services. This mitigation measure was adopted by Placer County at the time of project approval and will be enforced by the County on the Proposed Action Base Plan. The USACE assumes that Placer County would impose the same mitigation measure on the Proposed Action Blueprint scenario and Alternatives 1 through 5 to address this effect. The mitigation measure would fully mitigate the effect to **less than significant**.

PVSP EIR Mitigation Measure 4.11.2-1: Funding for Fire Protection Services
(Applicability – No Action, Proposed Action, and All Alternatives)

*The Applicants will implement **PVSP EIR Mitigation Measure 4.11.2-1.** The mitigation measure requires the applicants to establish a special benefit assessment district or other funding mechanism to assure adequate funding for the ongoing maintenance and operation of fire protection and related services, with funding responsibilities imposed on residential and commercial properties within the Specific Plan area. The benefit district or other funding mechanism shall be maintained until such time as the County determines that property tax revenues are adequate to maintain the required staffing. The full text of the mitigation measure text is presented in **Appendix 3.0**.*

Impact PUB-3 Demand for School Facilities

No Action Alt.

The buildout of the No Action Alternative would generate elementary, middle and high school students. As a result, there would be a need in the project area for approximately three elementary schools, one middle school, and one high school. The land use plan for the No Action Alternative provides sites for these schools. Analysis of impacts related to construction of all development, including public facilities such as schools, is presented in each of the topical areas contained in this EIS. No additional environmental impacts from the construction and operation of the schools would occur.

Consistent with state law and County policy, the applicants shall enter into mutual benefit impact fee agreements with the school districts to pay for the development of the new schools proposed under the No Action Alternative. With adequate funding, the No Action Alternative would not adversely affect the provision of school services to the

project site or to the surrounding areas. Therefore, the No Action Alternative would have a **less than significant** effect and mitigation would not be required.

Proposed Action (Base Plan and Blueprint Scenarios), Alts. 1 through 5

The buildout of the Proposed Action Base Plan would generate approximately 4,212 elementary school students, 1,417 middle school students, and 2,644 high school students. The Proposed Action Blueprint Scenario would generate approximately 6,444 elementary school students, 2,168 middle school students, and 4,045 high school students. As a result, there would be a need in the project area for approximately six elementary schools, two middle schools, and one high school under either scenario.

The Proposed Action includes five elementary schools, two middle schools, and one high school which would be within the CJUSD boundary and one elementary school within the EJESD boundary and would adequately serve the demand for school facilities. Analysis of impacts related to construction of all development, including public facilities such as schools, is presented in each of the topical areas contained in this EIS. No additional environmental impacts from the construction and operation of the schools would occur.

Similar to the Proposed Action, Alternatives 1 through 5 would include development of a total of six elementary schools, two middle schools, and one high school to serve the residential development. The existing and proposed school facilities would have adequate capacity to serve the new student populations under these alternatives. Consistent with County policy, the applicants would enter into mutual benefit impact fee agreements with the school districts to ensure adequate funding for the new schools. With adequate funding, these alternatives would not adversely affect the provision of school services to the project site or to the surrounding areas.

The Proposed Action and Alternatives 1 through 5 would have a **less than significant** effect on school services.

Impact PUB-4 Demand for Library Services

No Action Alt.

The No Action Alternative would increase demand for library services until a new library is completed and would thus have a **significant** effect on public libraries. With mitigation, the effect on public libraries would be **less than significant**.

Based on the level of service standard of 0.40 square foot (0.04 square meter) of facility space per capita provided by the Auburn-Placer County Library Long-Range Plan, a population of about 24,000 persons under the No Action Alternative would generate a demand for an additional 9,600 square feet (891.9 square meters) of library space at full buildout. The No Action Alternative designates land that would allow for the establishment of a branch library in or near the Town Center.

Although the City of Roseville operates the nearest library to the project site, which is the recently opened Riley Library at Mahany Park and the project residents could use that facility until the proposed permanent facility is developed on the project site, residents of the project site would not have access to a full range of library services until a permanent facility is located within the project site and is operational. This effect would however be temporary since funding for construction of a new library would be required prior to construction of any dwelling units. Therefore, new library facilities would be developed concurrently with the earliest phases of residential development.

PVSP EIR Mitigation Measures 4.11.12-1a through **4.11.12-1c** would address the impact on library services. The USACE assumes that Placer County would impose these mitigation measures on the No Action Alternative to address this effect. These mitigation measures require the formation of a financing mechanism to ensure immediate funding for adequate library infrastructure that meets the standards of the Auburn-Placer County Library Long-Range Plan. In order to maintain library operations and maintenance the applicants are required to establish a funding mechanism to ensure adequate funding of the Specific Plan's library facilities. The PVSP EIR finds that these mitigation measures would fully mitigate the effect associated with the demand for library services to less than significant. The USACE also finds that the impact would be **less than significant** after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios), Alts. 1 through 5

Based on the level of service standard of 0.40 square feet (0.04 square meters) of facility space per capita provided by the Auburn-Placer County Library Long-Range Plan, a population of approximately 30,000 under the Proposed Action Base Plan scenario would generate a demand for an additional 12,000 square feet (1114.8 square meters) of library space at full buildout. The Proposed Action Blueprint scenario's projected population of up to 50,000 would generate demand for 20,000 square feet (1858.1 square meters) of library space. The Specific Plan proposes that an approximately 13,905-square-foot (1291.8 square meters) branch library be located in or near the Town Center.

All of the alternatives would add new population to Placer County. Similar to the Proposed Action, Alternatives 1 through 5 would generate a demand for 13,905 square feet (1291.8 square meters) of library space. Based on the significance criteria listed above and for the same reasons presented for the No Action Alternative, the demand for library services would result in a **significant** effect under the Proposed Action and alternatives.

PVSP EIR Mitigation Measures 4.11.12-1a through **4.11.12-1c** would be implemented to ensure adequate funding of library services. These mitigation measures were adopted by Placer County at the time of project approval and will be enforced by the County on the Proposed Action Base Plan. The USACE assumes that Placer County would impose the same mitigation measures on the Proposed Action Blueprint scenario and Alternatives 1 through 5 to address this effect. The mitigation measure would fully mitigate the effect to **less than significant**.

PVSP EIR Mitigation Measure 4.11.12-1a through
PVSP EIR Mitigation Measure 4.11.12-1c: Funding for Library Services
(Applicability – No Action, Proposed Action, and All Alternatives)

*The Applicants will implement **PVSP EIR Mitigation Measures 4.11.12-1a** through **4.11.12-1c.** These mitigation measures require the formation of a financing mechanism to ensure immediate funding for adequate library infrastructure that meets the standards of the Auburn-Placer County Library Long-Range Plan. In order to maintain library operations and maintenance the applicants are required to establish a funding mechanism to ensure adequate funding of the Specific Plan's library facilities. The full mitigation measure text is available in **Appendix 3.0.***

Impact PUB-5 Indirect Effects on Public Services from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5	The construction and operation of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which would be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5, would result in **less than significant** effects to public services. Construction activities such as additional truck traffic could affect emergency response times for police and fire protection. However, construction would be temporary and the project would be subject to standard County and state traffic control and access procedures. The effect on public services from the water pipeline infrastructure project would be **less than significant**.

3.13.6 RESIDUAL SIGNIFICANT IMPACTS

All effects associated with public services would be mitigated to less than significant levels. Therefore, there would be no residual significant impacts for the Proposed Action and any of the alternatives.

3.13.7 REFERENCES

Placer County. 2006. "Placer Vineyards Specific Plan Final Environmental Impact Report" (State Clearinghouse No. 1999062020).

Placer County. 2010. "South Placer Substation." http://www.placer.ca.gov/Departments/Sheriff/Stations/Loomis.aspx. Accessed February 2011.

3.14 TRANSPORTATION AND TRAFFIC

3.14.1 INTRODUCTION

This section presents an overview of the existing traffic and circulation system in the area surrounding the project site. It also discusses the potential effects on traffic and circulation as a result of the implementation of the Proposed Action and its alternatives. Where significant effects are identified, mitigation measures are recommended to reduce the severity of the effect to the extent possible.

Sources of information used in this analysis include:

- DKS Associates Placer Vineyards Specific Plan EIS Transportation Analysis (DKS 2012);
- Placer Vineyards Specific Plan EIR prepared by Placer County (Placer County 2007); and
- Regional University Specific Plan EIR prepared by Placer County (Placer County 2008).

3.14.2 AFFECTED ENVIRONMENT

3.14.2.1 Study Area Roadways and Intersections

The existing roadway network in the vicinity of the project site consists of state highways, arterials, collectors, and local roadways. The key roadways in the study area are described below.

State Highway System

The following three state highways extend through the study area.

- Interstate 80 (I-80)
- State Route 65 (SR 65)
- State Route 70/99 (SR 70/99)

I-80 is located approximately 5 miles (8 kilometers) southeast of the project site, while SR 65 is 5 miles (8 kilometers) to the east, and SR 70/99 is 3 miles (4.8 kilometers) to the west. Detailed descriptions of each state highway are provided below.

Interstate 80

This freeway is Northern California's major east-west freeway connecting the Sacramento region and the San Francisco Bay Area with the rest of the United States. Within the region, Interstate 80 (I-80) serves as a major commute route to job centers in southern Placer County and downtown Sacramento. It also serves interstate and interregional travel by truck, recreational travel, and tourist travel. Within the study area, I-80 is a six- to eight-lane freeway that extends from Rocklin Road to approximately Riverside Avenue. West of Riverside Avenue, I-80 is 10 lanes with four mixed-flow lanes and one high occupancy vehicle (HOV) lane in each direction (Placer County 2008). The most direct route from I-80 to the project site is by Watt Avenue.

State Route 65

SR 65 is a north-south state route that connects Roseville with the City of Lincoln and extends to SR 70 south of the City of Marysville in Yuba County. SR 65 begins as a four-lane freeway at its junction with I-80 in Roseville; it transitions to a conventional four-lane highway south of Sunset Boulevard to Industrial Avenue. Through Lincoln, SR 65 is a two-lane conventional highway (Placer County 2008). The most direct route from SR 65 to the project site is by Pleasant Grove Boulevard, Fiddyment Road, and Baseline Road.

State Route 70/99

SR 70/99 is a north-south state route that connects the core of the Sacramento region with the cities of Marysville (by SR 70) and Yuba City (by SR 99). West of the project site, SR 70/99 is a four-lane divided highway (Placer County 2008). The most direct route from SR 70/99 to the project site is by Baseline Road/Riego Road.

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 vicinity of the project site is described below.

Baseline Road

This roadway is an east-west rural arterial that runs along the northern boundary of the project site. This roadway extends from the Sutter County line to Foothills Boulevard in the City of Roseville. Within Sutter County, this roadway becomes Riego Road, while east of Foothills Boulevard this roadway becomes Main Street. Baseline Road and Riego Road connect Roseville, western Placer County, and southern Sutter County with SR 70/99. East of Watt Avenue, Baseline Road carries about 12,600 vehicles per day, while west of Watt Avenue, Baseline Road carries 10,400 vehicles per day (DKS 2012).

Watt Avenue

This roadway is a north-south arterial that crosses the project site. This roadway runs from Baseline Road south to Florin Road in Sacramento County. Watt Avenue connects western Placer County with I-80 and extends across the American River to provide access to U.S. 50. The roadway becomes South Watt Avenue at Jackson Road (Hwy 16), and becomes Elk Grove-Florin Road at Florin Road. Elk Grove-Florin Road continues south to Stockton Boulevard at SR 99 in the community of Elk Grove. Within Placer County, Watt Avenue has two travel lanes and carries about 7,100 vehicles per day (DKS 2012).

PFE Road

This roadway is an east-west rural arterial that extends from Watt Avenue west to the City of Roseville, where it becomes Atkinson Street. East of Watt Avenue, this roadway carries about 4,700 vehicles per day (DKS 2012).

Walerga Road

This roadway is a two-lane rural arterial that extends from Baseline Road south to Roseville Road in Sacramento County. It provides access between western Placer County and the Antelope area of Sacramento County. Walerga Road carries about 14,900 vehicles per day near Baseline Road (DKS 2012).

Fiddyment Road

This roadway is a two-lane, north-south rural arterial that extends north from Baseline Road to Moore Road, southwest of the City of Lincoln. North of Baseline Road, Fiddyment Road carries about 19,600 vehicles per day.

Brewer Road

This roadway is a two-lane, north-south rural collector that extends from Baseline Road north across western Placer County. It terminates just south of the Bear River, which is the Yuba County line.

Locust Road

This roadway is a two-lane, north-south rural collector that extends from the Sacramento County line north to Sunset Boulevard West. In Sacramento County this roadway becomes Elwyn Avenue.

Pleasant Grove Road

This roadway is a two-lane north-south rural arterial that runs along the Placer County/Sutter County line from Baseline Road south to the Sacramento County line, where it becomes Sorrento Road. Pleasant Grove Road also extends north of Riego Road, beginning about 0.25 mile (0.4 kilometer) west of its southern section, and runs north to the Yuba County line where it becomes Forty Mile Road. Pleasant Grove Road carries about 1,600 vehicles per day south of Baseline Road (DKS 2012).

3.14.2.2 Existing Traffic Levels of Service

Roadway operating conditions are described using the concept of "Levels of Service."

Level of Service (LOS) 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 operation costs. Levels of Service are designated "A" through "F," from the best to worst, which cover the entire range of traffic operations that might occur. LOS E describes conditions approaching or at maximum capacity and LOS F represents jammed conditions.

Two types of LOS analyses were conducted for the unincorporated Placer County portion of the study area: peak hour intersection analysis and daily segment-based Level of Service analysis. **Tables 3.14-1** through **3.14-4** summarize the LOS definitions used for these analyses.

Table 3.14-1
Level of Service Definitions - Signalized Intersections (Circular 212)

LOS	V/C	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 indication.
B	0.61-0.70	**Stable Operation/Minimal Delays:** An occasional approach phase is fully utilized. Many drivers begin to feel somewhat restricted.
C	0.71-0.80	**Stable Operation/Acceptable Delays:** Major approach phases fully utilized. Most drivers feel somewhat restricted.
D	0.81-0.90	**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	>1.00	**Forced Flow/Excessive Delays:** Represents jammed conditions. Intersection operates below capacity with low volumes. Queues may block upstream intersections.

Source: Circular 212, Transportation Research Board, 1981
Notes: V/C = Volume/Capacity

Table 3.14-2
Level of Service Definitions - Signalized Intersections (Highway Capacity Manual)

Level of Service (LOS)	Control Delay Per Vehicle (seconds)	Description
A	< 10.0	Very low control delay. Occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and < 20.0	Generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and < 35.0	These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and < 55.0	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and < 80.0	These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.
F	> 80.0	This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high V/C ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington, D.C., 2000

Table 3.14-3
Level of Service Definitions – Unsignalized Intersections

Level of Service (LOS)	Average Delay per Vehicle (sec/vehicle)
A	0 to 5.0
B	5.1 to 10.0
C	10.1 to 20.0
D	20.1 to 30.0
E	30.1 to 45.0
F	> 45.0

Source: Highway Capacity Manual, Transportation Research Board, 1994

Table 3.14-4
Level of Service Definitions - Daily Segment Based Analysis

Roadway Capacity Class	Maximum Daily Traffic Volume Per Lane for Each Level of Service Designation				
	A	B	C	D	E
Arterial – High Access Control	6,000	7,000	8,000	9,000	10,000
Arterial – Moderate Access Control	5,400	6,300	7,200	8,100	9,000
Arterial and Collector – Low Access Control	4,500	5,250	6,000	6,870	7,500
Expressway[1] – Level Terrain	4,050	6,620	9,450	12,150	13,500
Freeway – Level Terrain	6,300	10,620	13,680	16,740	18,000

Source: Placer County General Plan Update, Countywide General Plan, Draft Environmental Impact Report, Placer County, 1994, except expressway.
Notes:
[1] *Capacity assumes one-half minimum spacing between access points, grade separations at high volume intersections and signalization at low volume intersections. Used for portions of Baseline Road west of Watt Avenue under certain analysis scenarios.*

Placer County

Under the *Placer County General Plan*, the County has established a standard of LOS C for all roadways and intersections except those for within 0.25 mile (0.8 kilometer) of state highways, where the standard is LOS D. The daily segment-based analysis criteria used to evaluate these roadways are consistent with the methodologies used in the *Placer County General Plan EIR*. Arterial roadways were evaluated using the definitions for "moderate access control arterials," while collector roadways were evaluated using the definitions for "low access control arterials." **Table 3.14-5** presents the levels of services for Placer County study area roadways under existing conditions.

Table 3.14-5
Existing Roadway Segment Levels of Service – Unincorporated Placer County

Roadway	Segment	No. of Lanes	ADT	LOS
Baseline Road	East of County Line	2	10,100	A
Baseline Road	East of 16th Street	2	10,400	A
Baseline Road	East of Country Acres	2	10,400	B
Baseline Road	East of Watt Avenue	2	12,600	B
Baseline Road	East of Walerga Road	3	15,100	A
Walerga Road	South of Baseline Road	2	14,900	D
Watt Avenue	South of Baseline Road	2	7,100	A
PFE Road	East of Watt Avenue	2	4,700	A
PFE Road	East of Walerga Road	2	7,200	A
South of Baseline Road	South of Baseline Road	2	1,000	A
Locust Road	North of County line	2	1,000	A
Palladay Road	South of Baseline Road	2	500	A
Palladay Road	North of County line	2	500	A

Source: DKS Associates, 2006
Note: ADT = average daily traffic

Placer County uses the *Transportation Research Board Circular 212* (critical movement) method to evaluate levels of service at its signalized intersections, whereas for the analysis of levels of service at unsignalized intersections, the County uses the methodology in the Transportation Research Board's *Highway Capacity Manual*. This method calculates the level of service based on the delay on each of the stop-sign controlled movements at the intersection and average delay for all movements. **Table 3.14-6** summarizes existing peak hour conditions for key study intersections in unincorporated Placer County.

Table 3.14-6
Existing PM Peak Hour Intersection Levels of Service – Unincorporated Placer County

Intersection		Level of Service	LOS Criteria	
North-South Roadway	East-West Roadway		Signalized Intersections (V/C Ratio)	Unsignalized Intersections (Delay)[1]
Locust Road	Baseline/Riego Road	E		46.8
Brewer Road	Baseline/Riego Road	A		0.6
Watt Avenue	Baseline Road	E	0.94	
Fiddyment Road	Baseline Road	D (F)[2]	0.87 (>1.00)[2]	
Watt Avenue	PFE Road	C		16.3
Walerga Road	PFE Road	E	0.93	
Cook Riolo Road	PFE Road	B		10.2

Source: DKS Associates, 2006
Notes:
[1] *Average delay for all movements at intersection, including uncontrolled movements. Delay on some stop-signed controlled left-turn movements may be substantial, but typically impact a limited number of vehicles.*
[2] *Observed long queues indicate intersection operates at LOS F.*

City of Roseville

The City of Roseville General Plan states that it should strive to maintain LOS C on its roadway system. The City's Level of Service policy allows the City Council to take an action to accept degradation in the Level of Service of one or more of its signalized intersections from the levels identified in the 2020 CIP as long as 70 percent or more of the total signalized intersections in the City would operate at LOS C or better.

Roseville uses a modified version of the Circular 212 (critical movement) method that was adopted as part of Roseville's CIP to evaluate its intersections. This modified method assumes intersection capacities that are approximately 7 percent higher than the Circular 212 method. **Table 3.14-7** summarizes existing peak hour intersection conditions for study intersections in Roseville.

Table 3.14-7
Existing PM Peak Hour Intersection Levels of Service – City of Roseville

Intersection		Existing Conditions		
			LOS Criteria	
North-South Roadway	East-West Roadway	LOS	V/C	Delay
1 Fiddyment Road	Blue Oaks Blvd	C		14.3
2 Fiddyment Road	Pleasant Grove Blvd	B	0.62	
3 Junction Blvd	Baseline Road	A	0.48	
4 Woodcreek Oaks Blvd	Blue Oaks Blvd	B	0.65	
5 Woodcreek Oaks Blvd	Pleasant Grove Blvd	C	0.75	
6 Woodcreek Oaks Blvd	Baseline Road	B	0.64	
7 Foothills Blvd	Blue Oaks Blvd	D	0.89	
8 Foothills Blvd	Pleasant Grove Blvd	C	0.73	
9 Foothills Blvd	Junction Blvd	F	1.03	
10 Foothills Blvd	Baseline Road	D	0.81	
11 Foothills Blvd	Cirby Way	E	0.99	
12 Riverside Avenue	Cirby Way	F	1.08	
13 Washington Blvd	Pleasant Grove Blvd	C	0.76	
14 Fiddyment Road[2]	Baseline Road	C	0.76	

Source: DKS Associates, 2005
Notes:
[1] *Average delay for all movements at intersection, including uncontrolled movements. Delay in some stop-sign-controlled left-turn movements may be substantial, but typically impacts a limited number of vehicles.*
[2] *This intersection is also analyzed under the Placer County methodology (see Table 3.14-6). The volume-to-capacity ratio and level of service standards differ due to different lane capacity assumptions.*

Unlike Placer, Sacramento, and Sutter counties, Roseville does not use a daily segment-based analysis to evaluate impacts on its roadway system.

Sacramento County

The portion of Sacramento County north of Elkhorn Boulevard was included in the traffic analysis study area. Sacramento County uses a LOS E standard for urban areas and a LOS D standard for rural areas. All of the roadways in the study area are located in an urban area. Like Placer County, Sacramento County uses a daily segment-based analysis to evaluate its roadways. Sacramento County's criteria for the segment-based analysis are the same as those used by Placer County. **Table 3.14-8** presents the levels of service for study area roadway segments in Sacramento County under existing conditions.

Table 3.14-8
Existing Roadway Segment Levels of Service – Sacramento County

Roadway	Segment	No. of Lanes	ADT	LOS
Elverta Road	East of Hwy 70/99	2	5,000	A
Elverta Road	East of Rio Linda Blvd	2	8,000	A
Elverta Road	East of 16th Street	2	10,400	A
Elverta Road	West of Watt Avenue	2	19,000	F
Watt Avenue	North of Elverta Road	4	19,400	A
Watt Avenue	North of Antelope Road	4	28,900	D
Watt Avenue	North of Elkhorn Blvd	4	37,900	F
Watt Avenue	North of Air Base Drive	6	46,700	D
Watt Avenue	North of Roseville Road	5	49,200	F
Watt Avenue	North of I-80	5	62,600	F
Walerga Road	North of Elverta Road	4	24,700	B
Walerga Road	North of Antelope Road	4	40,300	F
Walerga Road	North of Elkhorn Blvd	4	31,100	D
Sorento Road	North of Elverta Road	2	1,200	A
Elwyn Road	North of Elverta Road	2	1,000	A
Palladay Road	North of Elverta Road	2	500	A
16th Street	North of Elverta Road	2	400	A
16th Street	South of Elverta Road	2	400	A
Dry Creek Road	North of Elkhorn Blvd	2	8,600	A
Dry Creek Road	South of Elkhorn Blvd	2	9,000	A
Elkhorn Blvd	East of Watt Avenue	4	25,700	C
Elkhorn Blvd	East of Walerga Road	4	50,300	F

Source: DKS Associates, 2006
Note: ADT = average daily traffic

Sacramento County uses a modified version of the Circular 212 (critical movement) method to evaluate its signalized intersections. This modified method assumes intersection capacities that are about 10 percent higher than the Circular 212 method. **Table 3.14-9** summarizes existing peak hour intersection levels of service for study intersections in Sacramento County.

Table 3.14-9
Existing Peak Hour Intersection Levels of Service– Sacramento County

Intersection		AM Peak Hour			PM Peak Hour		
			LOS Criteria			LOS Criteria	
North-South Roadway	East-West Roadway	LOS	V/C	Delay	LOS	V/C	Delay
1 SR 70/99	Elverta Road	A		8.4	A		8.3
2 16th Street	Elverta Road	A		1.61	A		2.31
3 Watt Avenue	Elverta Road	A	0.56		A	0.60	
4 Walerga Rd	Elverta Road	D	0.86		C	0.76	
5 Watt Avenue	Antelope Road	C	0.73		C	0.77	
6 Walerga Road	Antelope Road	C	0.73		D	0.89	
7 Watt Avenue	Elkhorn Blvd	C	0.76		B	0.70	
8 Walerga Road	Elkhorn Blvd	B	0.68		D	0.89	
9 Watt Avenue	Don Julio Blvd	A	0.51		C	0.74	
10 Watt Avenue	Air Base Drive	B	0.63		E	1.00	
11 Watt Avenue	Roseville Road	D	0.88		E	0.97	
12 Watt Avenue	I-80 WB	B		16.6	B		14.1

Source: DKS Associates, 2005
Notes:
[1] *Average delay for all movements at an unsignalized intersection, including uncontrolled movements. Delay on some stop-signed controlled left-turn movements may be substantial, but typically impacts a limited number of vehicles.*

Sutter County

Traffic forecasts indicate that the roadways in Sutter County that would experience significant changes in traffic volumes due to assumed development of the South Sutter County Specific Plan area are Riego Road and SR 70/99. Thus, these roadways are included in the traffic analysis study area. Sutter County has set a standard of LOS D for its roadway system in the Sutter County General Plan 2015. **Table 3.14-10** contains the levels of service on these roadways under existing conditions using the same daily segment-based methodology as Placer and Sacramento counties.

Table 3.14-10
Existing Roadway Segment Levels of Service – Sutter County

Roadway	Segment	No. of Lanes	ADT	LOS
SR 70/99	South of Riego Road	4	32,000	A
SR 70/99	North of Riego Road	4	29,000	B
Riego Road	East of SR 70/99	2	9,900	A
Pleasant Grove Road	North of County line	2	1,000	A

Source: DKS Associates, 2006
Note: ADT = average daily traffic

Intersection levels of service in Sutter County were evaluated using the Circular 212 method. **Table 3.14-11** summarizes existing intersection levels of service for study intersections in Sutter County.

Table 3.14-11
Existing PM Peak Hour Intersection Levels of Service– Sutter County

Intersection		Existing Conditions		
			LOS Criteria	
North-South Roadway	East-West Roadway	Level of Service	Signalized Intersection (Delay)	Unsignalized Intersection (Delay)[1]
SR 70/99	Riego Road	B	13.6	
Natomas Road	Riego Road	C (F)[2]		16.3 (50)[2]
Pleasant Grove North	Riego Road	C (F)[2]		20.9 (50)[2]
Pleasant Grove South	Riego Road	D (F)[2]		28.9 (50)[2]

Source: DKS Associates, 2005
Notes:
[1] *Average delay for all movements at intersection, including uncontrolled movements. Delay on some stop-signed controlled left-turn movements may be substantial, but typically impacts a limited number of vehicles.*
[2] *Observed delay is greater than the calculated delay.*

Caltrans

A daily segment-based level of service analysis was conducted on Caltrans facilities in the study area**.** **Table 3.14-12** shows the existing daily traffic volumes on Caltrans roadways in the vicinity of the project site. SR 70/99 north of Elverta Road was evaluated as an "expressway," while the other freeways were evaluated as "freeways." **Table 3.14-12** presents the levels of service for the state highways in the study area under existing conditions.

Table 3.14-12
Existing Freeway Segment Levels of Service – State Highways

Roadway	Segment	Existing Conditions		
		Lanes[1]	ADT[2]	LOS
SR 70/99[3]	North of Riego Road	4	29,000	C
SR 70/99[3]	South of Riego Road	4	32,000	C
SR 70/99	South of Elverta Road	4	40,500	B
SR 65	North of Pleasant Grove Blvd	4	76,000	F
SR 65	South of Pleasant Grove Blvd	4	83,400	F
I-80	West of Watt Avenue	10	145,000	D
I-80	East of Auburn Blvd	12	240,000	F
I-80	West of Riverside Avenue	8	184,200	F
I-80	East of Riverside Avenue	6	165,000	F
Business 80	West of Watt Avenue	6	133,000	F

Source: DKS Associates, 2005
Notes:
[1] *Excluding carpool lanes.*
[2] *ADT = average daily traffic, excluding HOV traffic*
[3] *Evaluated as expressway, not as a freeway*

3.14.2.3 Existing Transit Service

Local transit service in Placer County is currently provided by local governments and social service agencies. Most of the services are oriented towards senior citizens, disabled persons and other transit dependents, and are not geared towards commuters or congestion relief. Fixed-route service providers in southern Placer County include Placer County Transit, Lincoln Transit, Roseville Fixed Route, and Roseville Commuter Service. However, none of these transit routes serves the project site. The Sacramento Regional Transit District (RT) provides fixed-route transit service in Sacramento County. The closest RT bus routes to the project site are Routes 19, 84, and 101, which do not serve areas north of Watt Avenue and Black Saddle Drive (just north of Elverta Road, about 1 mile (1.6 kilometers) south of the project site).

The vicinity of the project site is not served by "dial-a-ride" transit services. Consolidated Transportation Services Agency, an independent provider of demand responsive transportation services to the elderly and disabled, provides services in portions of Placer County, but they do not serve the project vicinity.

3.14.2.4 Existing Bicycle Facilities

Bicycle facilities in Placer County are classified as follows:

- Class I: Off-street bike trails or paths which are physically separated from streets or roads used by motorized vehicles.
- Class II: On-street bike lanes with signs, striped lane markings, and pavement legends.

- Class III: On-street bike routes marked by signs and shared with motor vehicles and pedestrians. Optional 4-inch (10.2 centimeters) edge lines painted on the pavement.

There is a very limited bikeway system in the vicinity of the project site.

Placer County adopted a Bikeway Master Plan in 1988. That plan covered much of Placer County, but not areas west of Watt Avenue.

3.14.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

3.14.3.1 Federal and State Laws and Regulations

There are no known federal or state standards that would directly affect the transportation and circulation aspects of the Proposed Action and alternatives.

3.14.3.2 Local Plans and Policies

Placer County General Plan Level of Service (LOS) Standards

Under Placer County General Plan Policy 3.A.7, the County has established a standard of LOS C or better for its roadway system, or as otherwise specified in a community plan or specific plan. Consequently, LOS A, B, and C are considered acceptable, while D, E, and F are unacceptable. Within 0.25 mile (0.8 kilometer) of a state highway, LOS D is considered acceptable under the Placer County General Plan. In addition, community plans and specific plans may set standards that differ from LOS C for roadways and intersections within the plan boundaries. Exceptions are also allowed based on the following considerations:

- The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard
- The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations
- The right-of-way needs and the physical impacts on the surrounding properties
- The visual aesthetics of the required improvement and its impact on community identity and character
- Environmental impacts including air quality and noise impacts
- Construction and right-of-way acquisition costs
- The impacts on general safety
- The impacts of the required construction phasing and traffic maintenance
- The impacts on quality of life as perceived by residents
- Consideration of other environmental, social, or economic factors on which the County may base findings to allow an exceedance of the standards

Placer County Improvement Standards

Roadway improvements within Placer County must conform to a set of standard plans that detail County standards for pavement width, lighting, drainage, sewer, and other roadside facilities. Roadway facilities associated with the Proposed Action must meet or exceed these standards.

Placer County Capital Improvement Program (CIP)

The Placer County CIP dated 2009 identifies roadway improvements that are needed to meet the County's level of service standards. The County has established 11 benefit districts, each of which has a separate CIP and associated traffic impact fee. The CIP identifies roadway improvements and facilities within each district needed as a result of future development. The CIP also provides details on funding sources for each improvement project, including amounts to be collected through the Traffic Impact Fee Program. Traffic impact fees are based on Dwelling Unit Equivalents and are charged on all new development within a district, regardless of type or location. Traffic impact fees are indexed to construction costs and are adjusted annually. The CIP and fees are periodically updated as conditions change to account for approvals of major land use projects and reflect completed roadway improvements or updates to local community plans.

Placer County Bikeway Master Plan

The Placer County General Plan calls for the development of a comprehensive bikeway system that would provide connections between the major urban areas of the County, with linkages to bikeway systems in other jurisdictions. The County adopted the Placer County Regional Bikeway Plan in 2002 to provide guidelines for the development of a Countywide network of bicycle facilities and design standards (based on Caltrans standards) for new bicycle facilities.

Placer County Truck Routes

Placer County has not developed a system of truck routes for the unincorporated area. However, trucks are prohibited from using specific bridges and roadways.

3.14.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.14.4.1 Significance Thresholds

Council on Environmental Quality (CEQ) guidance requires an evaluation of a proposed action's effect on the human environment. The U.S. Army Corps of Engineers (USACE) has determined that the Proposed Action or its alternatives would result in significant effects related to transportation and traffic if the traffic added by the Proposed Action or the alternatives resulted in the exceedance of significance thresholds established by the Placer County, City of Roseville, Sacramento County, Sutter County, and the State of California for facilities within their jurisdiction. The USACE has reviewed these significance thresholds and have determined them to be appropriate for use as significance thresholds in this analysis. A significant impact would occur if implementation of the Proposed Action or an alternative would result in any of the following:

- In unincorporated Placer County outside of the Dry Creek/West Placer Plan Area, the Proposed Action or an alternative would increase congestion on County roadway segments or at County

intersections to the extent that the roadway or intersection would deteriorate from LOS C or better to levels below LOS C or would increase congestion by more than 5 percent on a roadway or at an intersection already operating below LOS C.

- Within the Dry Creek/West Placer Plan Area (including adjacent roadways and intersections) the Proposed Action or an alternative would cause a roadway or intersection to operate at LOS E or F or would increase congestion by more than 5 percent on a roadway or at an intersection already operating at LOS E or F. There are noted exceptions to this policy, which are identified in the appropriate tables in this document.
- In Roseville, the Proposed Action or an alternative would increase congestion to the extent that one or more signalized intersections previously identified in Roseville's CIP as functioning at LOS C or better (volume-to-capacity [V/C] ratio of 0.81 or better) would deteriorate to LOS D or worse (V/C ratio of 0.82 or worse); or, at a signalized intersection previously identified in Roseville's CIP as functioning at LOS D or E, the increased traffic added by the Proposed Action or an alternative causes operations to deteriorate to a worse standard level. This criterion requires an analysis based on the City of Roseville's buildout development forecasts.
- In Roseville, the Proposed Action or an alternative would increase congestion to the extent that the number of signalized intersections operating at LOS C or better conditions would be reduced to less than 70 percent of the total number of signalized intersections in the City. This criterion requires an analysis based on the City of Roseville's buildout development forecasts.
- In Sacramento County, the Proposed Action or an alternative would increase congestion to the extent that one or more intersections would deteriorate from LOS E or better to LOS F. For facilities that are or will be (cumulative condition) operating at unacceptable levels of service without the addition of project traffic, an impact is considered significant if increased congestion due to the Proposed Action or an alternative would:
  - increase the average delay at an unsignalized intersection by more than five seconds, or
  - increase the V/C ratio by 0.05 or more on a roadway or at a signalized intersection.
- In Sutter County, the Proposed Action or an alternative would increase congestion to the extent that intersection operations would deteriorate to levels below Sutter County's LOS D standard.
- The Proposed Action would increase congestion to the extent that operations on a state highway would deteriorate to levels of service below those identified in Caltrans' Transportation Concept Report (TCR) for that highway or contribute traffic to facilities already operating at or below the LOS concept. The TCRs for SR 65 and SR 70/99 indicate that these state highways have a concept LOS of LOS E while the TCR for I-80 indicates that this state highway has a concept LOS of LOS F.
- Planned transit services do not meet the additional transit demand generated by the Proposed Action or an alternative, which includes helping the County meet its level of service standard, transportation systems management standards, and air quality goals.
- Planned bicycle facilities do not provide adequate capacity for the additional bicycle trips generated by the Proposed Action or an alternative, and the policies and guidelines of Placer County's Bikeway Master Plan.
- Construction traffic would result in significant delays on the roadway system within the study area.

3.14.4.2 Analysis Methodology

The travel demand model for Placer County was used to estimate future traffic volumes without the Proposed Action or an alternative. 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 a detailed description of the roadway system. The model covers the portions of Placer County west of Colfax, as well as the entire Sacramento region, including Sacramento, Yolo, and southern Sutter counties. For areas outside Placer County, the model uses the trip generation estimates from the regional model developed and used by the Sacramento Area Council of Governments (SACOG). The Placer County model also maintains a general consistency with the trip distribution and mode choice estimates from SACOG's regional model for the entire region.

For intersections within the project site, this analysis assumes the intersection geometries shown in the traffic appendix to the Placer Vineyards Specific Plan (PVSP) and Blueprint Specific Plan.

To evaluate impacts, two types of roadway level of service analyses were conducted in the study area. A roadway segment analysis based on average daily traffic volumes and capacities was conducted following the same methodology used in the Placer County General Plan EIR. In addition, an intersection level of service analysis was performed for PM peak hour traffic conditions. This analysis addressed the major intersections in the vicinity of the project site. Placer County assesses traffic impacts based on PM peak hour conditions as the PM peak hour is typically the worst 1-hour period during the day.

Analysis Scenarios

The following scenarios were evaluated in detail:

- 2025 Background Conditions
- 2025 plus Proposed Action – Base Plan Scenario Conditions
- 2025 plus Proposed Action – Blueprint Scenario Conditions
- 2025 plus No Action Alternative Conditions
- 2025 plus Alternative 1 (Property 1B) Conditions
- 2025 plus Alternative 2 (Property 3) Conditions
- 2025 plus Alternatives 3 and 4 (Properties 16 and 17) Conditions
- 2025 plus Alternative 5 (Property 23) Conditions

Specific Plan Trip Generation

No Action

Under the No Action Alternative, the project site would be developed in a manner that avoids activities in jurisdictional waters of the United States, including wetlands, thereby avoiding the need for USACE approvals under Section 404 of the Clean Water Act. Avoidance of Section 404 triggers would reduce the total development footprint to approximately 3,297 acres (1334.2 hectares), comprising approximately

2,410 acres (975.3 hectares) of residential uses (with an estimated 8,030 residential units at buildout), 221 acres (89.4 hectares) of commercial and office uses, 211 acres (85.4 hectares) of public and quasi-public uses, 124 acres (50.2 hectares) of parks, and 332 acres (135.4 hectares) of roads. About 1,933 acres (782.3 hectares) would be preserved as open space. The No Action Alternative involves a modified land use plan, along with the circulation plan that eliminates or changes a number of project roadways.

Table 3.14-13 presents the estimated number of daily vehicle trips that would be generated under the No Action Alternative.

Table 3.14-13
Land Use and Trip Generation - No Action Alternative

Land Use	Daily Trip Rate	No Action	
		Units	Trips
Single Family	9.0 per DU	4,964	44,676
Multi-Family	6.5 per DU	2,147	13,956
Age-Restricted	3.3 per DU	919	3,033
SPA	9.0 per DU	411	3,699
Total DU		*8,441*	
Commercial	35.0 per ksf	1,572.9	55,052
Office	17.7 per ksf	567.1	10,038
Public	25.0 per ksf	204.5	5,113
Church	9.3 per ksf	567.6	5,279
K–12 School	1.0 per Student	5,400	5,400
Park	2.2 per Acre	123.8	272
Total Daily Trips			**146,518**

Source: DKS Associates, 2012
Note: Single Family consists of LDR and MDR, ksf equals 1,000 square feet

Table 3.14-13 shows that buildout of the No Action Alternative would generate about 147,000 daily vehicle trips on an average weekday.

Proposed Action

Table 3.14-14 presents the estimated number of daily vehicle trips that would be generated by the Proposed Action under the Base Plan and Blueprint scenarios. **Table 3.14-14** shows that buildout of the Proposed Action Base Plan scenario would generate about 237,000 daily vehicle trips on an average weekday, an increase of approximately 62 percent over the No Action Alternative.

It should be noted that this number represents all vehicle trips generated by the project and includes trips that may begin in one portion of the project site and terminate somewhere else within the project site. Because the Proposed Action contains a mixture of residential and non-residential uses, and because it covers a very large area of land, it can be assumed that a fairly large number of vehicle trips will remain

within the boundaries of the project. The travel demand model has estimated this to be 21 percent of the project-generated trips. The trip generation rates used in this analysis reflect those contained in the Placer County Travel Demand Model. These trip rates were validated by applying them in the Travel Demand Model using 2004 land use data from throughout Placer County and comparing the model's resulting traffic volumes to extensive 2004 traffic count data from throughout Placer County.

Table 3.14-14
Land Use and Trip Generation – Base Plan and Blueprint Scenarios

Land Use	Daily Trip Rate	Base Plan Scenario		Blueprint Scenario		Difference in Daily Trips between Base Plan and Blueprint Scenario
		Units	Trips	Units	Trips	
Single Family	9.0 per DU	9,040	81,360	11,967	107,703	+ 26,343
Multi-Family	6.5 per DU	3,750	24,375	7,878	51,207	+ 26,832
Age-Restricted	3.3 per DU	931	3,072	1,375	4,538	+ 1,466
SPA	9.0 per DU	411	3,699	411	3,699	+ 0
Total DU		*14,132*		*21,631*		
Commercial	35.0 per ksf	2206.1	77,214	2,211.0	77,385	+ 171
Office	17.7 per ksf	1,346.8	23,838	1,483.2	26,252	+ 2,414
Public	25.0 per ksf	307.1	7,678	276.6	6,915	-763
Church	9.3 per ksf	766.8	7,131	1,006.3	9,359	+ 2,228
K–12 School	1.0 per Student	8,005	8,005	11,963	11,963	+ 3,958
Park	2.2 per Acre	210.0	462	257.7	567	+ 105
Total Daily Trips			**236,834**		**299,588**	**+ 62,754**
Percent Change in Total Base Plan Trip Generation						**+ 26.5 %**

Source: DKS Associates, 2012
Note: Single Family consists of LDR and MDR, Multi-Family includes CMU, ksf equals 1,000 square feet

Table 3.14-13 also shows that at buildout of the Proposed Action under the Blueprint scenario, there would be approximately 300,000 daily vehicle trips on an average weekday. This represents an increase of approximately 26.5 percent over the Proposed Action Base Plan scenario and an increase of approximately 104 percent over the No Action Alternative. As with the Base Plan scenario, it is assumed that a large number of trips (21 percent) would likely remain within the project boundaries.

Alternative 1

Alternative 1 represents an alternative land use plan that changes the land uses only on Property 1B, located west of East Dyer Lane, with the rest of the project site land uses remaining as they are under the Proposed Action (either scenario). The alternate land use plan for Property 1B consists of an increase in open space and resultant decrease in residential and religious facilities acreage compared to the Proposed

Action. **Table 3.14-15** shows the daily trips that would be generated by Property 1B development under this alternative.

Table 3.14-15
Land Use and Trip Generation – Alternative 1 (Property 1B)

Land Use	Daily Trip Rate	Alternative 1		
		Acres	Units	Trips
Single Family	9.0 per DU	22	222	1,998
Multi-Family	6.5 per DU	8	127	826
Total DU			*349*	
Religious Facility	9.3 per ksf			0
Park	2.2 per Acre	1	1.0	2
Total Daily Trips				**2,826**

Source: DKS Associates, 2012
Note: Single Family consists of LDR and MDR, ksf equals 1,000 square feet

Alternative 2

Alternative 2 represents an alternative land use plan that changes the land uses only on Property 3, located south of Baseline Road and west of Watt Avenue, with the rest of the project site land uses remaining as they are under the Proposed Action (either scenario). The alternative changes the land use designation of Property 3 from a combination of general commercial, single and multi-family residential, and a park under the Proposed Action to commercial "Power Center" and open space. "Power Center" commercial is assumed to have a higher trip generation rate than general commercial and for this analysis, it is assumed that the residential dwelling units assumed under the Proposed Action – Base Plan scenario for Property 3 would still be located on the property. Because this would be a mixed-use property, all 259 dwelling units are assumed to be multi-family units. **Table 3.14-16** shows the daily trips that would be generated by Property 3 development under this alternative.

Alternatives 3 and 4

Alternatives 3 and 4 represent alternative land use plans that change the land uses only on Properties 16 and 17, located south of West Dyer Lane, with the rest of the project site land uses remaining as they are under the Proposed Action (either scenario). The alternate land use plan involves an increase in open space and resultant decrease in residential and religious facility acreage on Properties 16 and 17. Because the change in land use on Property 17 is dependent on the change in land use on Property 16, both alternatives are analyzed together. **Table 3.14-17** shows the daily trips that would be generated by the development of Properties 16 and 17 under these alternatives.

Table 3.14-16
Land Use and Trip Generation – Alternative 2 (Property 3)

Land Use	Daily Trip Rate	Alternative 2		
		Acres	Units	Trips
Single Family	9.0 per DU			0
Multi-Family	6.5 per DU		259	1,684
Total DU			*259*	
Commercial	35.0 per ksf			0
Power Center	40.0 per ksf	56	609.8	24,394
Religious Facility	9.3 per ksf	2	22.7	211
Park	2.2 per Acre			0
Total Daily Trips				**26,289**

Source: DKS Associates, 2012
Note: Single Family consists of LDR and MDR, ksf equals 1,000 square feet

Table 3.14-17
Land Use and Trip Generation – Alternatives 3 and 4 (Properties 16 and 17)

Land Use	Daily Trip Rate	Alternatives 3 and 4		
		Acres	Units	Trips
Single Family	9.0 per DU	43	358	3,222
Religious Facility	9.3 per ksf			0
Park	2.2 per Acre	2	2.0	4
Total Daily Trips				**3,226**

Source: DKS Associates, 2012
Note: Single Family consists of LDR and MDR, ksf equals 1,000 square feet

Alternative 5

Alternative 5 represents an alternate land use plan that change the land uses only on Property 23, located west of Locust Road, with the rest of the project site land uses remaining as they are under the Proposed Action (either scenario). The alternate land use plan involves an increase in open space and resultant decrease in residential acreage. However the same number of dwelling units is assumed and the only difference is a reduction in park acreage. **Table 3.14-18** shows the daily trips that would be generated by Property 23 development under this alternative.

Table 3.14-18
Land Use and Trip Generation – Alternative 5 (Property 23)

Land Use	Daily Trip Rate	Alternative 5		
		Acres	Units	Trips
Single Family	9.0 per DU	43	214	1,926
Park	2.2 per Acre	2	2.0	4
Total Daily Trips				**1,930**

Source: DKS Associates, 2012
Note: Single Family consists of LDR and MDR, ksf equals 1,000 square feet

Alternatives 1 through 5 Combined

If, for purposes of analysis, it is assumed that all five alternatives (Alternatives 1 through 5) would be implemented in combination with the Proposed Action Base Plan, as shown in **Table 3.14-19** below, the resulting increase in daily trips compared to the Proposed Action Base Plan would be on the order of about 13,100 daily trips.

Table 3.14-19
Trip Generation – Alternatives 1 through 5 Combined with Base Plan

Alternative	Change in Daily Trips from Base Plan	Cumulative Change
Base Plan	-	26,834
Alternative 1	-651	26,183
Alternative 2	+14,214	40,397
Alternatives 3 and 4	-450	39,947
Alternative 5	-7	39,940
Alternatives 1 through 5 Combined	+13,106	+13,106

As shown in the table above, the increase over the base plan daily trips is due to Alternative 2 with all the other alternatives resulting in minor decreases in daily trips. Given the fact that the Alternatives 1 through 5 combined scenario is dominated by the land use change under Alternative 2, the effects of this scenario are adequately reflected in the Alternative 2 analysis and a separate level of service analysis of this scenario was not conducted for this EIS.

Planned Transportation Improvements

Future transportation improvements have been identified by the Placer County General Plan and CIP, the general plans and CIPs for the City of Roseville, Sacramento County and Sutter County, and SACOG's Metropolitan Transportation Plan (MTP). New roadways needed to serve future development areas

assumed in the 2025 scenario were identified based on discussions with local jurisdictions. For the purposes of this traffic analysis, the following key improvements to the transportation system were assumed to be in place under future conditions.

Roadway Improvements under Cumulative No PVSP Conditions

The analysis of the Cumulative No PVSP conditions assumed roadway improvements that are planned to be constructed by 2025, including all the new roadways and roadway improvements in the *Placer County General Plan EIR*, Placer County CIP, and SACOG MTP that would be implemented by 2025.

The *Dry Creek/West Placer Community Plan* calls for the eventual closure of PFE Road west of Cook Riolo Road. However, based on discussions with Placer County, the analysis of Cumulative conditions assumed that this roadway would remain open.

For Sacramento County, improvements contained in SACOG's MTP were assumed. This includes the widening of Elverta Road from two lanes to four lanes from Rio Linda Boulevard to Watt Avenue. This also includes the widening of Watt Avenue and Walerga Road from two lanes to four lanes from Elverta Road to the Placer County line.

Under Cumulative (2025) No PVSP conditions, about half of the potential 17,500 dwelling units that could be constructed in the Sutter Pointe Specific Plan area were assumed to be in place by 2025. That level of development would require improvements to local roadways, including Riego Road. Under Cumulative No PVSP conditions, the improvements contained in SACOG's MTP were assumed, including an interchange at Riego Road and SR 70/99, and the widening of Riego Road from two lanes to six lanes from SR 70/99 to the Placer County line. Federal and state regulations require that the MTP be "financially constrained" and contain a set of transportation improvements that have realistic funding sources. SACOG's MTP assumed that improvements to Riego Road and other roadways in south Sutter County would be funded primarily by development in that area.

The City of Roseville has requested that traffic impacts under Cumulative conditions within the City of Roseville be evaluated using their 2020 Travel Demand Model, which was used for the development of the City's CIP. Therefore, the analysis of the Cumulative No PVSP scenario assumed the improvements contained in Roseville's CIP. The City of Roseville has adopted a Traffic Mitigation Fee that, in conjunction with other identified funding sources, will fully fund these improvements.

A planning level signal warrant analysis was conducted for the Cumulative (2025) No PVSP conditions to identify the locations where traffic signals should be assumed. This analysis indicates that the following intersections should be signalized by 2025:

- Watt Avenue and PFE Road
- Baseline Road and new roadway in proposed Sierra Vista Specific Plan area (across from 9th Street in PVSP area)
- Baseline Road and new roadway in proposed Sierra Vista Specific Plan area (across from East Dyer Lane in PVSP area)
- Locust Road and Baseline Road

- Brewer Road and Baseline Road
- Palladay Road and Baseline Road
- Pleasant Grove Road (S) and Baseline/Riego Road
- Pleasant Grove Road (N) and Riego Road
- SR 70/99 interchange ramps and Riego Road
- SR 70/99 interchange ramps and Elverta Road
- 16th Street and Elverta Road

Future Development Assumptions

Future development assumptions were prepared through discussions with the staffs of Placer County and the cities of Roseville, Rocklin, and Lincoln. Cumulative conditions were based on estimates of 2025 development levels in Placer County and the remainder of the region, including the first phase[1] of the Sutter Pointe Specific Plan in Sutter County. **Table 3.14-20** shows the assumptions for the Cumulative No PVSP scenario.

Table 3.14-20
Development Assumptions in Southwest Placer County – Cumulative 2025 No PVSP Scenario

Area		Dwelling Units	Floor Area (1,000 square feet)			College Enrollment
			Retail	Office	Industrial	
PVSP Area		261	0	0	0	0
Roseville	General Plan Area	60,002	14,400	15,319	17,401	
	MOU Remainder Area	14,154	780	584	0	
Rocklin	General Plan Area	28,606	4,586	2,848	6,494	23,000
Lincoln	General Plan Area	22,123	2,948	3,622	8,161	5,000
	SOI Expansion Area	15,000	1,875	4,000	0	
Placer Ranch		6,758	900	2,213	1,387	25,000
Remainder Sunset Industrial Area		0	357	912	7,851	
Regional University		4,387	215	75	0	6,000
Riolo Vineyards		949	88	0	0	
Total		**152,240**	**26,149**	**29,573**	**41,294**	**59,000**

Source: DKS Associates, 2006

1 Approximately 8,750 dwelling units, 1,094,000 square feet of retail, 750,000 square feet of office, and 1,500,000 square feet of industrial building space.

3.14.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact TRA-1 Increased Traffic along Placer County Roadways

No Action Alt. None of the roadways in unincorporated Placer County would be adversely affected by traffic generated under the No Action Alternative (see **Table 3.14-21** at the end of this section). The effect of the No Action Alternative on Placer County roadway segments would be **less than significant**.

Proposed Action (Base Plan and Blueprint Scenarios), Alternative 5 The Proposed Action would cause four roadway segments in Placer County to operate at LOS E under the Base Plan scenario and Alternative 5 and five roadway segments in Placer County to operate at LOS E or F under the Blueprint scenario. Based on the significance criteria listed above, this represents a significant effect. Mitigation would partially mitigate these effects. Residual **significant** effects would remain after mitigation**.**

The Proposed Action under both the Base Plan and Blueprint scenarios and Alternative 5 would result in the development of the project site with a variety of land uses, including residential, commercial, and business uses. As indicated in **Table 3.14-21**, four roadway segments in Placer County would be significantly affected under 2025 plus Proposed Action Base Plan scenario and Alternative 5 conditions while five roadway segments in Placer County would be significantly affected under 2025 plus Proposed Action Blueprint scenario conditions. Based on the significance criteria listed above, this represents a **significant** effect. The affected roadways include:

- Baseline Road east of Dyer Lane (Base Plan and Blueprint, Alternative E)
- Locust Road north of the Placer/Sacramento County Line (Base Plan and Blueprint, Alternative 5)
- Palladay Road north of the Placer/Sacramento County Line (Base Plan and Blueprint, Alternative 5)
- Dyer Lane (East) west of Watt Avenue (Blueprint)
- Dyer Lane (East) south of Baseline Road (Base Plan and Blueprint, Alternative 5)

PVSP EIR Mitigation Measure 4.7-12 would address the effects of the Proposed Action and Alternative 5 on each roadway segment. This measure was adopted by Placer County at the time of the approval of the PVSP (Proposed Action Base Plan scenario) and will be enforced by the County. Although the Blueprint scenario was evaluated for its impacts in the PVSP EIR by the County, that scenario was not approved by the County and therefore **PVSP EIR Mitigation Measure 4.7-12** was not imposed by the County on that scenario. The USACE assumes that Placer County would impose the same mitigation measure on the Proposed Action Blueprint scenario and Alternative 5 to address this effect.

The mitigation measure requires the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. However, a combination of improvements would be needed to mitigate cumulative traffic impacts, including the following: (1) construction of Placer Parkway; (2) extension of Watt Avenue from the proposed Regional University development north to Blue Oaks Boulevard; (3) widening of the Watt Avenue extension to six lanes from Baseline Road to Pleasant Grove Road; (4) widening PFE Road to four lanes between Watt Avenue and Walerga Road; (5) widening Dyer Lane to six lanes near its intersection with Watt Avenue and its eastern intersection with Baseline Road; (6) widening Locust Road south of 18th Street and widening Palladay Road south of Dyer Lane to four lanes; and (7) a substantial increase in the transit system serving the project site. However, not all of these improvements are within the jurisdiction of Placer County (e.g., Placer Parkway). The exact combination of improvements needed would depend on the size, nature, and timing of development and transportation improvements in Placer County, City of Roseville, Sacramento County, and other jurisdictions. According to the PVSP EIR, the County will continue to coordinate with these jurisdictions, but the specific set of improvements that will ultimately be constructed cannot be identified at this time. Therefore, the PVSP EIR determined that this mitigation measure would not reduce these effects to less than significant (Placer County 2007). The USACE agrees with the conclusion in the PVSP EIR and finds that residual **significant** effects of the Proposed Action and Alternative 5 on Placer County roadway segments would remain after mitigation.

Alts. 1 through 4

As indicated in **Table 3.14-21**, four roadway segments would operate at LOS E or F in unincorporated Placer County under Alternatives 1 through 4. These are the same roadway segments that would be affected by the Proposed Action under both scenarios. A fourth roadway segment would operate at LOS E under Alternative 2 only, which is the same segment affected by the Proposed Action Blueprint scenario. Based on the significance criteria listed above, this represents a **significant** effect of Alternatives 1 through 4 on Placer County roadway segments.

PVSP EIR Mitigation Measure 4.7-12 would address the effects of the alternatives on the three roadway segments. The USACE assumes that Placer County would impose the mitigation measure on Alternatives 1 through 4 to address this effect. However, for the same reasons presented above, the mitigation measure would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of Alternatives 1 through 4 would remain after mitigation.

PVSP EIR Mitigation Measure 4.7-12: Pay fair share of the cost of improvements to Placer County roadway system
(Applicability – Proposed Action and All Alternatives)

PVSP EIR Mitigation Measure 4.7-12 *requires the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. The full mitigation measure text is presented in* ***Appendix 3.0****.*

Impact TRA-2 Increased Traffic at Placer County Intersections

No Action Alt. Traffic added by the No Action Alternative would cause one Placer County-controlled study intersection to operate at LOS F during the AM peak hour and three Placer County-controlled intersections to operate at LOS F during the PM peak hour. Based on the significance criteria listed above, this represents a **significant** effect. Mitigation would partially mitigate these effects. Residual **significant** effects would remain after mitigation**.**

AM Peak Hour

As indicated in **Table 3.14-22** (at the end of this section), the intersection of Walerga Road & Town Center would be significantly affected during the AM Peak hour by traffic under 2025 plus No Action Alternative conditions. *PM Peak Hour*

As indicated in **Table 3.14-23** (at the end of this section), three study intersections would be significantly affected during the PM peak hour under 2025 plus No Action Conditions. Intersections affected during the PM peak hour include:

- Walegra Road & PFE Road
- East Dyer Land & Baseline Road
- Walerga Road & Town Center

Based on the significance criteria listed above, this represents a **significant** effect of the No Action Alternative.

PVSP EIR Mitigation Measures 4.7-13a and **4.7-13b** would address the significant effects to each affected intersection. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this effect. The mitigation measures require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. However, a combination of improvements that are identified above under **Impact TRA-1** would be needed to mitigate cumulative traffic impacts at the Placer County intersections. However, as noted under **Impact TRA-1**, not all of the identified improvements are within the jurisdiction of Placer County (e.g., Placer Parkway). The exact combination of

improvements needed would depend on the size, nature, and timing of development and transportation improvements in Placer County, City of Roseville, Sacramento County, and other jurisdictions. Placer County will continue to coordinate with these jurisdictions, but the specific set of improvements that will ultimately be constructed cannot be identified at this time. Therefore, these mitigation measures would not reduce these effects to less than significant. The USACE finds that residual **significant** effects of the No Action Alternative would remain after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios), Alt. 5

Compared to one intersection (Walerga Road & Town Center Drive) operating a LOS F during the AM peak hour under the No Action Alternative, as shown in **Table 4.13-22**, three intersections (East Dyer Lane & Baseline Road, Walerga Road & Town Center Drive, Watt Avenue & Dyer Lane) would operate at LOS E or F under the Proposed Action both scenarios and under Alternative 5 during the AM peak hour and a forth intersection (Fiddyment Road & Baseline Road) would operate a LOS F under the Proposed Action Blueprint Scenario only during the AM Peak hour. Compared to three intersections (Walegra Road & PFE Road, East Dyer Land & Baseline Road, Walerga Road & Town Center) operating at LOS F during the PM peak hour under No Action Alternative, as indicated in **Table 4.13-23**, four intersections (Walegra Road & PFE Road, East Dyer Land & Baseline Road, Walerga Road & Town Center, Watt Avenue & Dyer Lane) would operate at LOS F under the two scenarios and by Alternative 5. Based on the significance criteria listed above, this represents a **significant** effect of the Proposed Action and Alternative 5.

PVSP EIR Mitigation Measures 4.7-13a and **4.7-13b** would address the effects to each intersection. These measures were adopted by Placer County at the time of the approval of the PVSP (Proposed Action Base Plan scenario) and will be enforced by the County. Although the Blueprint scenario was evaluated for its impacts in the PVSP EIR by the County, that scenario was not approved by the County and therefore **PVSP EIR Mitigation Measures 4.7-13a** and **4.7-13b** were not imposed by the County on that scenario. The USACE assumes that Placer County would impose the same mitigation measures on the Proposed Action Blueprint scenario to address the scenario's effect on study intersections. In addition, the USACE assumes that Placer County would impose the same mitigation measures on Alternative 5 to address the alternative's effect on study intersections.

For the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of the Proposed Action and Alternative 5 on Placer County intersections would remain after mitigation.

Alts. 1 through 4

As indicated in **Table 3.14-22**, three intersections (East Dyer Lane & Baseline Road, Watt Avenue & Dyer Lane, and Walerga Road & Town Center) would operate at LOS F under Alternatives 1 through 4 during the AM peak hour and four intersections

(Walerga Road & PFE Road, East Dyer Land & Baseline Road, Walerga Road & Town Center, and Watt Avenue & Dyer Lane) would operate at LOS F under Alternatives 1 through 4 during the PM peak hour. In addition, one additional intersection (Fiddyment Road & Baseline Road) would operate at LOS F under Alternatives 2 through 4 only during the PM peak hour. Based on the significance criteria listed above, this represents a **significant** effect.

PVSP EIR Mitigation Measure 4.7-13a and **4.7-13b** would address the effects to each intersection. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 4 to address this effect. However, for the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of Alternatives 1 through 4 would remain after mitigation.

PVSP EIR Mitigation Measure 4.7-13a and
PVSP EIR Mitigation Measure 4.7-13b: **Pay fair share of the cost of improvements to Placer County intersections**
(Applicability – Proposed Action and All Alternatives)

PVSP EIR Mitigation Measures 4.7-13a *and* ***4.7-13b*** *require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. The full text of the mitigation measures is presented in* ***Appendix 3.0****.*

Impact TRA-3 Increased Traffic along Sacramento County Roadway Segments

No Action Alt. The No Action Alternative would result in four roadway segments operating at LOS F in Sacramento County (see **Table 24** in **Appendix 3.14**). Mitigation would partially mitigate these effects. Residual **significant** effects would remain after mitigation**.** The affected roadways include:

- Watt Avenue: County Line to Antelope Road
- Elwyn Road; County Line to Elverta Road
- 16th Street: County Line to Elverta Road
- Dry Creek Road: North of Elkhorn Boulevard

PVSP EIR Mitigation Measures 4.7-15a and **4.7-15b** would address the effects to each roadway segment. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this effect. The mitigation measures require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. However, since Placer County cannot compel Sacramento County to collect funds and construct the improvements

identified in its jurisdiction, this impact would remain significant. The USACE finds that residual **significant** effects of the No Action Alternative would remain after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios), Alt. 5

The Proposed Action under both scenarios and Alternative 5 would cause seven roadway segments to operate at LOS F in Sacramento County (see **Table 24** in **Appendix 3.14**). These roadway segments include:

- Watt Avenue: County Line to Antelope Road
- Watt Avenue: Antelope Road to Elkhorn Boulevard
- Walerga Road: County Line to Antelope Road
- Sorento Road: County Line to Elverta Road
- Elwyn Road: County Line to Elverta Road
- 16th Street: County Line to Elverta Road
- Dry Creek Road: North of Elkhorn Boulevard

Four of these segments (Watt Avenue: County Line to Antelope Road, Elwyn Road; County Line to Elverta Road; 16th Street: County Line to Elverta Road, Dry Creek Road: North of Elkhorn Boulevard) would also operate at LOS F under the No Action Alternative. Based on the significance criteria listed above, this represents a **significant** effect of the Proposed Action and Alternative 5.

PVSP EIR Mitigation Measures 4.7-15a and **4.7-15b** would address the effects to each roadway segment under the two Proposed Action scenarios and Alternative 5, and **PVSP EIR Mitigation Measure 6.7-15a** would address the additional impact of the Blueprint scenario. **Mitigation Measures 4.7-15a** and **4.7-15b** were adopted by Placer County at the time of the approval of the PVSP (Proposed Action Base Plan scenario) and will be enforced by the County. Although the Blueprint scenario was evaluated for its impacts in the PVSP EIR by the County, that scenario was not approved by the County and therefore **PVSP EIR Mitigation Measures 4.7-15a** and **4.7-15b,** and **PVSP EIR Mitigation Measure 6.7-15a**, which was a mitigation measure identified in the EIR as applicable only to the Blueprint scenario, were not imposed by the County on that scenario. The USACE assumes that Placer County would impose these mitigation measures on the Proposed Action Blueprint scenario to address the scenario's effect on Sacramento County roadway segments. In addition, the USACE assumes that Placer County would impose **PVSP EIR Mitigation Measures 4.7-15a** and **4.7-15b** on Alternative 5 to address the alternative's effect on Sacramento County roadway segments.

For the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of

the Proposed Action and Alternative 5 on Sacramento County roadway segments would remain after mitigation.

Alts. 1 through 4 Alternatives 1 through 4 would cause six roadway segments in Sacramento County to operate at LOS F (see **Table 24** in **Appendix 3.14**).

- Watt Avenue: County Line to Antelope Road
- Elwyn Road: County Line to Elverta Road
- 16th Street: County Line to Elverta Road
- Dry Creek Road: North of Elkhorn Boulevard
- Watt Avenue: Antelope Road to Elkhorn Boulevard
- Walerga Road: County Line to Antelope Road

Four of these roadway segments (Watt Avenue: County Line to Antelope Road, Elwyn Road: County Line to Elverta Road, 16th Street: County Line to Elverta Road, Dry Creek Road: North of Elkhorn Boulevard) would operate at LOS F under the No Action Alternative. A seventh roadway segment (Sorento Road: County Line to Elverta Road) would only operate at LOS F under Alternatives 2 through 4. Based on the significance criteria listed above, this represents a **significant** effect of Alternatives 1 through 4.

PVSP EIR Mitigation Measures 4.7-15a, 4.7-15b, and **6.7-15a** would address the effects to each roadway segment. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives A through D to address this effect. However, for the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of Alternatives 1 through 4 would remain after mitigation.

PVSP EIR Mitigation Measure 4.7-15a and
PVSP EIR Mitigation Measure 4.7-15b: Pay fair share of the cost of improvements to Sacramento County roadway segments
(Applicability – No Action, Proposed Action, and All Alternatives)

PVSP EIR Mitigation Measures 4.7-15a *and* ***4.7-15b*** *require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. The full text of the mitigation measures is presented in* ***Appendix 3.0****.*

PVSP EIR Mitigation Measure 6.7-15a: Pay fair share of the cost of improvements to Watt Avenue
(Applicability – Blueprint scenario; Alternatives A through D)

PVSP EIR Mitigation Measure 6.7-15a *requires the proposed development to construct Watt Avenue to eight lanes (or a one-way couplet) from Antelope Road to Don Julio Boulevard. The full text of the mitigation measure is presented in* ***Appendix 3.0****.*

Impact TRA-4 Increased Traffic at Sacramento County Intersections

No Action Alt. Traffic added at buildout under the No Action Alternative would result in **significant** effects at two study intersections in Sacramento County during the AM peak hour and eight study intersections in Sacramento County during the PM peak hour. Mitigation would partially mitigate these effects. Residual **significant** effects would remain after mitigation**.**

AM Peak Hour

Traffic under 2025 plus No Action Alternative conditions would significantly affect two study intersections during the AM peak hour (see **Table 25** in **Appendix 3.14**). Intersections affected during the AM peak hour include:

- 16th Street & Elverta Road
- Walerga Road & Elverta Road

PM Peak Hour

Traffic under 2025 plus No Action Alternative would significantly affect eight study intersections during the PM peak hour (see **Table 26** in **Appendix 3.14**). Intersections affected during the PM peak hour include:

- Elwyn Avenue & Elverta Road
- Palladay Road & Elverta Road
- 16th Street & Elverta Road
- Watt Avenue & Elverta Road
- Dry Creek Road & Elkhorn Boulevard
- Watt Avenue & Elkhorn Boulevard
- Watt Avenue & Air Base Drive
- Watt Avenue & Roseville Road

Based on the significance criteria listed above, this represents a **significant** effect of the No Action Alternative.

PVSP EIR Mitigation Measures 4.7-16a and **4.7-16b** would address the effects to each intersection. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this effect. The mitigation measures require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. However, since Placer County cannot compel Sacramento County to collect funds and construct the improvements identified in its jurisdiction, this impact would remain significant. The USACE finds

that residual **significant** effects of the No Action Alternative would remain after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios), Alt. 5

The Proposed Action under both scenarios and Alternative 5 would significantly affect four study intersections during the AM peak hour (see **Table 25** in **Appendix 3.14**). These intersections include:

- Sorento Road & Elverta Road
- 16th Street & Elverta Road
- Walerga Road & Elverta Road
- Watt Avenue & Elkhorn Boulevard

Two of these intersections (16th Street & Elverta Road, Walerga Road & Elverta Road) would also be significantly affected under the No Action Alternative. Based on the significance criteria listed above, this represents a **significant** effect of the Proposed Action and Alternative 5.

The Proposed Action Base Plan scenario and Alternative 5 would significantly affect 10 study intersections during the PM peak hour while the Proposed Action Blueprint scenario would significantly affect eight study intersections during the PM peak hour (see **Table 26** in **Appendix 3.14**).

Intersections common among both scenarios and Alternative 5 during the PM peak hour include:

- Elwyn Avenue & Elverta Road
- Palladay Road & Elverta Road
- 16th Street & Elverta Road
- Watt Avenue & Elverta Road
- Watt Avenue & Antelope Road
- Dry Creek Road & Elkhorn Boulevard
- Watt Avenue & Elkhorn Boulevard
- Watt Avenue & Airbase Drive

Additional intersections under the Proposed Action Base Plan scenario that would be significantly affected during the PM peak hour include Walerga Road & Elkhorn Boulevard and Watt Avenue & Roseville Road.

Eight of these intersections (Elwyn Avenue & Elverta Road, Palladay Road & Elverta Road, 16th Street & Elverta Road, Watt Avenue & Elverta Road, Dry Creek Road & Elkhorn Boulevard, Watt Avenue & Elkhorn Boulevard, Watt Avenue & Air Base Drive, Watt Avenue & Roseville Road) would also be significantly affected under the No

Action Alternative. Based on the significance criteria listed above, this represents a **significant** effect of the Proposed Action and Alternative 5.

PVSP EIR Mitigation Measures 4.7-16a and **4.7-16b** would address the effects to each intersection. These measures were adopted by Placer County at the time of the approval of the PVSP (Proposed Action Base Plan scenario) and will be enforced by the County. Although the Blueprint scenario was evaluated for its impacts in the PVSP EIR by the County, that scenario was not approved by the County and therefore **PVSP EIR Mitigation Measures 4.7-16a** and **4.7-16b** were not imposed by the County on that scenario. The USACE assumes that Placer County would impose the same mitigation measures on the Proposed Action Blueprint scenario to address the scenario's effect on Sacramento County intersections. In addition, the USACE assumes that Placer County would impose the same mitigation measures on Alternative 5 to address the alternative's effect on Sacramento County intersections.

For the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of the Proposed Action and Alternative 5 on Sacramento County intersections would remain after mitigation.

Alts. 1 through 4

Alternatives 1 through 4 would significantly affect four intersections in Sacramento County during the AM peak hour (see **Table 25** in **Appendix 3.14**). These include:

- Sorento Road & Elverta Road
- 16th Street & Elverta Road
- Walerga Road & Elverta Road
- Watt Avenue & Elkhorn Boulevard

Two of these intersections (16th Street & Elverta Road, Walerga Road & Elverta Road) would also be significantly affected under the No Action Alternative. All four intersections would be affected by the Proposed Action under both scenarios.

Alternatives 1 through 4 would also significantly affect eight intersections in Sacramento County during the PM peak hour (see Table 26 in **Appendix 3.14**).

- Elwyn Avenue & Elverta Road
- Palladay Road & Elverta Road
- 16th Street & Elverta Road
- Watt Avenue & Elverta Road
- Dry Creek Road & Elkhorn Boulevard
- Watt Avenue & Elkhorn Boulevard
- Watt Avenue & Air Base Drive

- Watt Avenue & Roseville Road

These intersections would also be significantly affected under the No Action Alternative and Proposed Action Base Plan scenario. A ninth intersection (Watt Avenue & Antelope Road) would only be adversely affected under Alternatives 1 and 2 while a tenth intersection (Walerga Road & Elkhorn Boulevard) would only be adversely affected under Alternative 1. Based on the significance criteria listed above, this represents a **significant** effect.

PVSP EIR Mitigation Measures 4.7-16a and **4.7-16b** would address the effects to each intersection. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 4 to address this effect. However, for the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of Alternatives 1 through 4 would remain after mitigation.

PVSP EIR Mitigation Measure 4.7-16a and
PVSP EIR Mitigation Measure 4.7-16b: Pay fair share of the cost of improvements to Sacramento County intersections
(Applicability – No Action, Proposed Action, and All Alternatives)

PVSP EIR Mitigation Measures 4.7-16a *and* ***4.7-16b*** *require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. The full text of the mitigation measures is presented in* ***Appendix 3.0****.*

Impact TRA-5 Increased Traffic along Sutter County Roadway Segments

No Action Alt. Traffic added under the No Action Alternative would significantly affect the segment of Pleasant Grove Road north of the county line which is under the jurisdiction of Sutter County (see Table 27 in **Appendix 3.14**).

PVSP EIR Mitigation Measures 4.7-17a and **4.7-17b** would address the effect to the roadway segment. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this effect. The mitigation measures require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. However, since Placer County cannot compel Sutter County to collect funds and construct the improvements identified in its jurisdiction, this impact would remain significant. The USACE finds that residual **significant** effects of the No Action Alternative would remain after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios), Alt. 5

The same roadway segment would be significantly affected under the Proposed Action Base Plan and Blueprint scenarios and Alternative 5 (see Table 27 in **Appendix 3.14**).

PVSP EIR Mitigation Measures 4.7-17a and **4.7-17b** would address the effect to this roadway segment. These measures were adopted by Placer County at the time of the approval of the PVSP (Proposed Action Base Plan scenario) and will be enforced by the County. Although the Blueprint scenario was evaluated for its impacts in the PVSP EIR by the County, that scenario was not approved by the County and therefore **PVSP EIR Mitigation Measures 4.7-17a** and **4.7-17b** were not imposed by the County on that scenario. The USACE assumes that Placer County would impose the same mitigation measures on the Proposed Action Blueprint scenario to address the scenario's effect on this Sutter County roadway segment. In addition, the USACE assumes that Placer County would impose the same mitigation measures on Alternative 5 to address the alternative's effect on this Sutter County roadway segment.

For the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of the Proposed Action and Alternative 5 on this Sutter County roadway segment would remain after mitigation.

Alts. 1 through 4

The same roadway segment would be adversely affected under Alternatives 1 through 4 (see Table 27 in **Appendix 3.14**).

PVSP EIR Mitigation Measures 4.7-17a and **4.7-17b** would address the effect to the segment of Pleasant Grove Road north of the County line. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 4 to address this effect. However, for the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of Alternatives 1 through 4 would remain after mitigation.

PVSP EIR Mitigation Measure 4.7-17a and
PVSP EIR Mitigation Measure 4.7-17b: Pay fair share of the cost of improvements to Sutter County roadway segments
(Applicability – No Action, Proposed Action, and All Alternatives)

PVSP EIR Mitigation Measures 4.7-17a *and* ***4.7-17b*** *require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. The full text of the mitigation measures is presented in* ***Appendix 3.0****.*

Impact TRA-6 Increased Traffic at Sutter County Intersections

No Action Alt. Traffic added at buildout under the No Action Alternative would result in a **significant** effect at two study intersections during the AM peak hour and one study intersection during the PM peak hour. Mitigation would partially mitigate these effects. Residual **significant** effects would remain after mitigation**.**

AM Peak Hour

Traffic under 2025 plus No Action Alternative would significantly affect the intersections of Pleasant Grove Road (North) & Riego Road and Pleasant Gove Road (South) & Riego Road during the AM peak hour (see Table 28 in **Appendix 3.14**).

PM Peak Hour

Traffic under 2025 plus No Action Alternative would significantly affect the intersection of Pleasant Grove Road (North) & Riego Road during the PM peak hour (see Table 29 in **Appendix 3.14**).

PVSP EIR Mitigation Measures 4.7-18a and **4.7-18b** would address the effects to each intersection. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this effect. The mitigation measures require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. However, since Placer County cannot compel Sutter County to collect funds and construct the improvements identified in its jurisdiction, this impact would remain significant. The USACE finds that residual **significant** effects of the No Action Alternative would remain after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios), Alt. 5 The same intersections that would be significantly affected under the No Action Alternative during the AM and PM peak hours would be significantly affected under the Proposed Action Base Plan scenario and Alternative 5 during the AM and PM peak hours (see Tables 28 and 29 in **Appendix 3.14**).

Only one intersection (Pleasant Grove Road [South] & Riego Road) would be significantly affected under the Proposed Project Blueprint scenario during the AM peak hour, and one intersection would be significantly affected under the Proposed Project Blueprint scenario during the PM peak hour (see Tables 28 and 29 in **Appendix 3.14**). Based on the significance criteria listed above, this represents a **significant** effect of the Proposed Action and Alternative 5.

PVSP EIR Mitigation Measures 4.7-18a and **4.7-18b** would address the effects to each intersection. These mitigation measures were adopted by Placer County at the time of the approval of the PVSP (Proposed Action Base Plan scenario) and will be enforced by the County. Although the Blueprint scenario was evaluated for its impacts in the PVSP

EIR by the County, that scenario was not approved by the County and therefore **PVSP EIR Mitigation Measures 4.7-18a** and **4.7-18b** were not imposed by the County on that scenario. The USACE assumes that Placer County would impose the same mitigation measures on the Proposed Action Blueprint scenario to address the scenario's effect on Sutter County intersections. In addition, the USACE assumes that Placer County would impose the same mitigation measures on Alternative 5 to address the alternative's effect on Sutter County intersections.

For the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of the Proposed Action and Alternative 5 on Sutter County intersections would remain after mitigation.

Alts. 1 through 4 The same intersections that would be significantly affected under the No Action Alternative and the Proposed Action Base Plan scenario during the AM and PM peak hours would be significantly affected under Alternatives 1 through 4 during the AM and PM peak hours (see Tables 28 and 29 in **Appendix 3.14**). Based on the significance criteria listed above, this represents a **significant** effect.

PVSP EIR Mitigation Measures 4.7-18a and **4.7-18b** would address the effects to each intersection. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 4 to address this effect. However, for the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of Alternatives 1 through 4 would remain after mitigation.

PVSP EIR Mitigation Measure 4.7-18a and
PVSP EIR Mitigation Measure 4.7-18b: Pay fair share of the cost of improvements to Sutter County intersections
(Applicability – No Action, Proposed Action, and All Alternatives)

PVSP EIR Mitigation Measures 4.7-18a *and* ***4.7-18b*** *require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. The full text of the mitigation measures is presented in* ***Appendix 3.0****.*

Impact TRA-7 Increased Traffic at City of Roseville Intersections

No Action Alt. Traffic added at buildout under the No Action Alternative would result in a **significant** effect at three study intersections during the PM peak hour (see Table 30 in **Appendix 3.14**). The affected intersections include:

- Fiddyment Road & Baseline Road

- Foothills Boulevard & Junction Boulevard
- Washington Boulevard & Junction Boulevard

PVSP EIR Mitigation Measures 4.7-14a through **4.7-14c** would address the effects to each intersection. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this effect. The mitigation measures require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. However, since Placer County cannot compel the City of Roseville to collect funds and construct the improvements identified in its jurisdiction, this impact would remain significant. The USACE finds that residual **significant** effects of the No Action Alternative would remain after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios), Alt. 5

The Proposed Action under both scenarios and Alternative E would significantly affect the same three intersections in the City of Roseville during the PM peak hour (see Table 30 in **Appendix 3.14**) that would be significantly affected under the No Action Alternative. In addition, the Proposed Action Blueprint scenario would also significantly affect the intersection of Foothills Boulevard & Baseline Road, Main Street. Based on the significance criteria listed above, this represents a **significant** effect of the Proposed Action under both scenarios and Alternative 5.

PVSP EIR Mitigation Measures 4.7-14a through **4.7-14c** would address the effects to each intersection. These measures were adopted by Placer County at the time of the approval of the PVSP (Proposed Action Base Plan scenario) and will be enforced by the County. Although the Blueprint scenario was evaluated for its impacts in the PVSP EIR by the County, that scenario was not approved by the County and therefore **PVSP EIR Mitigation Measures 4.7-14a** through **4.7-14c** were not imposed by the County on that scenario. The USACE assumes that Placer County would impose the same mitigation measures on the Proposed Action Blueprint scenario to address the scenario's effect on City of Roseville intersections. In addition, the USACE assumes that Placer County would impose the same mitigation measures on Alternative 5 to address the alternative's effect on City of Roseville intersections.

For the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of the Proposed Action and Alternative 5 on City of Roseville intersections would remain after mitigation.

Alts. 1 through 4 Alternatives 1 through 4 would significantly affect the same three intersections in the City of Roseville during the PM peak hour (see Table 30 in **Appendix 3.14**) that be significantly affected under the No Action Alternative and Proposed Action Base Plan scenario. Based on the significance criteria listed above, this represents a **significant** effect of Alternatives 1 through 4.

PVSP EIR Mitigation Measures 4.7-14a through **4.7-14c** would address the effects to each intersection. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 4 to address this effect. However, for the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of Alternatives 1 through 4 would remain after mitigation.

PVSP EIR Mitigation Measures 4.7-14a through
PVSP EIR Mitigation Measures 4.7-14c: **Pay fair share of the cost of improvements to City of Roseville intersections**
(Applicability – No Action, Proposed Action, and All Alternatives)

PVSP EIR Mitigation Measures 4.7-14a *through* ***4.7-14c****. These measures require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. The full text of the mitigation measures is presented in* ***Appendix 3.0****.*

Impact TRA-8 Increased Traffic on State Highway Segments

No Action Alt. The No Action Alternative would result in **significant** effects on eight state highway segments (see Table 31 in **Appendix 3.14**). Mitigation would partially mitigate these effects. Residual **significant** effects would remain after mitigation**.**

The affected highway segments include:

- SR 70/99 South of Riego Road
- SR 70/99 South of Elverta Road
- SR 65 North of Pleasant Grove Boulevard
- SR 65 South of Pleasant Grove Boulevard
- I-80 West of Watt Avenue
- I-80 East of Auburn Boulevard
- I-80 West of Riverside Avenue
- I-80 East of Riverside Avenue

PVSP EIR Mitigation Measures 4.7-19a and **4.7-19b** would address the effects to each

highway segment. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this effect. The mitigation measures require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. However, since Placer County cannot compel Caltrans to collect funds and construct the improvements identified in its jurisdiction, this impact would remain significant. The USACE finds that residual **significant** effects of the No Action Alternative would remain after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios), Alt. 5

The Proposed Action under the Base Plan scenario and Alternative 5 would significantly affect the same eight state highway segments (see Table 31 in **Appendix 3.14**) that would be significantly affected under the No Action Alternative. In addition, the Proposed Action Blueprint scenario would also significantly affect the segment of Business 80 (SR 51) West of Watt Avenue. Based on the significance criteria listed above, this represents a **significant** effect of the Proposed Action under both scenarios and Alternative 5.

PVSP EIR Mitigation Measures 4.7-19a, 4.7-19b, and **6.7-16a** would address the effects to each highway segment. These were adopted by Placer County at the time of the approval of the PVSP (Proposed Action Base Plan scenario) and will be enforced by the County. Although the Blueprint scenario was evaluated for its impacts in the PVSP EIR by the County, that scenario was not approved by the County and therefore **PVSP EIR Mitigation Measures 4.7-19a, 4.7-19b**, and **6.7-16a** were not imposed by the County on that scenario. The USACE assumes that Placer County would impose these mitigation measures on the Proposed Action Blueprint scenario to address the scenario's effect on state highways. In addition, the USACE assumes that Placer County would impose the same mitigation measures on Alternative 5 to address the alternative's effect on state highways.

For the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of the Proposed Action and Alternative 5 on state highways would remain after mitigation.

Alts. 1 through 4

Alternatives 1 through 4 would significantly affect the same eight state highway segments (see Table 31 in **Appendix 3.14**) that would be significantly affected under the No Action Alternative and Proposed Action Base Plan scenario. In addition a ninth segment (Business 80 west of Watt Avenue) would be significantly affected under Alternatives 1 and 2. This segment would also be significantly affected under the Proposed Action Blueprint Scenario. Based on the significance criteria listed above, this represents a **significant** effect of Alternatives 1 through 4.

PVSP EIR Mitigation Measures 4.7-19a, 4.7-19b, and **6.7-16a** would address the effects

to each highway segment. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 4 to address this effect. However, for the same reasons presented above, the mitigation measures would not fully mitigate the effects to less than significant. The USACE finds that residual **significant** effects of Alternatives 1 through 4 would remain after mitigation.

PVSP EIR Mitigation Measure 4.7-19a through
PVSP EIR Mitigation Measure 4.7-19b, and
PVSP EIR Mitigation Measure 6.7-16a: Pay fair share of the cost of improvements to state highway segments
(Applicability – No Action, Proposed Action, and All Alternatives)

PVSP EIR Mitigation Measures 4.7-19a *through* ***4.7-19b****, and* ***6.7-16a*** *require the proposed development to pay the project's fair share of the cost of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation related impacts. The full mitigation measure text is presented in* ***Appendix 3.0****.*

Impact TRA-9 Increased Demand for Local Transit Service

No Action Alt. The No Action Alternative would result in the development of the project site with a variety of land uses, including residential, commercial, and business uses. The addition of these uses would increase the demand for transit within unincorporated Placer County. There are currently no transit routes directly serving the project site. Funding for transit service to the project site would be costly due to the trip lengths involved to connect to surrounding communities and areas. Placer County would receive some additional funding for transit services through its key existing funding source, Transportation Development Act (TDA) funds, due to buildout of the project site since these funds will be generated by sales tax revenue and returned to the County based on population. However, the additional TDA funds would only allow limited transit service to the project site. The potential for inadequate funding for the needed transit service is considered a **significant** effect.

PVSP EIR Mitigation Measures 4.7-10a and **4.7-10b** would address this effect. These measures would establish a Community Service Area to fund the cost of transit and ensure that bus shelters are placed along major roadways. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this effect. The USACE finds that the mitigation measures would fully mitigate the effect to **less than significant**.

Proposed Action (Base Plan and Blueprint Scenarios), Alt. 5

The potential for inadequate funding for the needed transit service under the Proposed Action and Alternative 5 would be the same as described above for the No Action Alternative. This is considered a **significant** effect.

PVSP EIR Mitigation Measures 4.7-10a and **4.7-10b** would address this effect. These measures were adopted by Placer County at the time of the approval of the PVSP (Proposed Action Base Plan scenario) and will be enforced by the County. Although the Blueprint scenario was evaluated for its impacts in the PVSP EIR by the County, that scenario was not approved by the County and therefore **PVSP EIR Mitigation Measures 4.7-10a** and **4.7-10b** were not imposed by the County on that scenario. The USACE assumes that Placer County would impose these mitigation measures on the Proposed Action Blueprint scenario and Alternative 5 to address the effect on transit service. The PVSP EIR concluded that this impact would be reduced to less than significant with mitigation (Placer County 2007). The USACE agrees with the conclusion in the PVSP EIR and finds that with mitigation, this effect would be reduced to **less than significant**.

Alts. 1 through 4

The potential for inadequate funding for the needed transit services under Alternatives 1 through 4 would be the same as described above for the Proposed Action. This is considered a **significant** effect.

PVSP EIR Mitigation Measures 4.7-10a and **4.7-10b** would address this effect. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 4 to address this effect. The USACE finds that the mitigation measures would fully mitigate the effect to **less than significant**.

PVSP EIR Mitigation Measure 4.7-10a: Transit Funding
(*Applicability – No Action, Proposed Action, and All Alternatives*)

PVSP EIR Mitigation Measure 4.7-10a *would establish a Community Service Area to fund the cost of transit. The full mitigation measure text is presented in* ***Appendix 3.0****.*

PVSP EIR Mitigation Measure 4.7-10b: Bus Shelters
(*Applicability – No Action, Proposed Action, and All Alternatives*)

PVSP EIR Mitigation Measure 4.7-10b *would ensure that bus shelters are placed along major roadways. The full mitigation measure text is presented in* ***Appendix 3.0****.*

Impact TRA-10 Increased Demand for Local Bicycle Facilities

No Action Alt. Implementation of the No Action Alternative would result in the development of the project site with a wide variety of land uses. The addition of these uses would increase the demand for bicycle facilities within the unincorporated Placer County and neighboring jurisdictions. The No Action Alternative would include Class I off-street bike trails and Class II on-street bike lanes. These would be connected within the project site and to the existing County bikeway system. The proposed bikeway system on the project site meets the intent of policies listed in the Placer County General Plan, and this effect is considered **less than significant**.

Proposed Action (Base Plan and Blueprint Scenarios), Alt. 1 through 5 The effect would be the same as described above for the No Action Alternative and would be **less than significant**.

Impact TRA-11 Impact to the Riego Road Railroad Crossing

No Action Alt. The No Action Alternative would contribute to the need to widen Riego Road to six lanes. It is expected that a six lane roadway along Riego Road would be able accommodate traffic generated under the No Project Alternative and additional widening beyond the six planned lanes would not be needed.

The Public Utilities Commission (PUC) would be responsible for issuing a permit for any roadway widening across the Union Pacific rail line along Riego Road, and could require that a grade separation be constructed as part of the roadway widening. The need and design of the crossing would be determined during planning for the roadway widening. One concern of PUC staff is that adequate land be reserved to provide the right-of-way for the separation. Because the rail line is located outside of the project site and in Sutter County, Placer County cannot ensure that adequate land is reserved. Sutter County would have jurisdiction over the roadway widening, including the right-of-way for the rail crossing. The No Action Alternative would pay its fair share toward the road widening, including a grade separation if needed. Because the contribution of the No Action Alternative to cumulative traffic would not trigger the need for additional widening over the rail line, this effect is considered **less than significant**.

Proposed Action (Base Plan and Blueprint Scenarios), Alt. 1 through 5

The effect would be the same as described above for the No Action Alternative and would be **less than significant**.

Impact TRA-12 Construction Impacts

No Action Alt.

The No Action Alternative would increase traffic volumes in the vicinity of the project site during construction. The on-site construction within the project site is expected to last for approximately 20 to 25 years, subject to economic conditions. The concentration of construction traffic could cause temporary delays in traffic flow. This effect would be **significant**.

PVSP EIR Mitigation Measure 4.7-1 would address this effect. This mitigation measure requires the preparation and implementation of construction traffic management plans for on-site and off-site construction activities. The USACE assumes that Placer County would impose the same mitigation measure on the No Action Alternative to address this effect. The USACE finds that the mitigation measure would fully mitigate the effect to **less than significant**.

Proposed Action (Base Plan and Blueprint Scenarios), Alt. 5

The potential for traffic impacts during construction would be similar to the No Action Alternative. The maximum number of construction workers on the project site on any given day is estimated to be 500. During the peak construction period, there would be about 1,500 daily vehicle trips generated by construction workers, plus about 50 vehicles (mostly trucks) per day delivering materials to the project site. Site access during construction could be from a variety of locations, including Watt Avenue and Baseline Road. In some cases, the concentration of construction traffic could cause temporary delays in traffic flow (Placer County 2007). This effect would be **significant**.

PVSP EIR Mitigation Measure 4.7-1 would address this effect. This measure was adopted by Placer County at the time of the approval of the PVSP (Proposed Action Base Plan scenario) and will be enforced by the County. Although the Blueprint scenario was evaluated for its impacts in the PVSP EIR by the County, that scenario was not approved by the County and therefore **PVSP EIR Mitigation Measure 4.7-1** was not imposed by the County on that scenario. The USACE assumes that Placer County would impose this mitigation measure on the Proposed Action Blueprint scenario to address the scenario's construction traffic impacts. The USACE also assumes that Placer County would impose this mitigation measure on Alternative 5 to address the

alternative's construction traffic impacts. The PVSP EIR concluded that this impact would be reduced to less than significant with mitigation (Placer County 2007). The USACE agrees with the conclusion in the PVSP EIR and finds that this impact would be reduced to **less than significant**.

Alts. 1 through 4 The potential for traffic impacts during construction under Alternatives 1 through 4 would be the same as described above for the No Action Alternative and Proposed Action. This would be a **significant** effect.

PVSP EIR Mitigation Measure 4.7-1 would address this effect. The USACE assumes that Placer County would impose the same mitigation measure on Alternatives 1 through 4 to address this effect. The USACE finds that the mitigation measure would fully mitigate the effect to **less than significant**.

PVSP EIR Mitigation Measure 4.7-1: Construction Traffic Management Plan (*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.7-1 *requires the preparation and implementation of construction traffic management plans for on-site and off-site construction activities. The full text of the mitigation measure is presented in* ***Appendix 3.0****.*

Impact TRA-13 Indirect Effects on Transportation and Traffic from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5 The construction and operation of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which would be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5, would result in **less than significant** effects to transportation and traffic. As analyzed in the PVSP Second Partially Recirculated RDEIR dated March 2007, construction activities would increase truck traffic on roads in the area. However, construction would be temporary and the project would be subject to standard County and State traffic control and access procedures. Once installed underground, the pipelines would not affect traffic. Therefore, the effects on transportation and traffic from the water pipeline project would be **less than significant**.

3.14.6 RESIDUAL SIGNIFICANT IMPACTS

Residual **significant** effects would remain under the Proposed Action and Alternatives 1 through 5 for **Impact TRA-1** after mitigation. Residual significant effects would remain under the No Action Alternative, Proposed Action, and Alternatives 1 through 5 for **Impacts TRA-2, TRA-3, TRA-4, TRA-5**, **TRA-6, TRA-7,** and **TRA-8** after mitigation. All of the other effects would either be **less than significant** or would be reduced to a **less than significant** level by the proposed mitigation.

3.14.7 REFERENCES

DKS Associates, Placer Vineyards Specific Plan EIS Transportation Analysis, January 2012.

Placer County. 2007. Final Environmental Impact Report for the Placer Vineyards Specific Plan. Prepared by Quad Knopf.

Placer County. 2008. Final Environmental Impact Report for the Regional University Specific Plan. Prepared by PBS&J. September.

Table 3.14-21
Roadway Segment Levels of Service Impacts – Unincorporated Placer County
Cumulative Plus Project Conditions

Roadway Segment	Cumulative No Development			Cumulative Plus Project		
	ADT	V/C	LOS	ADT	V/C	LOS
Baseline Road: east of Dyer Lane	36,600	0.68	B			
LOS F Policy 6 Lane Roadway	No Action Alternative			40,700	0.75	C
	Base Plan Scenario			**50,200**	**0.93**	**E**
	Blueprint Scenario			**51,800**	**0.96**	**E**
	Alternative 1			**49,600**	**0.92**	**E**
	Alternative 2			**51,100**	**0.95**	**E**
	Alternatives 3/4			**50,400**	**0.93**	**E**
	Alternative 5			**50,200**	**0.93**	**E**
Locust Road: north of county line	12,500	0.69	B			
LOS D Policy 2 Lane Roadway	No Action Alternative			16,000	0.89	D
	Base Plan Scenario			**17,100**	**0.95**	**E**
	Blueprint Scenario			**18,200**	**1.01**	**F**
	Alternative 1			**17,200**	**0.96**	**E**
	Alternative 2			**17,100**	**0.95**	**E**
	Alternatives 3/4			**17,100**	**0.95**	**E**
	Alternative 5			**17,100**	**0.95**	**E**
Palladay Road: north of county line	10,200	0.57	A			
LOS D Policy 2 Lane Roadway	No Action Alternative			13,200	0.73	C
	Base Plan Scenario			**16,600**	**0.92**	**E**
	Blueprint Scenario			**17,800**	***0.99***	**E**
	Alternative 1			**16,600**	**0.92**	**E**
	Alternative 2			**16,800**	**0.93**	**E**
	Alternatives 3/4			**16,600**	**0.92**	**E**
	Alternative 5			**16,600**	**0.92**	**E**

Roadway Segment	Cumulative No Development			Cumulative Plus Project		
	ADT	V/C	LOS	ADT	V/C	LOS
Dyer Lane (East): west of Watt Avenue	n/a	n/a	n/a			
LOS D Policy 4 Lane Roadway	No Action Alternative			5,300	0.15	A
	Base Plan Scenario			32,300	0.90	D
	Blueprint Scenario			**35,600**	**0.99**	**E**
	Alternative 1			32,000	0.89	D
	Alternative 2			**32,800**	**0.91**	**E**
	Alternatives 3/4			32,300	0.90	D
	Alternative 5			32,300	0.90	D
Dyer Lane (East): south of Baseline Road	n/a	n/a	n/a			
LOS D Policy 4 Lane Roadway	No Action Alternative			n/a	n/a	n/a
	Base Plan Scenario			**35,400**	**0.98**	**E**
	Blueprint Scenario			**36,400**	**1.01**	**F**
	Alternative 1			**34,600**	**0.96**	**E**
	Alternative 2			**40,600**	**1.13**	**F**
	Alternatives 3/4			**35,500**	**0.99**	**E**
	Alternative 5			**35,400**	**0.98**	**E**

Source: DKS Associates, 2012
Note: ADT = average daily traffic. Significant impacts are highlighted in ***bold****.*

Table 3.14-22
AM Peak Hour Intersection Levels of Service – Unincorporated Placer County
Cumulative Plus Project Conditions

Intersection/ LOS Policy	Cumulative No Development		Cumulative Plus Project	
	LOS	V/C	LOS	V/C
Fiddyment Road & Baseline Road	F	1.27		
LOS F Policy	No Action Alternative		F	1.26
	Base Plan Scenario		F	1.28
	Blueprint Scenario		**F**	**1.39**
	Alternative 1		F	1.27
	Alternative 2		F	1.29
	Alternatives 3/4		F	1.29
	Alternative 5		F	1.28
East Dyer Lane & Baseline Road	D	0.81		
LOS D Policy	No Action Alternative		D	0.89
	Base Plan Scenario		**F**	**1.09**
	Blueprint Scenario		**F**	**1.05**
	Alternative 1		**F**	**1.09**
	Alternative 2		**F**	**1.10**
	Alternatives 3/4		**F**	**1.10**
	Alternative 5		**F**	**1.09**
Walerga Road & Town Center	n/a	n/a		
LOS D Policy	No Action Alternative		**F**	**1.04**
	Base Plan Scenario		**F**	**1.03**
	Blueprint Scenario		**E**	**0.99**
	Alternative 1		**F**	**1.02**
	Alternative 2		**F**	**1.02**
	Alternatives 3/4		**F**	**1.03**
	Alternative 5		**F**	**1.03**
Watt Avenue & Dyer Lane	n/a	n/a		
LOS D Policy	No Action Alternative		C	0.72
	Base Plan Scenario		**F**	**1.08**
	Blueprint Scenario		**F**	**1.25**
	Alternative 1		**F**	**1.08**
	Alternative 2		**F**	**1.07**
	Alternatives 3/4		**F**	**1.07**
	Alternative 5		**F**	**1.08**

Source: DKS Associates, 2012
Note: ADT = average daily traffic. Significant impacts are highlighted in ***bold****.*

Table 3.14-23
PM Peak Hour Intersection Levels of Service – Unincorporated Placer County
Cumulative Plus Project Conditions

Intersection/ LOS Policy	Cumulative No Development		Cumulative Plus Project	
	LOS	V/C	LOS	V/C
Fiddyment Road & Baseline Road	F	1.12		
LOS F Policy	No Action Alternative		F	1.10
	Base Plan Scenario		F	1.16
	Blueprint Scenario		F	1.14
	Alternative 1		F	1.16
	Alternative2		**F**	**1.18**
	Alternatives 3/4		**F**	**1.18**
	Alternative 5		F	1.16
Walerga Road & PFE Road	F	1.42		
LOS F Policy[1]	No Action Alternative		**F**	**1.56**
	Base Plan Scenario		**F**	**1.62**
	Blueprint Scenario		**F**	**1.71**
	Alternative 1		**F**	**1.62**
	Alternative 2		**F**	**1.64**
	Alternatives 3/4		**F**	**1.63**
	Alternative 5		**F**	**1.62**
East Dyer Lane & Baseline Road	D	0.84		
LOS D Policy	No Action Alternative		**F**	**1.06**
	Base Plan Scenario		**F**	**1.05**
	Blueprint Scenario		**F**	**1.10**
	Alternative 1		**F**	**1.03**
	Alternative 2		**F**	**1.07**
	Alternatives 3/4		**F**	**1.06**
	Alternative 5		**F**	**1.05**
Walerga Road & Town Center	n/a	n/a		
LOS D Policy	No Action Alternative		**F**	**1.15**
	Base Plan Scenario		**F**	**1.07**
	Blueprint Scenario		**F**	**1.08**
	Alternative 1		**F**	**1.07**
	Alternative 2		**F**	**1.07**
	Alternatives 3/4		**F**	**1.07**
	Alternative 5		**F**	**1.07**

Intersection/ LOS Policy	Cumulative No Development		Cumulative Plus Project	
	LOS	V/C	LOS	V/C
Watt Avenue & Dyer Lane	n/a	n/a		
LOS D Policy	No Action Alternative		C	0.71
	Base Plan Scenario		**F**	**1.06**
	Blueprint Scenario		**F**	**1.10**
	Alternative 1		**F**	**1.07**
	Alternative 2		**F**	**1.09**
	Alternatives 3/4		**F**	**1.07**
	Alternative 5		**F**	**1.06**

Source: DKS Associates, 2012

Note: ADT = average daily traffic. Significant impacts are highlighted in ***bold****.*

[1] *The Dry Creek/West Placer Community Plan Final Transportation and Circulation Element modified the threshold for this intersection from LOS D to LOS F.*

3.15 UTILITIES AND SERVICE SYSTEMS

3.15.1 INTRODUCTION

This section describes the existing utilities that serve the project site and its vicinity and potential impacts to the utility systems from the implementation of the Proposed Action under both the Base Plan and Blueprint scenario and from the implementation of the alternatives. The utilities and service systems addressed in this section include water supply, recycled water, wastewater, solid waste, electricity, and natural gas. Regulations and policies affecting the utilities and service systems in the project area are also described.

The following sources of information were used in this analysis:

- Placer Vineyards Specific Plan EIR prepared by Placer County;
- Water Supply Assessment for the Placer Vineyards Specific Plan prepared by the Placer County Water Agency (PCWA);
- Placer Vineyards Recycled Water Master Plan prepared by Brown and Caldwell;
- Western Placer Groundwater Management Plan (WPCGMP) prepared by MWH for the Cities of Roseville and Lincoln along with PCWA and the California American Water Company;
- Regional University Specific Plan EIR prepared by Placer County; and
- Sierra Vista Specific Plan EIR prepared by the City of Roseville.

3.15.2 AFFECTED ENVIRONMENT

3.15.2.1 Water

Currently the project site is not served by any municipal utility systems. As discussed in **Chapter 2.0, Proposed Action and Alternatives,** it is anticipated that the project site would be served by the PCWA. The PCWA service area is divided into five zones for the provision of treated and raw water. The project site would be annexed to Zone 1.

Existing Water Use

Groundwater resources currently serve water demand within the project site. Residential and agricultural users rely on wells, although some surface water from Dry Creek is also used for agricultural purposes. In the near term, use of groundwater will continue to support most farming operations on the project site (Placer County 2007).

The project site contains a variety of agricultural uses. Crops grown in the area include rice, pasture, strawberries, grapes, corn, and alfalfa, along with various varieties of berries and fruit. The total acreage within the project site committed to such uses is approximately 950 acres (384 hectares). Water usage can vary from as little as 1.5 acre-feet per acre to over 3.5 acre-feet per acre, depending on crops grown in any one year. Assuming 2.5 acre-feet per acre, the water demand for the agricultural activities on the project site is estimated to be approximately 2,400 acre-feet per year (afy) (296 hectare-meters per year [hmy]).

The balance of the agricultural land on the project site is non-irrigated or fallow, or is used for dry farming, with no groundwater use (Placer County 2007).

There are approximately 150 dwelling units on the project site. According to Placer County, a rough estimate of water demand for rural residential uses is 1.5 afy (0.2 hmy). Based on these assumptions, the current groundwater usage is 2,625 afy (324 hmy) with 2,400 afy (296 hmy) committed to agricultural uses (Placer County 2007).

Groundwater use in Placer County by individual homes, farms, and businesses is about 90,000 afy (11,101 hmy) (Placer County 2007). According to Placer County, some integrated use of groundwater is necessary to ensure the highest level of reliability, particularly in times of drought and for backup in emergency situations (Placer County 2007).

Surface Water Supply

PCWA has several sources of surface water supply entitlements available for use in western Placer County. The first is a surface water supply contract with Pacific Gas & Electric (PG&E) for 100,400 afy (12,384 hmy) of Yuba/Bear River water that is delivered through Pacific Gas & Electric's Drum Spaulding hydro system. This has been PCWA's primary source of supply for Zone 1 (to which the project site would be annexed) since PCWA began retailing water in 1968. The term of this contract is to 2013, but PCWA expects the contract to be renewed after the expiration of the present term. This source of water has a high reliability during normal, single-dry, and multiple-dry years (PCWA 2006a; PCWA 2006b).

PCWA's second source of surface water for consumptive use is its Middle Fork Project (MFP) water rights. The MFP reservoirs have 340,000 afy (41,938 hmy) of storage capacity; however, pursuant to agreements with the United States Bureau of Reclamation (BoR), PCWA is limited to a maximum consumptive use of 120,000 afy (14,802 hmy) from this source. PCWA's MFP water rights provide that this water supply may be diverted from the American River at either Auburn Reservoir or at Folsom Reservoir. Modeling indicates that this source is reliable even during a severe dry year (PCWA 2006a; PCWA 2006b).

PCWA's third source of surface water is its Central Valley Project (CVP) Municipal and Industrial water supply contract with the BoR. This contract is for 35,000 afy (4,317 hmy). This supply is subject to 25 percent deficiencies during single-dry and multiple-dry years. This water was originally to be provided to PCWA at Auburn Reservoir but the contract as amended now provides for its diversion at Folsom Reservoir or other locations mutually agreed to by the parties (PCWA 2006a; PCWA 2006b).

PCWA's most recent policy documents identify as a long-term water source a 35,000 afy (4,317 hmy) diversion at the Sacramento River in accordance with the Water Forum Agreement, dated January 2000 (PCWA 2011). Although substantial amounts of work were done on a Draft EIR/EIS for this water supply in the middle of the last decade, this work was put on hold temporarily when the real estate market slowdown occurred in 2008 and 2009. This effort will be revived when demand for the water at issue becomes more imminent as the real estate economy recovers.

The total surface water supply available to the western Placer County area (Zone 1 & Zone 5) is 255,400 afy (31,503 hmy) of permanent supply in normal years, plus 5,000 afy (617 hmy) of temporary surplus water. Out of the permanent supply, PCWA has contracted to deliver up to 25,000 afy (3,084 hmy) to the San Juan Water District for use within the Placer County portion of its service area and up to 30,000 afy (3,700 hmy) to the City of Roseville. PCWA has also contracted to deliver up to 29,000 afy (3,577 hmy) to Sacramento Suburban Water District for groundwater stabilization in the district's service area, but only when the supply is in excess of the needs of Placer County. Because of the nature of this contract with Sacramento Suburban Water District, it is not a factor in determining water availability for PCWA's service area (PCWA 2006a; PCWA 2006b).

Through December 15, 2005, PCWA had committed approximately 113,563 afy (14,008 hmy) to meet the needs of its Zone 1 & 5 customers plus the 55,000 afy (6,784 hmy) committed to Roseville and San Juan Water District. Subtracting these amounts from the Agency's entitlements leaves 86,837 afy (10,711 hmy) of surface water available in normal years for use in western Placer County to meet future demands (PCWA 2006a; PCWA 2006b).

Groundwater

Regional Groundwater

The project site is located in the North American River Groundwater Sub-basin which underlies north Sacramento, south Sutter, and west Placer Counties. The Sub-basin is a component of the larger Sacramento Valley Groundwater Basin (see **Section 3.10, Hydrology and Water Quality)**. The Sub-basin is bounded by the Bear River on the north, the Feather River and Sacramento Rivers on the west, the American River on the south, and by the Sierra Nevada Range on the east. Specifically, the eastern Sub-basin boundary is a north-south line extending from the Bear River south to Folsom Reservoir. The Sub-basin encompasses approximately 548 square miles (1,419 square kilometers) (MWH 2007).

According to the PCWA's Groundwater Storage Study of the Placer County groundwater basin, the sustainable safe yield for the western Placer County portion of the Sub-basin is approximately 95,000 afy (11,718 hmy). Note that this number is not static and varies with conditions in the basin. Total groundwater usage from agricultural and urban demands in western Placer County was about 97,000 afy (11,965 hmy) in 2003 (PCWA 2006c). Under these pumping conditions, the groundwater levels at the southern end of the basin have been stable since about 1982 and the levels have risen slightly at the northern end of the basin, indicating that 97,000 afy (11,965 hmy) is also within the safe yield of the basin. These groundwater levels indicate that groundwater pumping is currently in balance with the natural groundwater recharge rate. This is attributed to the conversion of agricultural lands to urban uses over the past several decades. With the land conversions, pumping demands have decreased, especially when heavy pumping uses such as rice farming have been taken out of production. It is expected that basin pumping demands will continue to decrease over time as urban development increases in the area (City of Roseville 2010).

Placer County Water Agency Groundwater Supply

PCWA uses surface water as its primary supply, though it produces a limited amount of groundwater for use in eastern Placer County (PCWA 2011). PCWA has a single well located in the Sunset Industrial area that meets all drinking water standards but has not been used for several years due to customers' concerns regarding water quality (hardness) which can interfere with industrial use (PCWA 2006a). While PCWA does not currently produce groundwater from the North American River Groundwater Sub-basin, its water supply plans anticipate use of groundwater during dry hydrologic conditions to meet future customer demands in western Placer County (PCWA 2011).

PCWA's surface water supplies, particularly its 35,000 afy (4,317 hmy) CVP contract entitlement and its Yuba Bear 100,400 afy (12,384 hmy) contract with PG&E, will be subject to shortages in future dry years. To make up for such dry year shortfalls and for backup in the event of emergency or planned outages, PCWA is planning on developing groundwater resources as its service area expands west over the groundwater basin and into the area most likely to be served long term from the Sacramento River using PCWA's CVP contract supply. In order to ensure that there is no adverse long-term impact of such dry year groundwater use, groundwater should be managed in normal and wet years to offset the planned dry year use. The PCWA adopted the Western Placer County Groundwater Management Plan which provides a framework to coordinate groundwater management activities in the portion of the North American Sub-basin in southwestern Placer County. All of the plan participants adopted basin management objectives to manage the groundwater resources to meet backup, emergency, and peak demands without adversely affecting other groundwater uses in southwestern Placer County. The strategies set forth in the Plan are designed to maintain a safe, sustainable, and high-quality groundwater resource within the southwestern portion of the North American Sub-basin during normal and dry years (MWH 2007).

Water Treatment and Distribution

PCWA serves areas within Placer County, including the communities of Auburn, Loomis, Newcastle, Penryn, Rocklin, and Lincoln. The existing water distribution system owned by PCWA does not extend to the boundary of the project site. PCWA owns and operates four water treatment plants (WTPs) in Zones 1 and 2, two of which serve the lower portion of Zone 1: Foothill and Sunset. The Foothill and Sunset WTPs serve the western portion of Zone 1. The Foothill WTP is located east of Interstate 80 in Newcastle, south of Auburn. The Foothill WTP completed an upgrade during the summer of 2005 that increased the plant's capacity to 55 million gallons per day (mgd) (208 million liters per day [mld]). The Sunset WTP, located in Rocklin near Clover Valley Creek, has a treatment capacity of 8 mgd (20 mld). PCWA is planning to construct a new WTP in the Newcastle and Ophir area with a proposed capacity of 30 mgd (114 mld). PCWA also intends to pursue an additional 35,000 afy (4,317 hmy) capacity for a new plant near Elverta Road to treat water diverted from the Sacramento River in accordance with the Water Forum Agreement, dated January 2000 (PCWA 2011).

Recycled Water

The City of Roseville, the South Placer Municipal Utility District, and Placer County are regional partners in the South Placer Wastewater Authority that oversees policies for funding regional wastewater and recycled water infrastructure. See **Subsection 3.15.2.2, Wastewater**, below for more information about wastewater treatment. The City of Roseville owns and operates two regional wastewater treatment facilities that produce recycled water. These treatment facilities are the Dry Creek Wastewater Treatment Plant (WWTP) and the Pleasant Grove WWTP. Both plants produce recycled water that meets the State requirements (Title 22) for non-potable reuse (City of Roseville 2010).

Projections for the use of recycled water at buildout of both WWTPs are estimated at 4,500 afy (555 hmy) (approximately 4 mgd [15 mld]). Recycled water for the Proposed Action would be provided from the Dry Creek WWTP initially, and then from the Pleasant Grove WWTP over the long-term (Placer County 2007).

3.15.2.2 Wastewater

Wastewater service to the residences located in the northwest corner of the project site is currently provided through individual on-site wastewater disposal systems. No wastewater infrastructure is located within the project site.

Sewer services in Placer County are provided by the Placer County Facilities Services Department, Special Districts Division. This division maintains sewer lines, cleans sewers, and operates and maintains wastewater treatment plants operated by Placer County (Placer County 2007). Placer County is a participant in the South Placer Wastewater Authority (SPWA), along with South Placer Municipal Utility District and the City of Roseville. The SPWA oversees policy for funding regional wastewater infrastructure.

As noted above, the City of Roseville owns and operates two regional wastewater treatment facilities on behalf of the regional partners. These facilities include the Dry Creek WWTP, located along Dry Creek, in the southwest portion of the City of Roseville, and the Pleasant Grove WWTP, is located in the northwest portion of the City of Roseville, south of the Roseville Energy Park.

Only a portion of the project site (890 acres [360 hectares]), referred to as Shed B, is located within the South Placer Wastewater Authority regional service area. The rest of the project site (4,340 acres [1,756 hectares]), referred to as Shed A, is located outside the service area.

There are two options being considered to provide wastewater service to the project site. Under the first option, Shed A would be annexed to the SPWA regional service area and the entire project site would be served by the Dry Creek WWTP. The Dry Creek WWTP currently treats approximately 10.36 mgd (39.22 mld) average dry weather flow (ADWF) (Placer County 2007). The WWTP provides tertiary-level treatment and produces recycled water that meets Title 22 regulations for full, unrestricted use. The WWTP is presently authorized to discharge treated effluent into Dry Creek under the National Pollutant Discharge Elimination System (NPDES) Permit No. CA0079502 adopted on June 12, 2008. Under this permit the Dry Creek WWTP can discharge an ADWF of 18 mgd (68 mld).

Under the second option, the Sacramento Regional County Sanitation District (SRCSD) would provide wastewater service to Shed A. Service would be provided through SCRSD's Northwest Interceptor system in central Rio Linda via one of two optional trunk lines extending south from the project site. Under this scenario, wastewater from Shed A would be treated at the Sacramento Regional Wastewater Treatment Plant (SRWTP). The average flow to the SRWTP is 165 mgd (625 mld) ADWF (Placer County 2007). The SRWTP provides secondary treatment using an activated sludge process. The SRWTP is presently authorized to discharge treated effluent into the Sacramento River under the NPDES Permit No. CA0077682 adopted on December 9, 2010. Currently there are plans to expand capacity at the SRWTP to 218 mgd (825 mld).

3.15.2.3 Solid Waste

Solid waste generated in Placer County is collected and hauled by the Auburn-Placer Disposal Service from County Franchise Areas One and Four, which include the western and southern portions of Placer County. Solid waste is hauled to the 39.9-acre Western Placer Waste Management Authority's Materials Recovery Facility (MRF) at the southeast corner of Athens Avenue and Fiddyment Road in Lincoln, approximately 7 miles from the project site (Placer County 2007).

The MRF currently receives approximately 1,082 tons (982 metric tons) of solid waste per weekday (281,300 tons [255,191 metric tons] per year), including solid waste that is brought to buy back centers located throughout the County. However, the MRF is currently permitted by the Placer County Solid Waste Local Enforcement Agency (LEA) to receive 1,750 tons (1,587 metric tons) per day (TPD). Approximately 11.9 percent of municipal solid waste (including bio-solids) and 86.7 percent of construction debris is hauled directly to the landfill because it is unsuitable for processing. Approximately 36.9 percent of the solid waste that is processed at this facility is diverted for recycling (Placer County 2007).

Unrecyclable solid waste received at the MRF is disposed of at the adjacent Western Regional Landfill, which has a disposal area of 231 acres. An additional 465 acres for landfill expansion are located west of the current site, but is not permitted for landfill use by the LEA at this time. In addition to municipal solid waste from the MRF, the landfill directly accepts sewage sludge and other materials. The landfill is permitted to accept about 3,800 cubic yards [2,905 cubic meters] per day, or 1,364,000 cubic yards [1,042,853 cubic meters] per year (1,900 tons [1,723 metric tons] per day or 682,000 tons [618,700 metric tons] per year). In 2008, the landfill received approximately 1,076 tons (976 metric tons) per weekday (279,233 tons [253,264 metric tons] per year) (City of Roseville 2010).

The total site capacity of Western Regional Sanitary Landfill is 36,350,000 cubic yards [27,791,569 cubic meters]. As of June, 2009, the remaining net site capacity was approximately 25,438,634 cubic yards [19,449,231 cubic meters] of refuse. The estimated landfill closure date is 2042, based on the current permitted configuration, and assumed waste growth rates. The estimated closure date and service life of the landfill is predicated upon current growth, economic conditions, and landfill capacity projections (City of Roseville 2010).

3.15.2.4 Electricity and Natural Gas

Electricity

Electrical service in the vicinity of the project site is currently provided by PG&E and the Sacramento Municipal Utility District (SMUD). A majority of the project site is currently served by PG&E; however, SMUD serves a 63-acre (257-hectare) area in the southeast portion of the project site (Placer County 2007).

PG&E has two substations near the project site. The Catlett Substation, located on Field Road east of Natomas Road, feeds a circuit located on Pleasant Grove Road in Sutter County to the west. The Pleasant Grove Substation, on Industrial Boulevard approximately 0.25 mile (0.4 kilometer) north of Sunset Boulevard, feeds the circuit on the corner of Fiddyment Road and Baseline Road (Placer County 2007).

The SMUD Black Eagle-Crystal Ridge Substation is located near the project site, 0.5 mile (0.8 kilometer) east of Watt Avenue, north of Center High School. It is fed by a 96 kV transmission line that extends along PFE Road from the tower line easement between Cook Riolo Road and Walerga Road (Placer County 2007).

The project site is traversed by three 230 kV transmission lines located within easement corridors. These easements and facilities are owned by PG&E, SMUD and the Western Area Power Administration (WAPA). SMUD and PG&E operate 12 kV distribution lines, which generally exist along roadway alignments and provide service to existing customers (Placer County 2007).

Natural Gas

There is no natural gas service within the Specific Plan area. Natural gas service in the vicinity of the project site is currently provided by PG&E. The closest existing natural gas facility is a 24-inch (61-centimeter)-diameter gas transmission line located on the northwest corner of Fiddyment and Baseline Road (Placer County 2007).

3.15.3 REGULATORY FRAMEWORK – APPLICABLE LAWS, REGULATIONS, PLANS, AND POLICIES

3.15.3.1 Water Laws, Regulations, Plans and Policies

Federal

Federal/State Coordinated Operations Agreement

The CVP is operated by the BoR and the State Water Project (SWP) is operated by the California Department of Water Resources (DWR). The CVP and SWP rely on the Sacramento River and the Delta as common conveyance facilities. DWR's primary storage facility is Oroville Dam on the Feather River. Reservoir releases and Delta exports must be coordinated so that both the CVP and SWP are able to retain their portion of the shared water and also jointly share in the obligations to protect beneficial uses. The CVP and SWP operate under a Coordinated Operations Agreement (COA).

The COA defines the rights and responsibilities of the CVP and SWP regarding water needs of the Sacramento River system and Delta and includes obligations for in-basin uses, accounting, and real-time coordination of water obligations of the two projects. A CVP/SWP apportionment of 75/25 is implemented to meet in-basin needs under balanced Delta conditions, and a 55/45 ratio is in effect for excess flow conditions. The COA contains considerable flexibility in the manner with which Delta conditions in the form of flow standards, water quality standards, and export restrictions are met.

The operation of CVP/SWP is described in a document known as the Operations Criteria and Plan (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), the United States Fish and Wildlife Service (USFWS) produced a formal Biological Opinion analyzing the impact of OCAP implementation on ESA-listed species (including the delta smelt)(USFWS 2005). 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 (USFWS File Number 1-1-05-F-0055). However, that opinion was invalidated by a federal court (*Natural Resources Defense Council v. Kempthorne 2007*). USFWS was ultimately ordered to revise its Biological Opinion. The court also severely restricted CVP and SWP pumping in the Delta pending the USFWS's completion of the new Biological Opinion (*Natural Resources Defense Council v. Kempthorne 2007)*. Those restrictions took effect in December 2007.

In December 2008, USFWS released a new Biological Opinion, which concluded that CVP and SWP operations would jeopardize the continued existence of Endangered delta smelt (USFWS 2008). USFWS further detailed a "reasonable and prudent alternative" to the proposed OCAP protocol that would, according to USFWS, 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. In June 2009 the National Marine Fisheries Service (NMFS) of the National Oceanic and Atmospheric Administration (NOAA) also released a jeopardy Biological Opinion (BO) on the revised OCAP that it would jeopardize the continued existence of several Threatened and Endangered species under the jurisdiction of NMFS and requested changes to protect ESA listed species 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 and Southern Resident killer whales (NMFS 2009). The Reasonable and Prudent Alternative developed in connection with this BO would restrict Delta pumping operations, impose Shasta Reservoir storage targets to achieve water temperature requirements in the Sacramento River below Keswick Dam, impose lower American River flow standards, require modified Delta Cross Channel operations, and limit reverse Old and Middle River (OMR) flows.

DWR issued an initial response to the 2009 NMFS/NOAA BO on June 4, 2009. According to DWR, the 2009 BO "reaffirms the need for a comprehensive solution to the water and environmental conflicts in the Delta." DWR's initial estimates show the average year impacts closer to 10 percent, which could reduce Delta export on average by about 300,000 to 500,000 acre-feet (37,004 to 61,674 hectare meter), which is in addition to current pumping restrictions imposed by the 2008 BO to protect the Delta smelt. Again, in cooperation with BoR, NMFS, USFWS, and California Department of Fish and Wildlife (CDFW), DWR developed new assumptions for implementation of both the USFWS BO (December 15, 2008) and NMFS BO (June 4, 2009) in CALSIM II. As with the NMFS Biological Opinion, the USFWS Biological Opinion was also set aside by the Eastern District Court and is on appeal before the Ninth Circuit. The USFWS BO and NMFS BO assumptions are included in Appendix A of the 2009 DWR Delivery Reliability Report.

After issuance of the 2009 NMFS/NOAA BO, on August 6, 2009, the SWP Contractors filed a lawsuit against USFWS, US Department of the Interior, and the US Bureau of Reclamation challenging the 2009 BO on federal ESA grounds. According to the litigation, the BO failed to take into account the many other factors contributing to the fish population decline, and failed to consider the impacts that the 2009 BO would have on people, a requirement of the National Environmental Policy Act (NEPA). In addition, on August 28, 2009, the Coalition for a Sustainable Delta and Kern County Water Agency jointly filed suit against NMFS and USFWS challenging the 2009 BO under the federal ESA. In the fall of 2011, the Eastern District of California invalidated and remanded the 2009 BO. At the time of the writing of this document, that order was on appeal in the Ninth Circuit Court of Appeals.[1]

State

SB 610 and SB 221 – Water Supply Assessments

In 2001, the California Legislature passed Senate Bill 610 (Water Code Section 10910 et seq.) and Senate Bill 221 (Water Code Section 66473.7) to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 were companion measures which sought to promote more collaborative planning between local water suppliers and cities and counties. The PCWA prepared Water Supply Assessments for each scenario under the Proposed Action.

Water Conservation Projects Act

The State of California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985 (Water Code Sections 11950-11954). As stated in Section 11952, it is the intent of the

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1 Governor Schwarzenegger and the California legislature prepared a package of bills aimed at ensuring a reliable water supply in the future, as well as restoring the Delta and other ecologically sensitive areas. The plan is composed of four policy bills and an $11.14 billion bond. The package establishes a Delta Stewardship Council, sets water conservation policy, ensures better groundwater monitoring, and provides funds for the State Water Resources Control Board for increased enforcement of illegal water diversions. The bond will fund, with local cost-sharing, drought relief, water supply reliability, Delta sustainability, statewide water system operational improvements, conservation and watershed protection, groundwater protection, and water recycling and water conservation programs.

Legislature to encourage local agencies and private enterprise to implement potential water conservation and reclamation projects.

Safe Drinking Water Quality Regulations

The State Department of Public Health establishes "primary" and "secondary" Domestic Water Quality Standards for drinking water supplied by public water systems such as the PCWA. The standards are required by state law to meet or exceed standards adopted by the U.S. Environmental Protection Agency. Public water systems also must obtain a domestic water supply permit from Department of Public Health that must be amended to reflect changes to the water supply system. The project site would be served by the PCWA's Foothill/Sunset water supply system. The Department of Public Health issued Permit No. 010207 (P) 003 for the Foothill/Sunset water supply system on December 10, 2007.

Recycled Water Regulations

Department of Public Health regulations require that recycled water must be conveyed in a totally separate distribution system from the potable water supply.

Regional and Local

Water Forum Agreement

The Water Forum Agreement is the result of the efforts of a diverse group of community stakeholders. The stakeholder group was formed in 1994 with the goal to formulate principles for developing solutions to meet future regional water supply needs. Participants in the Water Forum Agreement have developed two coequal objectives:

- Provide a reliable and safe water supply for the region's economic health and planned development to the year 2030.
- Preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River.

The stakeholder group has developed an integrated package of actions to meet these objectives. The elements of the package are:

- Increase surface water diversions
- Actions to meet customers' needs while reducing diversion impacts on the lower American River in drier years
- An improved pattern of fishery flow releases from Folsom Reservoir
- Lower American River Habitat Management, which also addresses recreation in the lower American River
- Water conservation
- Groundwater management
- Water Forum successor efforts

Purveyor Specific Agreements have also been developed that describe in detail how each of the elements will be implemented by the respective purveyors. Purveyors included the PCWA, the City of Roseville,

San Juan Water District, as well as other regional water agencies. The Purveyor Specific Agreements are compiled into a Memorandum of Understanding that each stakeholder's authorizing body has executed. In return for signing the final Water Forum Agreement, water purveyors receive regional support for water supply projects, including site-specific infrastructure development (Water Forum 2000).

Groundwater Management Plan

The PCWA in participation with the Cities of Roseville and Lincoln completed a SB 1938 and AB 3030 compliant groundwater management plan in August 2007 (MWH 2007).

Placer County General Plan

The following is a list of goals and policies found in the Public Facilities and Services Chapter of the Placer County General Plan relating to water supply.

Water Supply and Delivery

Goal 4.C. To ensure the availability of an adequate and safe water supply and the maintenance of high quality water in water bodies and aquifers used as sources of domestic supply.

Policy 4.C.1. The County shall require proponents of new development to demonstrate the availability of a long-term, reliable water supply. The County shall require written certification from the service provider that either existing services are available or needed improvements will be made prior to occupancy. Where the County will approve groundwater as the domestic water source, test wells, appropriate testing, and/or report(s) from qualified professionals will be required substantiating the long-term availability of suitable groundwater.

Policy 4.C.2. The County shall approve new development based on the following guidelines for water supply:

a. Urban and suburban development should rely on public water systems using surface supply.

b. Rural communities should rely on public water systems. In cases where parcels are larger than those defined as suburban and no public water system exists or can be extended to the property, individual wells may be permitted.

c. Agricultural areas should rely on public water systems where available, otherwise individual water wells are acceptable.

Policy 4.C.3. The County shall encourage water purveyors to require that all new water services be metered.

Policy 4.C.4. The County shall require that water supplies serving new development meet state water quality standards.

Policy 4.C.5. The County shall require that new development adjacent to bodies of water used as domestic water sources adequately mitigate potential water quality impacts on these water bodies.

Policy 4.C.6. The County shall promote efficient water use and reduced water demand by:

a. Requiring water-conserving design and equipment in new construction;

b. Encouraging water-conserving landscaping and other conservation measures;

c. Encouraging retrofitting existing development with water-conserving devices; and

d. Encouraging water-conserving agricultural irrigation practices.

Policy 4.C.7. The County shall promote the use of reclaimed wastewater to offset the demand for new water supplies.

Policy 4.C.8. When considering formation of new water service agencies, the County shall favor systems owned and operated by a governmental entity over privately or mutually owned systems. The County will continue to authorize new privately or mutually owned systems only if system revenues and water supplies are adequate to serve existing and projected growth for the life of the system. The County shall ensure this through agreements or other mechanisms setting aside funds for long-term capital improvements and operation and maintenance.

Policy 4.C.9. The County shall support opportunities for groundwater users in problem areas to convert to surface water supplies.

Policy 4.C.10. The County shall promote the development of surface water supplies for agricultural use in the western part of the county.

Policy 4.C.11. The County shall protect the watersheds of all bodies of water associated with the storage and delivery of domestic water by limiting grading, construction of impervious surfaces, application of fertilizers, and development of septic systems within these watersheds.

Policy 4.C.13. In implementation of groundwater use policies, the County will recognize the significant differences between groundwater found in bedrock or 'hard rock' formations of the foothill/mountain region and those groundwater found in the alluvial aquifers of the valley. The County should make distinctions between these water resources in its actions.

3.15.3.2 Wastewater Laws, Regulations, Plans and Policies

Federal and State

Clean Water Act NPDES Permits

The National Pollutant Discharge Elimination System (NPDES) permit system was established by the Clean Water Act (33 USC §1251 et seq. [1972]) to regulate municipal and industrial discharges to surface waters of the U.S. The discharge of pollutants, including wastewater, to surface waters is prohibited unless an NPDES permit has been issued to allow that discharge.

The discharge of treated effluent from the Dry Creek WWTP to Dry Creek and from the SRWTP to the Sacramento River is regulated under NPDES permits issued by the Regional Water Quality Control Board (RWQCB) (NPDES No. CA0079502; NPDES No. CA0077682). The NPDES permits and the Waste Discharge Requirements (WDR) identify discharge prohibitions, effluent limitations, and monitoring and reporting requirements.

Discharge limitations in the Dry Creek WWTP and SRWTP permits define allowable effluent concentrations for flow, biological oxygen demand (BOD), total suspended matter, residual chlorine, settleable matter, total coliform, oil and grease, and pH. Limitations also encompass mineralization and toxicity to aquatic life. The provisions provide stipulations for the disposal of solid materials, and limitations on impacts to receiving waters. The permits also specify the sampling, monitoring, and reporting requirements for compliance with waste discharge regulations. The monitoring program entails sampling influent, effluent, and the receiving water. The provisions of the NPDES permits and the WDRs are enforceable through an order issued by the RWQCB or civil action.

State Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Water Code Section 13020) is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act, the state must adopt water quality policies, plans, and objectives that will provide protection to the state's waters for the use and enjoyment of the people of California. In California, the State Water Resources Control Board (SWRCB) has authority and responsibility for establishing policy for water quality control issues for the state. Regional authority for planning, permitting, and enforcement is delegated to the nine Regional Water Quality Control Boards (RWQCB). The Porter-Cologne Water Quality Control Act authorizes the SWRCB and RWQCB to issue NPDES permits containing waste discharge requirements, and to enforce these permits. SWRCB and RWQCB regulations implementing the Porter-Cologne Water Quality Control Act are included in Title 27 of the California Code of Regulations.

Local

Local South Placer Wastewater Authority

The South Placer Wastewater Authority is a joint powers authority formed to fund regional wastewater and recycled water facilities in southwestern Placer County for three partner agencies (the "participants"): the City of Roseville, the South Placer Municipal Utility District (SPMUD), and Placer County. The regional facilities funded by the South Placer Wastewater Authority thus far include recycled water facilities, trunk sewer lines, and two WWTPs. All three participants transmit wastewater to these WWTPs. South Placer Wastewater Authority also monitors compliance with operational criteria established in the Funding and Operations Agreements among the participants.

The Funding Agreement outlines each participant's responsibility for debt service on South Placer Wastewater Authority's bonds and funding of regional facilities. The Operations Agreement documents maintenance and operations responsibilities for regional facilities (primarily the WWTPs) and establishes the City of Roseville as the owner and operator of the two WWTPs on behalf of the participants.

The Operations Agreement also identifies a regional service area boundary which delineates the area served by South Placer Wastewater Authority-funded regional facilities. Projects that require wastewater treatment using South Placer Wastewater Authority-funded regional facilities – especially projects outside the existing service area boundary – require appropriate environmental analyses. The South Placer Wastewater Authority Board considers the adequacy of the environmental documentation for such projects to ensure that regional facilities needs are met. Once that review has occurred, the participants may agree to modify the service area boundary identified in the Operations Agreement.

Placer County General Plan

The following is a list of goals and policies found in the Public Facilities and Services Chapter of the Placer County General Plan relating to wastewater issues.

Water Supply and Delivery

Goal 4.C. To ensure the availability of an adequate and safe water supply and the maintenance of high quality water in water bodies and aquifers used as sources of domestic supply.

Policy 4.C.7. The County shall promote the use of reclaimed wastewater to offset the demand for new water supplies.

Sewage Collection, Treatment, and Disposal

Goal 4.D. To ensure adequate wastewater collection and treatment and the safe disposal of liquid and solid waste.

Policy 4.D.1. The County shall limit the expansion of urban communities to areas where community wastewater treatment systems can be provided.

Policy 4.D.2. The County shall require proponents of new development within a sewer service area to provide written certification from the service provider that either existing services are available or needed improvements will be made prior to occupancy.

Policy 4.D.4. The County shall promote efficient water use and reduced wastewater system demand by:

a. Requiring water-conserving design and equipment in new construction;

b. Encouraging retrofitting with water-conserving devices; and,

c. Designing wastewater systems to minimize inflow and infiltration to the extent economically feasible.

Policy 4.D.5. The County shall encourage pretreatment of commercial and industrial wastes prior to their entering community collection and treatment systems.

3.15.3.3 Solid Waste Laws, Regulations, Plans and Policies

State

Assembly Bill 939

In 1989, Assembly Bill (AB 939) (Public Resources Code Section 40051) established the organization, structure, and mission of the California Integrated Waste Management Board, now known as the California Department of Resources, Recycling, and Recovery (CalRecycle). The purpose was to direct attention to the increasing waste stream and decreasing landfill capacity, and to mandate a reduction of waste being disposed. Jurisdictions were required by AB 939 to meet goals to divert 25 percent of solid waste from landfills by 1995 and 50 percent by the year 2000. Unincorporated Placer County achieved a diversion rate of 68 percent by 2006 (CalRecycle 2011).

California Universal Waste Law

This legislation went into effect in February 2006 (California Code of Regulations Title 22 Chapter 23). Universal wastes are a wide variety of hazardous wastes such as batteries, fluorescent tubes, and some electronic devices, that contain mercury, lead, cadmium, copper, or other substances hazardous to human and environmental health. Universal waste may not be discarded in solid waste landfills, but instead are recyclable and (to encourage recycling and recovery of valuable metals) can be managed under less stringent requirements than those that apply to other hazardous wastes.

Local

Placer County General Plan

The following is a list of goals and policies found in the Public Facilities and Services Chapter of the Placer County General Plan relating to solid waste.

Landfills, Transfer Stations, and Solid Waste Recycling

Goal 4.G. To ensure the safe and efficient disposal or recycling of solid waste generated in Placer County.

Policy 4.G.1. The County shall require waste collection in all new urban and suburban development.

Policy 4.G.2. The County shall promote maximum use of solid waste source reduction, recycling, composting, and environmentally safe transformation of wastes.

Policy 4.G.5. The County shall promote the siting of new solid waste collection and transfer facilities in locations as close as practical to the areas they serve.

Policy 4.G.7. The County shall require that all new development complies with applicable provisions of the Placer County Integrated Waste Management Plan.

Policy 4.G.9. The County shall encourage businesses to use recycled products in their manufacturing processes and consumers to buy recycled products.

3.15.3.4 Electricity and Natural Gas Laws, Plans and Ordinances

State

The Proposed Action would need to comply with the California Building Energy Efficiency Standards. Title 24 of the California Code of Regulations was amended in October 2005 to include new energy efficiency standards in response to the state's energy crisis as well as AB 970, the California Energy and Reliability Act of 2000. The goal of these enactments is to improve the energy efficiency of residential and nonresidential buildings, minimize impacts during peak energy use periods, and reduce impacts on overall state energy needs.

Local

Placer County General Plan

The following is a list of goals and policies found in the Public Facilities and Services Chapter of the Placer County General Plan relating to the provision of utilities.

General Public Facilities and Services

Goal 4.A. To ensure the timely development of public facilities and the maintenance of specified service levels for these facilities.

Policy 4.A.1. Where new development requires the construction of new public facilities, the new development shall fund its fair share of the construction. The County shall require dedication of land within newly developing areas for public facilities, where necessary.

Policy 4.A.2. The County shall ensure through the development review process that adequate public facilities and services are available to serve new development. The County shall not approve new development where existing facilities are inadequate unless the following conditions are met:

a. The applicant can demonstrate that all necessary public facilities will be installed or adequately financed (through fees or other means); and

b. The facilities improvements are consistent with applicable facility plans approved by the County or with agency plans where the County is a participant.

Policy 4.A.4. The County shall require proposed new development in identified underground conversion districts and along scenic corridors to underground utility lines on and adjacent to the site of proposed development or, when this is infeasible, to contribute funding for future undergrounding.

3.15.4 SIGNIFICANCE THRESHOLDS AND ANALYSIS METHODOLOGY

3.15.4.1 Significance Thresholds

Council on Environmental Quality (CEQ) guidance requires an evaluation of a proposed action's effect on the human environment. The U.S. Army Corps of Engineers (USACE) has determined that the Proposed Action or its alternatives would have a significant effect on the human environment if it would increase demand for utilities or service systems such that the existing facilities would not have adequate capacity to serve the Proposed Action or its alternatives as well as the projected buildout of the surrounding area, and substantial expansion of the service facilities would be required.

3.15.4.2 Analysis Methodology

Water Supply

The potable water demand for the Proposed Action under both the Base Plan and Blueprint scenarios and alternatives was estimated utilizing unit water demand factors from the Environmental Impact Report prepared for the Placer Vineyard Specific Plan. These factors were applied to proposed land uses included in the Proposed Action under both scenarios and alternatives. **Table 3.15-1** presents the estimated water demand for the Proposed Action under both scenarios and alternatives.

Table 3.15-1
Total Average Water Demand at Buildout

Alternative	Average Water Demand (afy [hmy])	Total Maximum Day Demand (mgd [mld])
Proposed Action – Base Plan Scenario	11,723 (1,446)	23,446 (2,892)
Proposed Action – Blueprint Scenario	14,539 (1,793)	32,350 (3,990)
No Action Alternative	7,209 (889)	14,417 (1,778)
Alternatives 1 through 5 (Combined)	11,582 (1,429)	23,164 (2,857)

Source: Impact Sciences 2011

The water supply entitlements, water rights, and water service contracts held by the water suppliers were reviewed to determine the suppliers' abilities to meet the Proposed Action under both the Base Plan and Blueprint scenarios and alternatives' future demands. Water demand was evaluated against supplies under normal/wet year and drought year scenarios.

Wastewater

For wastewater treatment, the demand for treatment capacity was calculated for the Proposed Action under both the Base Plan and Blueprint scenarios and alternatives and compared to the available capacity of the Dry Creek WWTP and SRWTP. The Average Dry Weather flow that is used to evaluate treatment capacity impacts was determined utilizing unit flow factors established in the Environmental Impact Report prepared for the Placer Vineyard Specific Plan. These unit flow factors were applied to the land uses under the Proposed Action under both scenarios and alternatives to estimate the quantity of wastewater to be treated at the Dry Creek WWTP and SRWTP. **Table 3.15-2** below presents the estimated Average Dry Weather Flows for the Proposed Action under both scenarios and alternatives.

Table 3.15-2
Average Dry Weather Flow
(Million Gallons per Day [Million Liters per Year])

Alternative	Shed A Average Dry Weather Flow	Shed B Average Dry Weather Flow	Total Average Dry Weather Flow
Proposed Action – Base Plan Scenario	2.413 (9.134)	0.506 (1.915)	2.919 (11.049)
Proposed Action – Blueprint Scenario	3.396 (12.855)	0.791 (2.994)	4.187 (15.849)
No Action Alternative	1.406 (5.322)	0.377 (1.427)	1.783 (6.749)
Alternatives 1 through 5 (Combined)	2.390 (9.047)	0.525 (1.987)	2.915 (11.034)

Source: Impact Sciences 2011

Solid Waste

Demand for future solid waste disposal was calculated for the Proposed Action under both the Base Plan and Blueprint scenarios and alternatives and compared to the capacity of the Material Recovery Facility and the Regional Landfill. The amount of solid waste generated was determined utilizing waste generation rates provided by Placer County Solid Waste Management Division. The waste generation factors were applied to the land uses under the Proposed Action under both scenarios and alternatives to estimate the amount of waste requiring disposal. **Table 3.15-3** below presents the estimated solid waste for the Proposed Action under both scenarios and alternatives.

Table 3.15-3
Solid Waste Generation

Alternative	Generation (Tons per Year [Metric Tons per Year])	Generation (cubic yards per year [cubic meters per year])
Proposed Action – Base Plan Scenario	24,796 (22,495)	49,591 (37,915)
Proposed Action – Blueprint Scenario	34,770 (31,543)	69,541 (53,168)
No Action Alternative	14,843 (13,465)	29,686 (22,697)
Alternatives 1 through 5 (Combined)	25,412 (23,053)	50,823 (38,857)

Source: Impact Sciences 2011

Electricity and Natural Gas

Demand for electricity and natural gas was calculated for the Proposed Action under both the Base Plan and Blueprint scenarios and alternatives and compared to available electrical and natural gas supplies. The amount of electricity and natural gas demand was determined utilizing demand factors from the

Environmental Impact Report prepared for the Placer Vineyard Specific Plan. The demand factors were applied to the land uses under the Proposed Action under both scenarios and alternatives to estimate the amount of electrical and natural gas demand. **Table 3.15-4** below presents the estimated electrical and natural gas demand for the Proposed Action under both scenarios and alternatives.

Table 3.15-4
Electrical and Natural Gas Demand

Alternative	Electrical (MW per year)	Natural Gas (therms per year)
Proposed Action – Base Plan Scenario	194.1	40,002,480
Proposed Action – Blueprint Scenario	237.7	52,899,840
No Action Alternative	132.3	25,834,080
Alternatives 1 through 5 (Combined)	208.1	41,986,800

Source: Impact Sciences 2011

3.15.5 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

Impact UTIL-1 Availability of Potable Water Supplies to Meet Demand

No Action Alt.

Development of the No Action Alternative would include residential, commercial, institutional, and school uses that would require water. As demonstrated by the analysis below, PCWA's water supply would be adequate to serve the No Action Alternative at buildout under both normal/wet year conditions and under drought conditions. However, the initial supply of water would be constrained by infrastructure limitations, thus resulting in a **significant** effect. Mitigation is proposed that would reduce this effect to a **less than significant** level.

As shown in **Table 3.15-1**, the USACE estimates that the No Action Alternative would demand 7,209 afy (889 hmy) at buildout based on unit water demand factors from the Environmental Impact Report prepared for the Placer Vineyards Specific Plan (PVSP) (see **Subsection 3.15.4.2**). It is anticipated that the water supply sources for the No Action Alternative would be similar to the Proposed Action. As described below, the PCWA has concluded that it has an adequate water supply to meet the anticipated buildout demands of the Proposed Action under the Base Plan and Blueprint scenarios in addition to the rest of the buildout demands currently anticipated within the PCWA's service area in western Placer County during normal, single dry and multiple dry years. As the No Action Alternative would result in fewer residential units and less commercial development than the Proposed Action, water demand under the No Action Alternative would be lower and the PCWA would be able to serve the alternative's water demand along with the demand from the buildout of its service area.

It is anticipated that both an initial and a long-term water supply plan would be required to serve the project site under the No Action Alternative.

The long-term water supply would be provided by the Sacramento River and would be delivered via a pipeline extending along Baseline Road, south to Pleasant Grove Road, west along Elverta Road, finally connecting to the Sacramento River. The environmental effects associated with the pipeline primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed throughout this EIS under the discussion of off-site infrastructure impacts.

The initial water supply would be provided through PCWA's Foothill Water Treatment Plant system and delivered to the project site through the City of Roseville's system via a cooperative agreement between PCWA and the City of Roseville. This initial system would consist of an extension of the existing pipeline in Baseline Road near Fiddyment Road to the northeast corner of the project site. The environmental effects associated with the extension of the pipeline (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed throughout this EIS under the discussion of off-site infrastructure impacts.

The initial water supply for the No Action Alternative would need to be conveyed from the Foothill Water Treatment Plant through the City of Roseville system and would serve only a portion of the development proposed under the No Action Alternative. The PCWA estimates that it has 8.15 mgd of unallocated capacity from this source. Assuming a demand of 1,150 gallons per day (4,353 liters per day) per dwelling unit, this remaining capacity could serve approximately 7,000 dwelling units on a first come first serve basis. There are several projects in the vicinity of the project site that would also be served by the PCWA's unallocated capacity in the City of Roseville's system. In the event that these known projects were to rely solely on this supply, the 8.15 mgd (30.85 mld) of unallocated capacity would be greatly exceeded.

An additional, complementary scenario is also under consideration by the PCWA for conveying PCWA's American River water to the project site via a new pipeline from the future Ophir Water Treatment Plant. Given the uncertainty described above and the fact that continued development of the project site could generate demand for water that exceeds the supply provided by the initial water supply, a secondary water supply would be used that would deliver an additional 6,000 afy (740 hmy) to the project site. This would occur through: (1) an extension of the existing San Juan Cooperative Pipeline and Northridge Transmission Pipeline (Cooperative Transmission Pipeline) that terminates at Antelope and Walerga Road, west along Antelope Road and north to Watt Avenue into the project site; or (2) a pipeline within PFE Road from Cook Riolo Road to Watt Avenue extending north to the project site. Because a number of actions must occur in order to secure these water supplies, including multi-party agreements, treatment plant improvements, and the extension of an existing pipeline and the

construction of a new pipeline to the project site, the effect related to water supply would be **significant**.

PVSP EIR Mitigation Measures 4.11.7-1a through **4.11.7-1c** would address this effect. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this effect. **PVSP EIR Mitigation Measure 4.11.7-1a** would require the Applicants to ensure an adequate supply of water is available to serve future development, **PVSP EIR Mitigation Measure 4.11.7-1b** would require the Applicants to comply with PCWA water conservation strategies, and **PVSP EIR Mitigation Measure 4.11.7-1c** would require the Applicants to ensure enough conveyance capacity is available in the City of Roseville system to serve future development. The USACE finds that the mitigation measures described above would fully mitigate the effect of the No Action Alternative to a **less than significant** level.

Proposed Action (Base Plan and Blueprint Scenarios)

As demonstrated by the analysis presented below, the PCWA's water supply would be adequate to serve the Proposed Action under the Base Plan and Blueprint scenarios at buildout under both normal/wet year conditions and under drought conditions. However, the initial supply of water would be constrained by infrastructure limitations, thus resulting in a **significant** effect. Mitigation is proposed that would reduce this effect to a **less than significant** level.

As shown in **Table 3.15-1**, the USACE estimates that water demand under the Proposed Action is expected to range from 11,723 afy (1,446 hmy) to 14,539 afy (1,793 hmy) at buildout based on unit water demand factors from the Environmental Impact Report prepared for the PVSP (see **Subsection 3.15.4.2**). Potable water for the project site would be provided by the PCWA. The PCWA has indicated that through the integrated use of existing surface water entitlements, recycled water, demand reduction measures, and groundwater use, that it has an adequate water supply to meet the anticipated buildout demands of the Proposed Action under the Base Plan and Blueprint scenarios in addition to the rest of the buildout demands currently anticipated within the PCWA's service area in western Placer County during normal, single-dry and multiple-dry years (PCWA 2006a; PCWA 2006b).

The initial and a long-term water supply plans under the Proposed Action would be the same as described above for the No Action Alternative. Similar constraints regarding the City of Roseville's water distribution system under the initial water supply plan would occur under the Proposed Action, and this supply and infrastructure limitation would result in a **significant** effect based on the significance criteria listed above and for the same reasons presented for the No Action Alternative. In addition, similar to the No Action Alternative, continued development of the Proposed Action may require a secondary water supply as discussed above if the long-term water supply infrastructure is not completed in a timely manner. As a number of actions must occur in order to complete these water supply improvements, the effect would be **significant** based on

the significance criteria listed above and for the same reasons presented for the No Action Alternative.

PVSP EIR Mitigation Measures 4.11.7-1a through **4.11.7-1c** would address this effect. These measures were adopted by Placer County at the time of PVSP approval and will be enforced by the County. The County determined that these mitigation measures would reduce the effect on water supply under the Base Plan and Blueprint scenarios to a less than significant level (Placer County 2007). The USACE agrees with the conclusion in the PVSP EIR and finds that the effect would be reduced to **less than significant** after mitigation.

Alts. 1 through 5

As with the No Action Alternative and the Proposed Action, the PCWA's water supply would be adequate to serve all Alternatives 1 through 5 individually or combined at buildout under both normal/wet year conditions and under drought conditions. However, the initial supply of water would be constrained by infrastructure limitations, thus resulting in a **significant** effect. Mitigation is proposed that would reduce this effect to a **less than significant** level.

Alternatives 1 through 5 differ from the Proposed Action in that they place additional acreage in open space. However, none of the alternatives individually or combined reduce the amount of residential development proposed on the site, although Alternative 2 would change the nature of the non-residential development on the site. As shown in **Table 3.15-1**, the USACE estimates that Alternatives 1 through 5 combined would demand 11,582 afy (1,429 hmy) at buildout based on unit water demand factors from the Environmental Impact Report prepared for the PVSP (see **Subsection 3.15.4.2**)

As the implementation of Alternatives 1 through 5 combined would demand roughly the same amount of water as the Proposed Action, an adequate water supply is anticipated to meet the demands of each alterative during normal, single dry and multiple dry years. In addition, the same water distribution constraints and secondary supply issues under the No Action Alternative and the Proposed Action would occur under the selection of any of the alternatives, thus resulting in **significant** effects.

PVSP EIR Mitigation Measures 4.11.7-1a through **4.11-1c** would address the effects of Alternatives 1 through 5 on water supply. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 5 to address this effect. The USACE finds that the mitigation measures described above would fully mitigate the effect to a **less than significant** level.

PVSP EIR Mitigation Measure 4.11.7-1a: Water Supply
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.11.7-1a *would require the Applicants to ensure an adequate supply of water is available to serve future development. The full mitigation measure text is available in* ***Appendix 3.0.***

PVSP EIR Mitigation Measure 4.11.7-1b: Conservation Strategies
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.11.7-1b *would require the applicant to comply with PCWA water conservation strategies. The full mitigation measure text is available in* ***Appendix 3.0.***

PVSP EIR Mitigation Measure 4.11.7-1c: Conveyance Capacity
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.11.7-1c *would require the applicant to ensure enough conveyance capacity is available in the City of Roseville system to serve future development. The full mitigation measure text is available in* ***Appendix 3.0.***

Impact UTIL-2 Availability of Recycled Water Supplies to Meet Demand

No Action Alt.

The No Action Alternative would demand recycled water for use in parks, schools, publicly landscaped areas, and the landscaping associated with commercial, business professional, light industrial and multi-family uses.

The recycled water demand under the No Action Alternative was not estimated but due to the smaller scale of development under this alternative, it would likely be lower than the 1.41 mgd (5.34 mld) estimated for the Proposed Action (see below). Due to the high demand for recycled water by the developments in western Placer County, the City of Roseville, which operates the Dry Creek and Pleasant Grove WWTP, has determined that the available recycled water supply committed to a major specific plan is based on the average daily dry weather wastewater flow generated by the project. The recycled water demand on an average day in July under the Proposed Action would be 3.5 mgd (13.2 mld). As demands under the No Action Alternative would be lower than under the Proposed Action, the recycled water demand on an average day in July under this alternative would be less than 3.5 mgd (13.2 mld). The USACE estimates that the No Action Alternative would have a projected recycled water supply of 2.8 mgd (10.6 mld) at buildout This leaves a deficit of approximately 0.7 mgd [2.6 mld] when compared to July average day recycled water demand of 3.5 mgd (13.2 mld). Based on the supply formula used by the City of Roseville, the No Action Alternative would have a projected recycled water supply of 2.8 mgd (10.6 mld).

The above calculations assume that all of the project site would be served by the Dry Creek WWTP. In the event wastewater from the western 4,340 acres (1,756 hectares) is

directed to SRCSD for wastewater service, the flows to Dry Creek WWTP would be significantly reduced to 0.38 mgd (1.43 mld) under the No Action Alternative. In the absence of a recycled water supply for this area, potable water would be supplied by the PCWA. As discussed above under **Impact UTIL-1**, PCWA's water supply would be adequate to serve the project. Therefore, the effect related to availability of recycled water would be **less than significant**. Mitigation is not required.

Recycled water would be initially provided by the Dry Creek WWTP and ultimately by the Pleasant Grove WWTP. This would require the No Action Alternative to connect the project site to an existing 24-inch (61-centimeter) gravity recycled water line constructed as part of the Dry Creek West Placer Community Facilities District #1. The pipeline currently terminates south of Dry Creek on the east side of Walerga Road. The No Action Alternative would extend the line in a northerly direction along Walerga Road to Baseline Road where it would turn west to the project site. In the future, as the project site and its vicinity is built out, a recycled water line will be constructed from the Pleasant Grove WWTP to serve the project site and other areas. The future recycled water line would be extended westward from Pleasant Grove WWTP along Phillip Road to the alignment of Watt Avenue, and then south to Baseline Road where it would tie into other recycled water infrastructure. The Pleasant Grove WWTP supply would supplement and/or ultimately replace the Dry Creek WWTP supply. The environmental effects associated with the installation of these recycled water pipelines (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed in other sections of this EIS under the discussion of off-site infrastructure impacts.

Proposed Action (Base Plan and Blueprint Scenarios)

The average daily recycled water demand under the Proposed Action would be 1.41 mgd (5.34 mld) and the recycled water demand on an average day in July under the Proposed Action would be 3.5 mgd (13.2 mld) (Brown and Caldwell 2006). As stated above, the City of Roseville, which operates the Dry Creek and Pleasant Grove WWTP, has determined that the recycled water supply to the project site will be based on the amount of wastewater it generates on an average day in July. Using the City's methodology, the projected recycled water supply is 2.8 mgd (10.6 mld) (Brown and Caldwell 2006). If the projected recycled water supply is compared to the July average day recycled water demand of 3.5 mgd (13.2 mld), there would be a deficit of 0.7 mgd [2.6 mld] under the Proposed Action.

Similar to the No Action Alternative, if wastewater generated on the western 4,340 acres (1,756 hectares) of the project site is directed to the SRCSD for treatment, then recycled water would not be provided to this area. In the absence of a recycled water supply for this area, potable water would be supplied by the PCWA. As discussed above under **Impact UTIL-1**, PCWA's water supply would be adequate to serve the project. Therefore, the effect related to availability of recycled water would be **less than**

significant. Mitigation is not required.

The location of recycled water conveyance infrastructure connecting the Dry Creek WWTP under the Proposed Action would remain the same as described above for the No Action Alternative. The environmental effects associated with the installation of these recycled water pipelines (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed in other sections of this EIS under the discussion of off-site infrastructure impacts.

Alts. 1 through 5

Alternatives 1 through 5 differ from the Proposed Action in that they place additional acreage in open space. As explained above, none of the alternatives would appreciably reduce the amount of land that would be converted to urban uses on the project site or reduce the density of development on the project site and thereby the amount of water demanded.

The average daily recycled water demand and the recycled water demand on an average day in July for Alternatives 1 through 5 combined would be the same as the Proposed Action (1.41 mgd [5.34 mld] and 3.5 mgd [13.2 mld], respectively). The USACE estimates that Alternatives 1 through 5 combined would generate the same amount of wastewater as the Proposed Action. Based on the supply formula used by the City of Roseville, Alternative 1 through 5 combined would have a project recycled water supply of 2.8 mgd (10.6 mld).

Similar to the No Action Alternative and Proposed Action, if wastewater generated on the western 4,340 acres (1,756 hectares) of the project site is directed to the SRCSD for treatment, then recycled water would not be provided to this area. In the absence of a recycled water supply for this area, potable water would be supplied by the PCWA. As discussed above under **Impact UTIL-1**, PCWA's water supply would be adequate to serve the project. Therefore, the effect related to availability of recycled water would be **less than significant**. Mitigation is not required.

The location of recycled water conveyance infrastructure connecting the Dry Creek WWTP under Alternatives 1 through 5 combined would remain the same as the No Action Alternative and Proposed Action. The environmental effects associated with the installation of these recycled water pipelines (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed in other sections of this EIS under the discussion of off-site infrastructure impacts.

Impact UTIL-3 Capacity for Wastewater Treatment Facilities to Meet Demand

No Action Alt.

The Dry Creek WWTP would receive and treat wastewater effluent from the project site under the No Action Alternative. However, treatment of the majority of the wastewater effluent generated on the project site at the SRWTP is another option. As demonstrated by the analysis below, neither treatment plants have the treatment capacity to serve the No Action Alternative at buildout along with other anticipated development in each plant's service area, thus resulting in a **significant** effect. Mitigation is proposed that would reduce this effect to a **less than significant** level.

Dry Creek WWTP

As shown in **Table 3.15-2**, the USACE estimates that the No Action Alternative would generate an ADWF of 1.78 mgd (6.74 mld) at buildout based on unit flow factors established in the Environmental Impact Report prepared for the PVSP (see **Subsection 3.15.4.2**). The eastern 890 acres (360 hectares) (Shed B) of the project site is located within the service area of the Dry Creek WWTP. The planned flow for this area is 0.37 mgd (1.40 mld). The projected total flow at buildout under the No Action Alternative for Shed B would be 0.38 mgd (1.43 mld). As the additional flow is approximately equal to the planned flow for the area, no conflict with current planning efforts for the WWTP would occur and this effect would be **less than significant.**

Flows from Shed B would be directed to an off-site trunk sewer line connection point at its southerly boundary, and then cross Dry Creek (using jack and bore construction methods) and be carried by a gravity sewer trunk line to a lift station. From the lift station, wastewater flows would be carried in a 12-inch (30-centimeter)- diameter force main, to be installed along the south side of Dry Creek, to an existing force main located approximately 1,400 feet (427 meters) east of Walerga Road. The environmental effects associated with the installation of this wastewater utility corridor (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed in other sections of this EIS under the discussion of off-site infrastructure impacts.

Although the western 4,340 acres (1,756 hectares) (Shed A) is not within the SPWA service area, all wastewater flows from the project site would be directed toward the Dry Creek WWTP. Shed A would connect to the Dry Creek WWTP by way of two 16 to 20 inch (41 to 51 centimeter) diameter force main pipelines in the same utility corridor. The corridor would extend from the project site southerly along the alignment of Watt Avenue, then easterly along the alignment of PFE Road and northerly to the plant by way of one of two proposed alignments. The primary alignment would proceed northerly to the plant on the easterly segment of Hilltop Circle through the Roseville Corporation Yard (there is also an alternative alignment just east of the City of Roseville Corporation Yard). An alternative alignment will leave PFE Road at Cook Riolo Road,

turning easterly to the Dry Creek WWTP just north of Dry Creek. This latter alternative alignment could, however, physically impede the northerly expansion of the Dry Creek WWTP. The environmental effects associated with the installation of this wastewater utility corridor (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed in other sections of this EIS under the discussion of off-site infrastructure impacts.

The "Ultimate SPWA Service Area," which includes the project site, will generate a cumulative ADWF of 42.7 mgd (161.6 mld). Of this amount, 19.3 mgd (73.1 mld) would flow to the Dry Creek WWTP (Placer County 2007). This exceeds the current constructed capacity of 18 mgd (68 mld), but is within the planned capacity of 24 mgd (91 mld). At buildout, the No Action Alternative will contribute 1.78 mgd (6.74 mld) of projected flow.

The Dry Creek WWTP would need to be expanded to accommodate the additional flows, and the current NPDES waste discharge requirements would need to be amended. This is a potentially **significant** effect.

Sacramento Regional County Sanitation District

An option for the collection and treatment of wastewater from Shed A would be to send wastewater to the SRCSD for treatment at the SRWTP. The utility corridor to the SRWTP would extend from the project site to the south, following the alignment of Sorrento Road to the SRCSD Upper Northwest Interceptor at a point in Elkhorn Boulevard. An alternative corridor would also extend south from the project site following the alignment of Elwyn Avenue, west along Elverta Road and finally south along the alignment of West 6th Street to the SRCSD Upper Northwest Interceptor at a point in Elkhorn Boulevard. The environmental effects associated with the installation of this wastewater utility corridor (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed throughout this EIS.

The projected total flow at buildout for Shed A under the No Action Alternative would be 1.41 mgd (5.32 mld). The project site has not been included in formal planning and projections for the future of the SRWTP, and the magnitude of the effect is difficult to determine, but it is clear that the effect will be **significant** in terms of planning effort, design, construction, and maintenance.

PVSP EIR Mitigation Measures 4.11.6-2a through **4.11.6-2c** would address this effect. The USACE assumes that Placer County would impose the same mitigation measures on the No Action Alternative to address this effect. **PVSP EIR Mitigation Measure 4.11.6-2a** would ensure that written verification from the service provider is obtained and that capacity exists to serve the future development, **PVSP EIR Mitigation Measure 4.11.6-2b** would require that future development make financial commitments to

construct additional wastewater treatment capacity and that additional environmental review under state law that may be required for plant modifications and/or expansion be completed, and **PVSP EIR Mitigation Measure 4.11.6-2c** would ensure that all necessary permits are in place to discharge additional treated effluent. The USACE finds that the mitigation measures described above would fully mitigate the effect of the No Action Alternative to a **less than significant** level.

Proposed Action (Base Plan and Blueprint Scenarios)

Neither the Dry Creek WWTP nor the SRWTP would have the treatment capacity to serve the Proposed Action under the Base Plan and Blueprint scenarios at buildout along with other anticipated development in each plant's service area, resulting in a **significant** effect. Mitigation is proposed that would reduce this effect to a **less than significant** level.

Dry Creek WWTP

The USACE estimates that the Proposed Action would generate an ADWF ranging from 2.92 mgd (11.05 mld) to 4.19 mgd (15.86 mld) at buildout (**Table 3.15-2)**, based on unit flow factors established in the Environmental Impact Report prepared for the PVSP (see **Subsection 3.15.4.2**). As discussed above, the planned flow for Shed B is 0.37 mgd (1.40 mld). The projected total flow at buildout under the Proposed Action for Shed B would range from 0.51 mgd (1.93 mld) to 0.79 mgd (2.99 mld). The additional flow would conflict with current planning efforts for the WWTP and is considered a potentially significant effect. However, the WWTP may have the capacity to serve this additional flow from Shed B because actual flows within the SPWA service area have been less than projected due to a 27 percent reduction in flow factors for residential units and a 20 percent overall reduction in development densities (RMC 2005). In addition, the treatment plant is currently constructed to treat 18 mgd (68 mld), but can be expanded to treat 24 mgd (91 mld) (Placer County 2007).

The addition of flows from Shed A under the Proposed Action would also result in the need to expand the Dry Creek WWTP, and the current NPDES waste discharge requirements would need to be amended. This is a potentially **significant** effect. **PVSP EIR Mitigation Measures 4.11.6-2a** through **4.11.6-2c** would address the effect.

The size and location of wastewater conveyance infrastructure connecting Sheds A and B to the Dry Creek WWTP under the Proposed Action would remain the same as the No Action Alternative. The environmental effects associated with the installation of this wastewater utility corridor (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed throughout this EIS under the discussion of off-site infrastructure impacts.

Sacramento Regional County Sanitation District

Similar to the No Action Alternative, an option exists under the Proposed Action to

collect and treat wastewater from Shed A at the SRWTP. The alignment of wastewater conveyance infrastructure connecting Shed A to the SRWTP under the Proposed Action would remain the same as the No Action Alternative. The projected total flow at buildout under the Proposed Action for Shed A would range from 2.41 mgd (9.12 mld) to 3.40 mgd (12.87 mld), and as the project site has not been included in formal planning and projections for the future of the SRWTP, the additional amount represents a potentially **significant** effect. **PVSP EIR Mitigation Measures 4.11.6-2a** through **4.11.6-2c** would address this effect.

The alignment of wastewater conveyance infrastructure connecting Shed A to the SRWTP under the Proposed Action would remain the same as under the No Action Alternative. The environmental effects associated with the installation of this wastewater utility corridor (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed throughout this EIS under the discussion of off-site infrastructure impacts.

PVSP EIR Mitigation Measures 4.11.6-2a through **4.11.6-2c** would be implemented to address the effect of the Proposed Action on wastewater capacity at either the Dry Creek WWTP or SRWTP. These measures were adopted by Placer County at the time of project approval and will be enforced by the County. The County determined that these mitigation measures would reduce the effect of the PVSP to a less than significant level (Placer County 2007). The USACE agrees with the conclusion in the PVSP EIR and finds that the effect would be reduced to **less than significant** after mitigation.

Alts. 1 through 5

As demonstrated by the analysis below, both the Dry Creek WWTP and the SRWTP would not have the treatment capacity to serve Alternatives 1 through 5 individually or combined at buildout along with other anticipated development in each plant's service area, thus resulting in a **significant** effect. Mitigation is proposed that would reduce this effect to a **less than significant** level.

As explained above, Alternatives 1 through 5 differ from the Proposed Action in that they place additional acreage in open space but none of the alternatives appreciably reduce (between 0.05 and 1 percent) the amount of land that would be converted to urban uses on the project site or the level of development on the project site and thereby the amount of wastewater generated.

Dry Creek WWTP

As shown in **Table 3.15-2**, the USACE estimates that development under Alternatives 1 through 5 individually or combined would generate an ADWF of 2.92 mgd (11.05 mld) at buildout based on unit flow factors established in the Environmental Impact Report prepared for the PVSP (see **Subsection 3.15.4.2**) with 0.53 million gallons (2 million liters) generated within Shed B and 2.39 million gallons (9.05 million liters) generated within Shed A. The amount of wastewater generated within Shed B by the development

of these alternatives combined would exceed the amount of planned flow for this area. The additional flow under Alternatives 1 through 5 individually or combined would conflict with current planning efforts for Shed B and represents a potentially significant effect. Similarly, the addition of flows from Shed A under these alternatives would also result in the need to expand the Dry Creek WWTP, and the current NPDES waste discharge requirements would need to be amended. This is a potentially **significant** effect. **PVSP EIR Mitigation Measures 4.11.6-2a** through **4.11.6-2c** would address these effects.

The size and location of wastewater conveyance infrastructure connecting Sheds A and B to the Dry Creek WWTP under these alternatives combined would remain the same as the No Action Alternative and Proposed Action. The environmental effects associated with the installation of this wastewater utility corridor (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed throughout this EIS under the discussion of off-site infrastructure impacts.

Sacramento Regional County Sanitation District

Similar to the No Action Alternative and Proposed Action, an option exists under Alternatives 1 through 5 individually or combined to collect and treat wastewater from Shed A at the SRWTP. The projected total flow at buildout under Alternatives 1 through 5 combined for Shed A is 2.39 mgd (9.05 mld), and as the project site has not been included in formal planning and projections for the future of the SRWTP, the additional amount represents a potentially **significant** effect.

The alignment of wastewater conveyance infrastructure connecting Shed A to the SRWTP under Alternatives 1 through 5 combined would remain the same as the No Project Alternative and Proposed Action under the Base Plan scenario. The environmental effects associated with the installation of this wastewater utility corridor (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed throughout this EIS under the discussion of off-site infrastructure impacts.

PVSP EIR Mitigation Measures 4.11.6-2a through **4.11.6-2c** would be implemented to address the effect of Alternatives 1 through 5 individually or combined on wastewater capacity at either the Dry Creek WWTP or SRWTP. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 5 individually or combined to address this effect. The USACE finds that the mitigation measures described above would fully mitigate the effect to **less than significant**.

PVSP EIR Mitigation Measure 4.11.6-2a: Capacity Verification
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.11.6-2a *would ensure that written verification from the service provider is obtained and that capacity exists to serve the future development. The full mitigation measure text is available in* ***Appendix 3.0.***

PVSP EIR Mitigation Measure 4.11.6-2b: Financial Participation
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.11.6-2b *would require that future development make financial commitments to construct additional wastewater treatment capacity and that additional environmental review under state law that may be required for plant modifications and/or expansion be completed. The full mitigation measure text is available in* ***Appendix 3.0.***

PVSP EIR Mitigation Measure 4.11.6-2c: Discharge Permits
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.11.6-2c *would ensure that all necessary permits are in place to discharge additional treated effluent. The full mitigation measure text is available in* ***Appendix 3.0.***

Impact UTIL-4 Increased Demand for Solid Waste Services

No Action Alt.

The direct contribution of solid waste generated by the No Project Alternative to the volume of solid waste currently accepted at the MRF and regional landfill will exceed County standards. Mitigation would partially mitigate these effects, but not to less than significant. Residual **significant** effects would remain after mitigation**.**

As shown in **Table 3.15-3**, the USACE estimates that buildout of the No Action Alternative would generate 14,843 tons (13,465 metric tons) of solid waste per year based on waste generation rates provided by the Placer County Solid Waste Management Division (see **Subsection 3.15.4.2**). Of this amount, 11.9 percent will go directly to the regional landfill while the remaining 88.1 percent will go to the MRF for processing. Of the amount directed to the MRF, 36.9 percent will be diverted for recycling and 63.1 percent will be sent to the regional landfill. Overall, 10,018 tons (9,088 metric tons) of solid waste per year will be sent to the regional landfill.

The MRF processes a total of 281,300 tons (255,191 metric tons) of solid waste annually while the regional landfill accepts a total of 275,600 tons (250,020 metric tons) of solid waste annually. The amount of solid waste directed by the No Action Alternative to the MRF represents 4.6 percent of the facility's currently accepted tonnage while the amount of solid waste generated by the No Action Alternative for disposal into the regional landfill represents 3.6 percent of the facility's currently accepted annual tonnage.

Placer County has indicated that any project that contributes solid waste that constitutes 3 percent or more of currently accepted tonnages at the MRF and regional landfill should be considered to have a significant impact on those facilities (Placer County 2007). Based on this standard, the contribution of the No Action Alternative to the volumes of solid waste currently accepted at the MRF and regional landfill would exceed 3 percent per year and would result in a **significant** effect.

PVSP EIR Mitigation Measures 4.11.5-1a through **4.11.5-1d** would address this effect. **PVSP EIR Mitigation Measure 4.11.5-1a** would require that contractors provide on-site separation of construction debris, **PVSP EIR Mitigation Measure 4.11.5-1b** would require that projects in the Specific Plan area contribute a fair shall toward the expansion of the MRF and regional landfill, **PVSP EIR Mitigation Measure 4.11.5-1c** would require that a source-separated green waste program be implemented within the Specific Plan area, and **PVSP EIR Mitigation Measure 4.11.5-1d** would require that the applicants provide a plan for the development and continuous operation and maintenance of recycling centers within the Specific Plan area. The USACE assumes that Placer County would impose these mitigation measures on the No Action Alternative to address this effect. The mitigation measures described above would not mitigate the effects of the No Action Alternative to less than significant. The USACE finds that residual **significant** effects would remain after mitigation.

Proposed Action (Base Plan and Blueprint Scenarios)

The direct contribution of solid waste generated by the Proposed Action to the volume of solid waste currently accepted at the MRF and regional landfill will exceed County standards. Mitigation would partially mitigate these effects, but not to less than significant. Residual **significant** effects would remain after mitigation**.**

As shown in **Table 3.15-3**, the USACE estimates that buildout of the Proposed Action would generate between 24,796 tons (22,495 metric tons) and 34,770 tons (31,543 metric tons) of solid waste per year based on waste generation rates provided by the Placer County Solid Waste Management Division (see **Subsection 3.15.4.2**). Of these amounts, 11.9 percent will go directly to the regional landfill while the remaining 88.1 percent will go to the MRF for processing. Of the amount directed to the MRF, 36.9 percent will be diverted for recycling and 63.1 percent will be sent to the regional landfill. Overall, between 16,735 tons (15,182 metric tons) and 23,467 tons (21,289 metric tons) of solid waste per year will be sent to the regional landfill.

As discussed above, the MRF processes a total of 281,300 tons (255,191 metric tons) of solid waste annually while the regional landfill accepts a total of 275,600 tons (250, metric tons) of solid waste annually. The amount of solid waste directed by the Proposed Action to the MRF represents between 7.8 percent and 10.9 percent of the facility's currently accepted tonnage while the amount of solid waste disposed by the Proposed Action into the regional landfill represents between 6.1 percent and 8.5 percent of the facility's currently accepted tonnage. Based on the Placer County

standard described above, the direct contribution of the Proposed Action to the volumes of solid waste currently accepted at the MRF and regional landfill would exceed 3 percent per year and would result in a **significant** effect.

PVSP EIR Mitigation Measures 4.11.5-1a through **4.11.5-1d** would be implemented to address this effect. These measures were adopted by Placer County at the time of project approval and will be enforced by the County. The County determined that while these measures would lessen the impacts of the PVSP on the MRF and regional landfill, they would not reduce the effects to these facilities to less than significant (Placer County 2007). The USACE agrees with the conclusion in the PVSP EIR and finds that residual **significant** effects would remain after mitigation.

Alts. 1 through 5

The direct contribution of solid waste generated by Alternatives 1 through 5 individually or combined to the volume of solid waste currently accepted at the MRF and regional landfill will exceed County standards. Mitigation would partially mitigate these effects, but not to less than significant. Residual **significant** effects would remain after mitigation**.**

As shown in **Table 3.15-3**, the USACE estimates that buildout of Alternatives 1 through 5 combined would generate 25,412 tons (23,053 metric tons) of solid waste per year based on waste generation rates provided by the Placer County Solid Waste Management Division (see **Subsection 3.15.4.2**). Of this amount, 11.9 percent would go directly to the regional landfill while the remaining 88.1 percent would go to the MRF for processing. Of the amount directed to the MRF, 36.9 percent would be diverted for recycling and 63.1 percent would be sent to the regional landfill. Overall, 17,151 tons (15,559 metric tons) of solid waste per year would be sent to the regional landfill.

The amount of solid waste directed by Alternatives 1 through 5 combined to the MRF represents 8.0 percent of the facility's currently accepted tonnage while the amount of solid waste generated under Alternatives 1 through 5 combined that would require disposal at the regional landfill represents 6.2 percent of the facility's currently accepted tonnage. Based on the Placer County standard, the direct contribution of Alternatives 1 through 5 combined to the volumes of solid waste currently accepted at the MRF and regional landfill would exceed 3 percent per year and would result in a **significant** effect.

PVSP EIR Mitigation Measures 4.11.5-1a through **4.11.5-1d** would address the effect of Alternatives 1 through 5 on the MRF and regional landfill. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 5 individually or combined to address this effect. The mitigation measures would not mitigate the effects of Alternatives 1 through 5 to a less than significant level. The USACE finds that residual **significant** effects would remain after mitigation.

PVSP EIR Mitigation Measure 4.11.5-1a: Construction Debris
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.11.5-1a *would require that contractors provide on-site separation of construction debris. The full mitigation measure text is available in* ***Appendix 3.0.***

PVSP EIR Mitigation Measure 4.11.5-1b: Fair Share Payment for Expansion of Solid Waste Facilities
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.11.5-1b *would require that projects in the Specific Plan area contribute a fair shall toward the expansion of the MRF and regional landfill. The full mitigation measure text is available in* ***Appendix 3.0.***

PVSP EIR Mitigation Measure 4.11.5-1c: Greenwaste Program
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.11.5-1c *would require that a source-separated greenwaste program be implemented within the Specific Plan area. The full mitigation measure text is available in* ***Appendix 3.0****.*

PVSP EIR Mitigation Measure 4.11.5-2d: Recycling Centers
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.11.5-2d *would require that the applicants provide a plan for the development and continuous operation and maintenance of recycling centers within the Specific Plan area. The full mitigation measure text is available in* ***Appendix 3.0****.*

Impact UTIL-5 Increased Demand for Electricity, Natural Gas and Telecommunications

No Action Alt. Development of the No Action Alternative would result in a demand for electrical, natural gas and telecommunications services. As demonstrated by the analysis presented below, the existing electrical and natural gas supply would be adequate to serve the No Action Alternative. However, adequate electrical and natural gas infrastructure may not be in place to serve development contemplated under this alternative, thus resulting in a **significant** effect. Mitigation is proposed that would reduce this effect to **less than significant**. Adequate telecommunications infrastructure would be in place to serve the project site, and the effect would be **less than significant**.

Electricity

The development and implementation of the No Action Alternative would add land uses to the project site that would increase the demand for electrical services. As indicated in **Table 3.15-4**, the USACE estimates that electrical consumption under the No Action Alternative would be 132 MV at full buildout based on demand factors from the Environmental Impact Report prepared for the PVSP (see **Subsection 3.15.4.2**). As

discussed below, both PG&E and SMUD indicate that they have the ability to supply the Proposed Action with necessary electricity. As the demand under the No Action Alternative would be lower than under the Proposed Action, adequate supply would be available to serve development contemplated under this alternative.

Extensions of existing electrical facilities by both PG&E and SMUD are necessary to provide adequate electrical service to support the demands of the No Action Alternative. Potential environmental effects that could occur as a result of extending existing electrical facilities to the project site are addressed in other sections of this EIS under the discussion of off-site infrastructure improvement impacts.

The No Action Alternative would require that all units be built to Title 24 standards. While there is adequate electrical supply to serve the No Action Alternative, adequate infrastructure may not be in place to serve the project site. This is a **significant** effect.

To the extent that increased electricity usage from the No Action Alternative indirectly results in environmental effects due to fossil fuel consumption associated with power generation, such effects are addressed in **Section 3.5, Climate Change**.

Natural Gas

The development and implementation of the No Action Alternative would add land uses that would increase the demand for natural gas services. As indicated in **Table 3.15-4**, the USACE estimates that natural gas consumption under the No Action Alternative would 25,834,080 therms at full buildout based on demand factors from the Environmental Impact Report prepared for the PVSP (see **Subsection 3.15.4.2**). As discussed below, PG&E has indicated that it has the ability to supply the Proposed Action with necessary natural gas. As the demand under the No Action Alternative would be lower than under the Proposed Action, adequate supply would be available to serve development contemplated under this alternative.

In order to provide natural gas service to the project site, new gas distribution feeder mains, regulator stations, and distribution and transmission lines will be needed. Potential environmental effects that could occur as a result of constructing the on-site natural gas distribution system to serve development under the No Action Alternative (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed throughout this EIS under the discussion of off-site infrastructure improvement impacts.

The No Action Alternative would require that all units be built to Title 24 standards. While adequate natural gas supply is available to serve the No Action Alternative, adequate infrastructure may not be in place to serve the project site. This is a **significant** effect.

To the extent that increased natural gas usage contributes to climate change, such effects are addressed in **Section 3.5, Climate Change**.

Telecommunications

The development of the project site under the No Action Alternative will create an increased demand for cable television and telephone services. These additional services would be provided by private telecommunications companies and would be funded through developer fees and future customer billing. In addition, the telecommunications companies would be given the opportunity to review and comment on any proposed development requiring new service. All phone and cable lines would be installed in roadway rights-of-way, so there would not be any environmental effects beyond the construction effects identified in this EIS. Therefore, effects associated with the demand for cable television and telephone services would be **less than significant**.

PVSP EIR Mitigation Measures 4.11.10-1a and **4.11.5-1b** would address the effect of the No Action Alternative on electrical and natural gas infrastructure. **PVSP EIR Mitigation Measure 4.11.10-1a** would require the applicants and subsequent developers to work closely with PG&E and SMUD to ensure that development of electrical and natural gas infrastructure with the capacity to service the entire project site is located and provided concurrently with roadway construction while **PVSP EIR Mitigation Measure 4.11.5-1b** would require the implementation of energy efficiency measures. The USACE assumes that Placer County would impose these mitigation measures on the No Action Alternative to address this effect. The USACE finds that the mitigation measures described above would fully mitigate the effect to **less than significant**

Proposed Action (Base Plan and Blueprint Scenarios)

Existing electrical and natural gas supply would be adequate to serve the Proposed Action. However, adequate electrical and natural gas infrastructure may not be in place to serve development contemplated under the Proposed Action, thus resulting in a **significant** effect. Mitigation is proposed that would reduce this effect to **less than significant**. Adequate telecommunications infrastructure would be in place to serve the Proposed Action, and the effect would be **less than significant**.

The Proposed Action would result in the demand for electricity, gas, and telecommunications. As indicated in **Table 3.15-4**, the USACE estimates that electrical consumption for the project site would range from 194 megawatts (MV) to 238 MV at full buildout based on demand factors from the Environmental Impact Report prepared for the PVSP (see **Subsection 3.15.4.2**). Both PG&E and SMUD indicate that they have the ability to supply the necessary electricity to the project site (Placer County 2007). In addition, as shown in **Table 3.15-4,** the USACE estimates that natural gas consumption for the project site would range from 40,002,480 therms per year a to 52,899,840 therms per year at full buildout based on demand factors from the Environmental Impact Report prepared for the PVSP (see **Subsection 3.15.4.2**). PG&E has indicated that it has

the ability to supply the necessary natural gas to the project site (Placer County 2007). However, adequate electrical and natural gas infrastructure necessary to support the Proposed Action may not be in place to serve the project site, thus resulting in a **significant** effect. Adequate telecommunications infrastructure would be in place to serve the project site, and the effect would be **less than significant**.

Potential environmental effects that could occur as a result of constructing the on-site electrical, natural gas, and telecommunications distribution system to serve development under the Proposed Action (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed throughout this EIS under the discussion of off-site infrastructure impacts.

PVSP EIR Mitigation Measures 4.11.10-1a and **4.11.5-1b** would be implemented to address the effect of the Proposed Action on electrical and natural gas infrastructure. These measures were adopted by Placer County at the time of project approval and will be enforced by the County. The County determined that these mitigation measures would reduce the effect of the PVSP to less than significant (Placer County 2007). The USACE agrees with the conclusion in the PVSP EIR and finds that the effect would be reduced to **less than significant** after mitigation.

Alts. 1 through 5

Alternatives 1 through 5 combined would result in the demand for electricity, gas, and telecommunications. As indicated in **Table 3.15-4**, the USACE estimates that electrical consumption under these alternatives combined would be 208 MV at full buildout while natural gas consumption under these alternatives combined would be 41,986,800 therms at full buildout based demand factors from the Environmental Impact Report prepared for the PVSP (see **Subsection 3.15.4.2**). Alternatives 1 through 5 combined would demand roughly the same amount of gas and electricity as the Proposed Action-, and thus adequate supply would be available to serve development contemplated under these alternatives combined. However, adequate electrical and natural gas infrastructure necessary to support Alternatives 1 through 5 may not be in place to serve the project site, thus resulting in a **significant** effect. Adequate telecommunications infrastructure would be in place to serve the project site, and the effect would be **less than significant**.

Potential environmental effects that could occur as result of constructing the on-site electrical, natural gas, and telecommunications distribution system to serve development under Alternatives 1 through 5 combined (primarily biological and cultural resources impacts, construction-phase air quality impacts, and noise impacts) are addressed throughout this EIS under the discussion of off-site infrastructure impacts.

PVSP EIR Mitigation Measures 4.11.10-1a and **4.11.5-1b** would address the effect of Alternatives 1 through 5 individually or combined on electrical and natural gas

infrastructure. The USACE assumes that Placer County would impose the same mitigation measures on Alternatives 1 through 5 individually or combined to address this effect. The USACE finds that the mitigation measures described above would fully mitigate the effect to **less than significant**.

PVSP EIR Mitigation Measure 4.11.10-1a: Infrastructure Capacity
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.11.10-1a *would require the applicants and subsequent developers to work closely with PG&E and SMUD to ensure that development of electrical and natural gas infrastructure with the capacity to service the entire project site is located and provided concurrently with roadway construction. The full mitigation measure text is available in* ***Appendix 3.0.***

PVSP EIR Mitigation Measure 4.11.5-1b: Energy Efficiency Measures
(*Applicability – Proposed Action and All Alternatives*)

PVSP EIR Mitigation Measure 4.11.5-1b *would require the implementation of energy efficiency measures. The full mitigation measure text is available in* ***Appendix 3.0.***

Impact UTIL-6 Indirect Effects on Utilities from Off-Site Infrastructure Not Constructed as Part of the Project

No Action Alt., Proposed Action (Base Plan and Blueprint Scenarios), and Alts. 1 through 5

The construction and operation of off-site water pipeline infrastructure by the Placer County Water Agency (PCWA) which may be used by the No Action Alternative, Proposed Action, and Alternatives 1 through 5, would result in **less than significant** effects to utilities.

Construction activities associated with off-site water pipelines such as additional truck traffic could interfere with solid waste collection. However, construction would be temporary and the project would be subject to standard County and state traffic control and access procedures. No other effects would result from the construction and operation of the pipelines. The effect on utilities from the water pipeline project would be **less than significant**.

3.15.6 RESIDUAL SIGNIFICANT IMPACTS

A **significant** effect would occur under the Proposed Action and all alternatives with respect to **Impact UTIL-2** as no feasible mitigation is available, and residual **significant** effects would remain under the Proposed Action and all alternatives for **Impact UTIL-4** after mitigation. All of the other effects would either be **less than significant** or would be reduced to **less than significant** by the proposed mitigation.

3.15.7 REFERENCES

Brown and Caldwell. 2006. Placer Vineyards Draft Specific Plan Recycled Water Master Plan. August.

CalRecycle. 2011. Jurisdiction Diversion and Disposal Profile: California Waste Stream Profiles http://www.calrecycle.ca.gov/profiles/juris/ Accessed December 1, 2011.

City of Roseville. 2010. Final Environmental Impact Report for the Sierra Vista Specific Plan. Prepared by City of Roseville. May.

MWH. 2007. Western Placer Groundwater Management Plan (WPCGMP) for the Cities of Roseville and Lincoln along with PCWA and the California American Water Company (CAW). November.

National Marine Fisheries Service (NMFS) 2009. "Biological Opinion and Conference Opinion on the Long-Term Operations of the Central Valley Project and State Water Project."

Natural Resources Defense Council v. Kempthorne, 506 F.Supp.2d 322. 2007.

Placer County. 2007. Final Environmental Impact Report for the Placer Vineyards Specific Plan. Prepared by Quad Knopf.

Placer County. 2008. Final Environmental Impact Report for the Regional University Specific Plan. Prepared by PBS&J. September.

Placer County Water Agency (PCWA). 2011. Placer County Water Agency 2010 Urban Water Management Plan. Adopted by PCWA Board of Directors, June, 2011.

Placer County Water Agency (PCWA). 2006a. Updated Placer Vineyards Base Specific Plan Water Supply Assessment. February.

Placer County Water Agency (PCWA). 2006b. Updated Placer Vineyards Blueprint Alternative Water Supply Assessment. February.

RMC. 2005. Technical Memorandum - South Placer Regional Wastewater & Recycled Water Systems Evaluation Project. January.

Water Forum. 2000. Water Forum Agreement. January.

4.0 CUMULATIVE IMPACTS

4.1 INTRODUCTION

This section of the Draft EIS presents the cumulative impacts of the Proposed Action and its alternatives. National Environmental Policy Act (NEPA) regulations require that cumulative impacts of a proposed action be assessed and disclosed in an EIS. The Council on Environmental Quality (CEQ) regulations define a cumulative impact as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (40 CFR 1508.7)

According to a 1997 CEQ guidance document entitled, "Considering Cumulative Effects Under the National Environmental Policy Act," cumulative effects must be evaluated along with the direct effects and indirect effects (those that occur later in time or farther removed in distance) of each alternative. The range of alternatives considered must include the no action alternative which can be used as a baseline against which to evaluate cumulative effects. The CEQ guidance also describes the concept of baseline as "[T]he baseline condition of the resource of concern should include a description of how conditions have changed over time and how they are likely to change in the future without the proposed action" (CEQ 1997). The range of actions that must be considered includes not only the project proposal but all connected and similar actions that could contribute to cumulative effects.

4.2 APPROACH TO CUMULATIVE IMPACT ANALYSIS

This Draft EIS uses a six-step approach in developing a cumulative impact analysis. These steps include the following: (1) identify resources to consider in the cumulative impact analysis; (2) define the timeframe for cumulative impact assessment; (3) define study area for each resource; (4) identify other present and reasonably foreseeable future actions that could also affect the resource; (5) assess and report potential cumulative impacts by first describing the current health and historical context for each resource and then identifying the direct and indirect impacts of the Proposed Action that might contribute to a cumulative impact; and (6) assess the need for mitigation. These steps are described in more detail below.

4.2.1 Identification of Resources to Consider in the Cumulative Impact Analysis

The U.S. Army Corps of Engineers (USACE) used NEPA guidance to identify resource topics that would be considered in the cumulative impact analysis (40 CFR 1508.25). From a review of the likely environmental impacts analyzed in **Chapter 3.0**, the USACE determined that the analysis of cumulative impacts would be limited to the following resource topics: Biological Resources, Aesthetics, Agricultural Resources, Air Quality, Cultural Resources, Hydrology, Noise, and Utilities.

With respect to the remaining topics, the analysis in **Chapter 3.0** shows that the Proposed Action and its alternatives would either not result in any direct or indirect impacts and therefore would not contribute

to a cumulative impact (i.e., there would be no impact related to environmental justice; therefore the Proposed Action would not contribute to a cumulative impact related to environmental justice); or that the nature of the resource is such that impacts do not have the potential to cumulate (i.e., impacts related to geology are site specific and do not cumulate); or that the analysis in **Chapter 3.0** is in essence a cumulative analysis and no further evaluation is required. For example because climate change is global in nature, the analysis in **Section 3.5** is inherently a cumulative impact assessment. Similarly, the traffic analysis in **Section 3.14** evaluates the effects from traffic that would result from growth in regional traffic through 2025 combined with the growth in traffic due to the Proposed Action at buildout. That analysis, therefore, presents the cumulative traffic impacts which were determined to be significant and the Proposed Action's contribution to the cumulative impacts was found to be significant. Mitigation measures are proposed to address the Proposed Action's contribution to the cumulative traffic impacts.

No scoping comments were received that identified specific resources that should be considered in the cumulative impact analysis.

4.2.2 Definition of Timeframe for Analysis

For each resource topic that was carried forth for cumulative impact assessment, the timeframe for cumulative analysis was defined based on the specific characteristics of the resource.

Timeframe for Analysis - Biological Resources

As required by NEPA, this analysis considers cumulative effects of the Proposed Action in combination with other past, present and reasonably foreseeable future projects. The Clean Water Act (33 USC §1251 et seq.) was enacted in 1972. This law gave authority to the USACE to issue permits for the discharge of dredge or fill materials into the waters of the U.S. As the USACE has been regulating the filling of wetlands since 1972, the timeframe that bounds the cumulative impact analysis in this Draft EIS for wetland and related special-status species impacts is approximately 40 years in the past (i.e., year 1970).

As noted in **Chapter 2.0**, the Proposed Action is anticipated to be fully built out between 2025 and 2040 depending on housing market conditions. Therefore, 30 years in the future would serve as an appropriate timeline for the identification of other reasonably foreseeable future actions to be considered in the cumulative impact analysis. Another point of reference is the draft Placer County Conservation Plan (PCCP). The draft PCCP is based on long-range growth projections for western Placer County which go out 50 years into the future. Based on the above, the timeframe used to bound the analysis is approximately 50 years in the future (i.e., year 2060).

Timeframe for Analysis – All Other Resources

The timeframe for evaluation of cumulative impacts of most of the other resources is also development that has occurred in the area around the project site in the past 40 years and future development that is anticipated through 2060. For a few topics such as transportation and traffic where conditions through 2060 cannot be reasonably predicted, the timeframe for cumulative impacts has a horizon year of 2025.

4.2.3 Definition of Study Area

For each resource that was carried forth for cumulative impact assessment, the study area was defined based on the nature and characteristics of the resource.

Study Area - Biological Resources

Extensive areas of vernal pool habitat occur throughout California. According to the California Department of Fish and Wildlife (CDFW), vernal pools occur in a diverse array of areas in California including the Central Valley and cismontane foothills, lowlands in the Transverse and Coast Ranges, southern coastal mesas and the extreme northeast corner of the state on the Modoc Plateau (CDFG 1998). Within the Central Valley, vernal pool habitat occurs in a number of areas, including the transitional zone between the Sierra Nevada foothills and the valley flatlands. The Proposed Action is located in this transitional zone and therefore would contribute to the loss of vernal pool habitat in the entire Central Valley. However, to provide a more focused analysis of cumulative impacts, the study area for vernal pools and other biological resource impacts was defined to include a subregion of the Central Valley vernal pool area. This subregion, shown in **Figure 4.0-1, Study Area for Cumulative Impacts**, includes all of western Placer County, the northern portion of Sacramento County, and the western portion of Sutter County.

To delineate the boundaries of this study area, the USACE conducted a review of aerial photographs from 1970 of western Placer County and adjoining portions of Sutter and Sacramento counties, which is close to the time when the Clean Water Act was enacted. As vernal pools typically occur in landscapes that are shallowly sloping or nearly level at a broad scale, and typically occur embedded in grasslands, all areas that exhibited these characteristics on the aerial photographs from 1970 were assumed to support vernal pools and were included in the study area by the USACE. Lands that did not support grasslands or showed other landscapes such as agricultural fields or urban development were excluded. This approach was used to define the northern, western, and southern boundary of the study area (see **Figure 4.0-1, Study Area for Cumulative Impacts**). The eastern boundary of the study area was defined based on elevation above sea level. Based on the observed distribution of vernal pools, vernal pools primarily occur at elevations below 200 feet (61 meters). Therefore, a generalized eastern boundary was drawn corresponding roughly to the 200-foot (61-meter) contour. The study area defined in this manner encompasses the Western Placer County core area in the Vernal Pool Recovery Plan.

The analysis of cumulative biological resource impacts is focused on this study area and documents the losses of vernal pool habitat that have occurred in this area since 1970 and additional losses that would result from the Proposed Action and other reasonably foreseeable future development through approximately 2060. As the study area is a subregion of the Central Valley vernal pool area, past and present trends of habitat losses in the Central Valley are also briefly described in this chapter to provide the broader context for the cumulative impact.

Study Area – All Other Resources

The cumulative context for visual impacts is the area immediately surrounding the project site that has been previously developed or is proposed for development. Within this area, the study area is defined to include areas that are visible from major roadways, namely, Walerga Road, Baseline Road, and Watt Avenue.

The study area for cumulative impacts to farmland is defined to be the northern Central Valley, particularly southwestern Placer County, northern Sacramento County, and southeastern Sutter County, which contain a wide range of agricultural uses, from grazing and row corps to orchards, and contain soils that are similar to the project site.

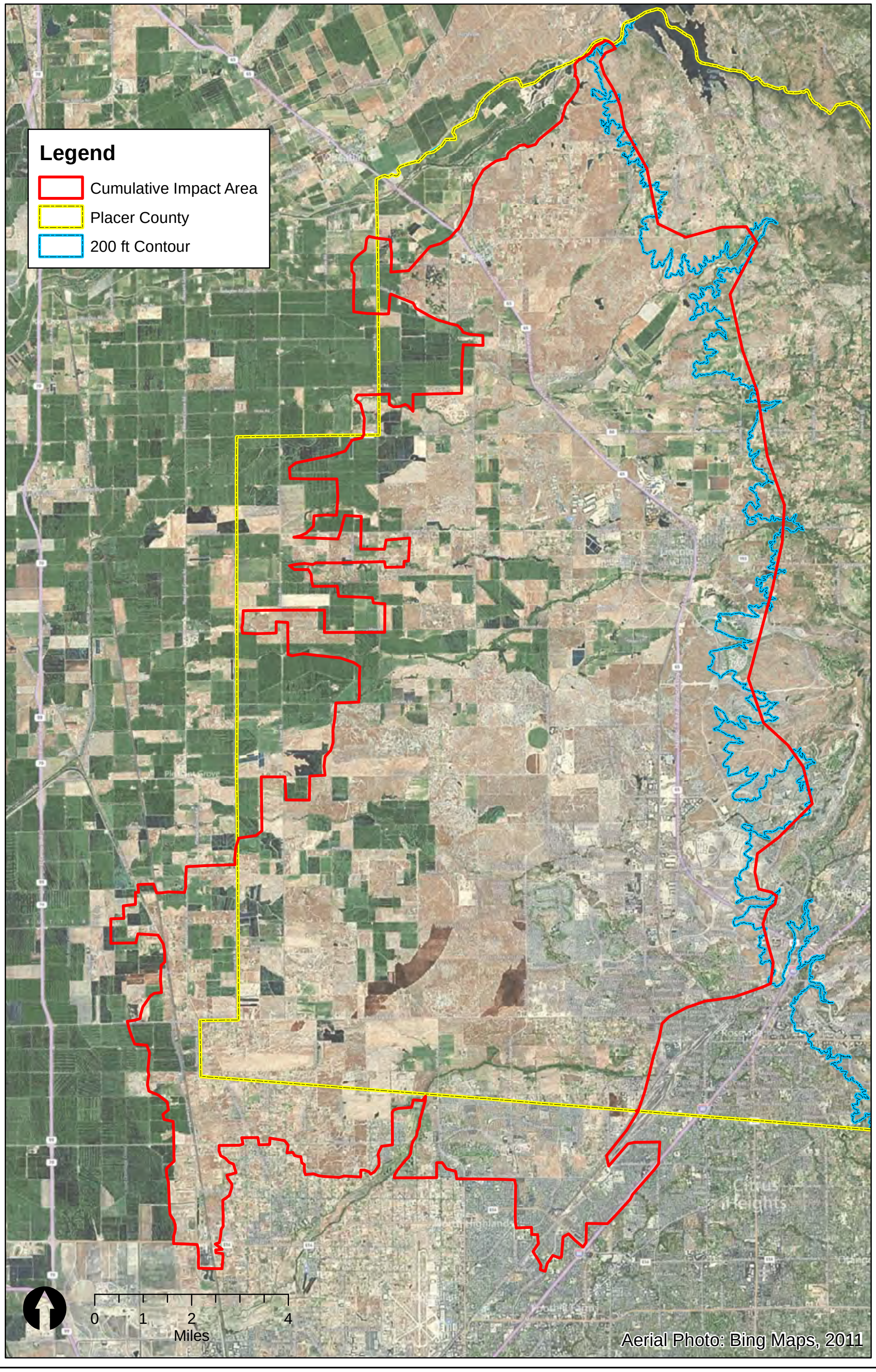
The study area for cumulative air quality impacts is the Sacramento Valley Air Basin, which includes Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba counties, the western urbanized portion of Placer County, and the eastern portion of Solano County.

The study area for cumulative impacts on cultural resources is western Placer County because, to the extent that there are any prehistoric and historic resources within the project site, their significance is generally expected to be confined to the local area, and they are generally not expected to have a broader significance to the State of California. Therefore the cumulative impacts of the Proposed Action are not anticipated to cumulate with the impacts of projects outside of western Placer County.

The study area for cumulative effects to surface water hydrology and water quality comprises the Curry Creek and Dry Creek watersheds within which the Proposed Action would be located. The cumulative context for effects to groundwater is the North American Groundwater Subbasin.

The cumulative context for noise depends on whether the source is mobile (traffic related) or stationary source related (factory, generator, etc.). Traffic from the Proposed Action would result in noise both inside and outside the project site. At the same time, the project site development would also be subjected to traffic noise associated with the development of other nearby areas. Consequently, the study area for noise is southwestern Placer County.

The study area for potential cumulative impacts related to provision of utilities is the service area for each utility district, including the service areas of the Placer County Water Agency for water supply, the Sacramento Regional County Sanitation District for wastewater, and the service area of the Western Regional Sanitary Landfill for solid waste impacts.



SOURCE: Salix Consulting – 2011

FIGURE **4.0-1**

Study Area for Cumulative Impacts

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4.2.4 Identification of Other Past, Present, and Reasonably Foreseeable Future Actions and Projects

As noted above, the timeframe selected for most of the resource topics addressed in this cumulative impact assessment is 40 years in the past to approximately 50 years in the future. Two methods were used to analyze the changes in the study area due to historical agricultural practices and land development over the last 40 years. Firstly, the USACE conducted a review of historical aerial photographs to characterize the changes in land use patterns at a landscape scale. Secondly, USACE conducted a review of DA permits issued for projects within the study area between approximately 1990 and 2011 to characterize the changes in the study area with respect to the waters of the U.S. Furthermore, the conditions that exist in the study area at this time, which are reflective of the effects of past actions, were fully considered in the evaluation of cumulative impacts.

With respect to reasonably foreseeable future projects and actions, the USACE identified these based on both a list of reasonably foreseeable projects/actions and a summary of growth projections. Because the development of the Proposed Action would occur over a long period of time (estimated between 12 and 27 years from authorization), the projections-based approach was used to identify other foreseeable growth in the study area. In order to provide a more detailed analysis of certain cumulative impacts, the growth projections were supplemented by a list of reasonably foreseeable projects. The list was developed by contacting the Cities of Roseville, Lincoln, and Placer County. **Table 4.0-1** presents the other present and reasonably foreseeable projects in the cumulative study area.

The analysis of cumulative impacts was completed based on the Placer County General Plan, the proposed PCCP, the City of Roseville General Plan, City of Lincoln General Plan, and the growth projections prepared by the Sacramento Area Council of Governments (SACOG). Each of these plans/projections used in developing the cumulative impact analysis is briefly described below.

Present and Reasonably Foreseeable Future Actions under the Placer County General Plan

The Placer County General Plan, adopted by the Board of Supervisors in 1994, consists of two types of documents: the Countywide General Plan and a set of more detailed community plans covering specific areas of the unincorporated County. The Countywide General Plan provides an overall framework for development of the County and protection of natural and cultural resources. The goals and policies contained in the Countywide General Plan are applicable throughout the County, except to the extent that County authority is preempted by cities within their corporate limits. Community plans, adopted in the same manner as the Countywide General Plan, provide a more detailed focus on specific geographic areas within the unincorporated County. The goals and policies contained in the community plans supplement and elaborate upon, but do not supersede, the goals and policies of the Countywide General Plan.

Table 4.0-1
Present and Reasonably Foreseeable Actions in the Study Area

Project	Acreage	Residential Units
Fiddyment Road Widening[a]	NA	NA
Amoruso Specific Plan	674	2,785
Creekview Specific Plan[b]	501	2,011
Regional University Specific Plan[c]	1,157.5	1,155
Westbrook Project[d]	397	2,029
Riolo Vineyards Specific Plan[e]	525.8	933
Placer Parkway Alternative 5[f]	NA	NA
Reason Farms Retention[g]	1,500	NA
Sierra Vista Specific Plan[h]	1,612	6,650
Elverta Specific Plan[i]	423	2,454
Lincoln 270[j]	270	NA
Sutter Pointe Specific Plan[k]	7,528	16,901
Village 7 Lewis Property[l]	515.9	2,470
Westbrook Project[m]	397	2,029

Note: NA – not applicable

[a] *Department of the Army Permit SPK-2010-00735. August 5, 2011.*
[b] *City of Roseville. December 2010. Draft EIR Creekview Specific Plan.*
[c] *Placer County. December 2007. Draft EIR Regional University Specific Plan. Prepared by PBS&J.*
[d] *Impact Sciences. 2013.*
[e] *Placer County. January 2008. Draft EIR Riolo Vineyards Specific Plan. Prepared by URS.*
[f] *Placer County. June 2007. Draft EIR Placer Parkway. Prepared by URS. (note: Alternative 5 was determined to be the preferred alternative)*
[g] *City of Roseville. 16 October 2002. Draft EIR for the City of Roseville Retention Basin Project. Prepared by URS.*
[h] *Impact Sciences. 2012.*
[i] *U.S. Army Corps of Engineers. December 2012. Elverta Specific Plan Draft EIS. (note: Alternative A was determined to be the preferred alternative)*
[j] *Department of Army Permit application for Lincoln 270.*
[k] *Measure M Group. 10 September 2007. Wetland Delineation for Sutter Pointe Specific Plan. Prepared by ECORP.*
[l] *City of Lincoln. June 2009. Draft EIR Village 7 Specific Plan Project. Prepared by PBS&J.*
[m] *Department of Army permit application for Westbrook Specific Plan.*

The County has recently approved several large development and infrastructure projects[1] in the vicinity of the Proposed Action. These include:

- Riolo Vineyards Specific Plan site, which is a 500-acre (202-hectare) residential community subdivision that has been approved by the County.

[1] Placer County has not yet initiated a planning process to develop the Curry Creek Community Plan but may in the future. This Community Plan would be for the area northwest of the project site.

- The Regional University and Community Specific Plan project is an approximately 1,100-acre (445-hectare) site, located approximately 1.5 miles (2.4 kilometers) north of Baseline Road. It includes a 600-acre (242-hectare) area designated for a private university campus, and other areas designated for residential and commercial uses.
- The Placer Parkway Corridor selection has been completed by Placer County. The proposal is to eventually construct an approximate 15-mile (24.1 kilometers) long, high-speed transportation facility, which will connect State Route (SR) 65 in western Placer County to SR 70/99 in south Sutter County. The selected corridor passes through the central portion of the study area.
- An expansion of the Western Regional Sanitary Landfill, operated by the Western Placer Waste Management Authority.

Present and Reasonably Foreseeable Future Actions under the City of Roseville General Plan

The City of Roseville General Plan, adopted by the City Council in 2010, serves as a long-term policy guide and vision for the physical, economic, and environmental growth of the City. Land designated and zoned for residential development within the existing City of Roseville City limits is fully entitled for future development, and according to development projections is anticipated to be built out by 2025.

The City has previously approved or is processing several development and infrastructure projects in the vicinity of the Proposed Action. These include the following:

- West Roseville Specific Plan area, to the north of Pleasant Grove Boulevard, is currently under development.
- Creekview Specific Plan is a proposed specific plan for the development of an approximately 500-acre (202.3-hectare) site located immediately west and north of the City's existing boundary. The Specific Plan includes 2,011 residential units and additional area designated for open space, parks, and commercial development. This project has been approved by the City but is awaiting annexation. An application for a DA permit is on file with the USACE for this project.
- Amoruso Ranch Specific Plan is a proposed specific plan for the development of an approximately 674-acre (272-hectare) site located on the south side of West Sunset Boulevard about 1.5 miles (2.4 kilometers) west of Fiddyment Road. The proposed land use plan includes 2,785 residential units and two commercial parcels, a school site, parks, and a public facilities site.
- Placer Ranch Specific Plan includes 6,796 acres (2,750 hectares) in unincorporated Placer County. Originally proposed in the County, a development application was submitted to the City of Roseville in 2007. The project has been on hold since early 2008. While inactive at this time, it is likely that some development will occur on this site in the future.
- Sierra Vista Specific Plan is a City-approved SP project which would develop a large scale, master-planned mixed-use community with approximately 6,650 residential units on an approximately 1,600-acre (332 hectare) site in the northwestern portion of Roseville. Applications for DA permits have been filed with the USACE for this project.
- Fiddyment Road will be widened between Baseline Road and Pleasant Grove Boulevard by adding two additional lanes along the western side of the existing roadway. This project was approved by the City of Roseville and a DA permit was issued by the USACE to authorize

0.44 acre (0.2 hectare) of fill associated with the roadway-widening project. The project is scheduled for construction in summer 2012.

- Westbrook Project is a City-approved SP project which would develop a 397-acre (162-hectare) site to the northwest of the Sierra Vista Specific Plan site. The land use plan includes about 2,029 residential units, a school site, parks, open space, and land for commercial uses. An application for a DA permit has been filed with the USACE for this project.
- Reason Farms is a 1,700-acre (688-hectare) area located northwest of the City boundary and west of the Creekview Specific Plan area. This area is currently maintained as open space by the City and the City plans to develop flood control projects on the site.

Reasonably Foreseeable Future Actions under the City of Lincoln General Plan

The City of Lincoln General Plan, adopted by the City Council in 2008, provides the City with a consistent framework for land use and resource decision making. The General Plan's diagrams, goals, policies, and implementation measures form the basis for City zoning, subdivisions, specific plans, and City projects. The General Plan's Land Use Diagram would allow for up to an additional 34,010 housing units, or an additional population of approximately 101,000 persons at buildout in the year 2050.

The City has approved the following two development projects within the study area:

- The Lincoln 270 Project would develop 117.7 acres of a 270-acre parcel of land with 47.9 acres of commercial space, 37.8 acres of light industrial, and 32 acres for medical care facilities. The approximately 120 remaining acres are non-developable and would be reserved as wildlife habitat, wetlands, and vernal pools. The City has approved the Lincoln 270 project which is in the study area and an application for a DA permit is on file with the USACE for this project.
- The Village 7 Specific Plan Project would develop 703 acres of unincorporated land, southwest of the City of Lincoln. The land would be annexed into the City of Lincoln. The project would consist of four planning areas: the Lewis property which consists of 526 acres, the Aitken Ranch II property which consists of 121 acres, the Scheiber property which consists of 26 acres, and the Remainder Area which consists of 40 acres. The project would develop a maximum of 3,285 residential units and a centrally located Village Center.

Reasonably Foreseeable Future Actions under the County of Sacramento General Plan

The County of Sacramento adopted the County of Sacramento 2030 General Plan in November 2011. The County of Sacramento 2030 General Plan provides for between 103,500 and 150,000 new housing units in Sacramento County. According to the plan, the portion of Sacramento County to the south of the Placer County boundary is generally designated for agricultural residential, low-density residential, and agricultural cropland land uses.

Sacramento County approved the Elverta Specific Plan, which encompasses 1,744 acres (796 hectares) of land. The specific plan provides a set of policies and programs primarily for development of 4,950 residences, including urban residential and agricultural-residential uses. The plan also includes a commercial site, parks, and open space areas. The Elverta Specific Plan was adopted by the Board of Supervisors in August, 2007. The project has not been implemented at this time.

Reasonably Foreseeable Future Actions under the Sutter County General Plan

The Sutter County Board of Supervisors approved a comprehensive update of the Sutter County General Plan in April 2011. According to the approved land use diagram, the area immediately west of the Placer County boundary is designated for agricultural uses.

At this time, one major land development project is approved for the portion of Sutter County within the cumulative study area. Sutter Pointe Specific Plan, which encompasses approximately 7,528 acres (3,046 hectares) of land in southern Sutter County, envisions establishment of a new city for about 43,000 residents. The project proposes a diverse mix of land uses, including employment centers, many different housing types, retail shopping villages, recreation amenities, schools, community services, supporting on-and off-site infrastructure, roadway improvements, open space, and various public uses including a town center. The Sutter Pointe Specific Plan was approved by the Board of Supervisors on June 30, 2009.

Sacramento Area Council of Governments

The Sacramento Area Council of Governments (SACOG) is a regional organization that provides a variety of planning functions over its six-county region (Sacramento, Yolo, Placer, Sutter, Yuba, and El Dorado counties). SACOG's primary functions are to provide transportation planning and funding for the region and to study, and support, resolution of regional issues. SACOG conducted several local community workshops to help determine how the Sacramento region should grow through the year 2050. The result of these efforts was the SACOG Blueprint, a transportation and land use analysis suggesting how cities and counties should grow based on a set of smart growth principles that include transportation choices, mixed-use development, compact development, housing choices and diversity, use of existing assets, quality design and natural resources conservation.

In December 2004, the SACOG Board of Directors adopted the Preferred Blueprint Scenario (SACOG Blueprint), a vision for the growth of the six-county region that promotes compact, mixed-use development and more transit choices as an alternative to low-density development. The project site, which includes the Proposed Action and on-site alternatives, is designated in the SACOG Blueprint for single-family small lots, attached residential, medium- and high-density mixed residential uses, and low- and medium-density mixed-use commercial centers in the near term.

Under the SACOG Blueprint, most of the area in Sacramento County to the south of the Proposed Action site is designated for single-family residential use and some medium-density residential and mixed residential uses. Areas in the southeastern portion of Sutter County are designated for industrial and medium-density mixed residential uses. North of this, the area along the Placer–Sutter County boundary is mostly designated for agricultural uses.

In April 2012, SACOG adopted the 2035 Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS) as required by Senate Bill 375. SB 375 requires the formation of an SCS to reach greenhouse gas target emissions by reducing vehicle miles. The 2035 MTP/SCS is a long-range transportation plan and sustainable communities strategy that will serve existing and projected residents

and workers within the Sacramento region through the year 2035. The Preferred Blueprint Scenario was used as the starting point in the development of the SCS. The 2035 MTP/SCS accommodates another 871,000 residents, 362,000 new jobs, and 303,000 new homes with a transportation investment strategy of $35 billion. The SCS includes land use maps identifying areas that SACOG considered appropriate for development and those not appropriate for development. The land use vision embodied in the SCS is consistent with the SACOG Blueprint.

Proposed Placer County Conservation Plan

The Placer County Conservation Plan (PCCP) is a proposed regional partnership between local jurisdictions (the County of Placer, South Placer Regional Transportation Authority (SPRTA), Placer County Water Agency (PCWA), Placer County Resource Conservation District, and the City of Lincoln) and state and federal agencies (California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, the National Marine Fisheries Service, USACE, U.S. EPA, and the California Regional Water Quality Control Board). The PCCP has not been adopted by any jurisdiction as of the publication of this Draft EIS.

The purpose of the PCCP is to protect and enhance ecological diversity and function in the greater portion of western Placer County, while allowing appropriate and compatible growth in accordance with applicable laws. To this end, the draft PCCP describes how to avoid, minimize, and mitigate impacts on Endangered and Threatened species, thereby addressing the permitting requirements under the federal and state Endangered Species Acts relevant to these species for activities conducted in the plan area by the permittees, including Placer County, the City of Lincoln, SPRTA, and PCWA. These covered activities include urban growth and a variety of road, water, and other needed infrastructure construction and maintenance activities. The draft PCCP also describes the responsibilities associated with operating and maintaining the new habitat reserves that will be created to mitigate anticipated impacts resulting from growth and development activities. The area proposed for permit coverage under the draft PCCP covers approximately 212,000 acres (86,000 hectares) in the City of Lincoln and unincorporated Placer County. The draft PCCP analyzes land use patterns and forecasts the extent and location of urban, suburban, and rural growth and seeks to reconcile potential future growth with the conservation strategy.

4.2.5 Evaluation of Potential Cumulative Impacts and Mitigation Measures

For each resource that was carried forth for cumulative impact assessment, the current health and historical context of the resource is described based on the best available information. The information was drawn from **Chapter 3.0** of this Draft EIS, supplemented with additional data as necessary.

For each resource that was carried forth for cumulative impact assessment, potential cumulative impacts were evaluated either qualitatively or based on quantitative information where available. For each cumulative impact, the Proposed Action's contribution to the cumulative impact was evaluated to determine whether the contribution would be significant. As appropriate, mitigation measures were identified to be implemented by either the Applicants or the USACE, or both.

4.3 CUMULATIVE IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

Cumulative impacts of the Proposed Action and its alternatives are presented below by environmental resource topic. The significance criteria that were used to evaluate project impacts in **Section 3.0** were also used to evaluate cumulative impacts. The discussion of the Proposed Action's cumulative impact is followed by a summary discussion identifying whether the cumulative impacts of the alternatives would be the same, greater, or lesser than those of the Proposed Action. As appropriate, mitigation measures are identified for significant cumulative impacts.

4.3.1 Biological Resources

Direct and Indirect Impacts of the Proposed Action

Section 3.4, Biological Resources, presents the Proposed Action's direct and indirect impacts on biological resources at the project site and in its vicinity. The analysis addresses the Proposed Action's impacts on wetlands, other sensitive natural communities, special-status plant and wildlife species, and wildlife corridors. The Proposed Action would result in the filling of wetlands and direct and indirect effects on vernal pool crustacean habitat. Given past and reasonably foreseeable losses of wetland/vernal pool habitat in the region, the effects of the Proposed Action would have the potential to cumulate with other losses in the region. In addition, the Proposed Action would affect wildlife movement by fragmenting open space habitat. The obstruction of wildlife habitat throughout the region could also result in cumulative effects on wildlife. Additionally, the Proposed Action would remove grassland habitat which is used for foraging by protected raptors and other birds.

Other biological resource impacts of the Proposed Action would not have the potential to cumulate and result in substantial adverse cumulative impacts. For instance, impacts to Valley Elderberry Longhorn Beetle would be reduced with implementation of **Mitigation Measure BIO-5** and impacts to western pond turtle from potential construction-phase losses would be minimized by **PVSP EIR Mitigation Measure 4.4-4**. Similarly, construction-phase effects on protected raptor species and nesting birds would be minimized by the implementation of **PVSP EIR Mitigation Measures 4.4-7 and 4.4-8**. Off-site effects to fish species would be reduced by **PVSP EIR Mitigation Measures 4.4-12** and **4.4-30.** In addition, construction activity impacts to roosting bats would be reduced by implementation of **PVSP EIR Mitigation Measure 4.4-9**. As these impacts would not have the potential to cumulate, they are not analyzed below.

Current Status of the Resource

Central Valley Vernal Pools

The Central Valley of California encompasses an area of more than 13 million acres (5 million hectares). According to Holland, the Central Valley encompassed up to 7 million acres (3 million hectares) of vernal pool landscapes in the early 1800s (Holland 2009). However, according to a study by Frayer, the seasonal wetlands of the Central Valley totaled about four million acres (two million hectares) in the 1850s (Frayer

et a. 1989). Through the 1800s, these landscapes were destroyed or fragmented by conversion to agriculture, mineral extraction, and water conveyance and storage projects. Between the 1930s and 1970s, agricultural conversion and urbanization of the landscape further reduced the habitat (Frayer et al. 1989).

Based on aerial photographs of the Central Valley taken over a period from 1976 to 1995, with most taken between 1982 and 1992, Holland noted that only 995,000 acres (403,000 hectares) of vernal pool habitat was left in the Central Valley in 1997. This represents an 87 percent reduction in the original habitat acreage (Holland 2009).

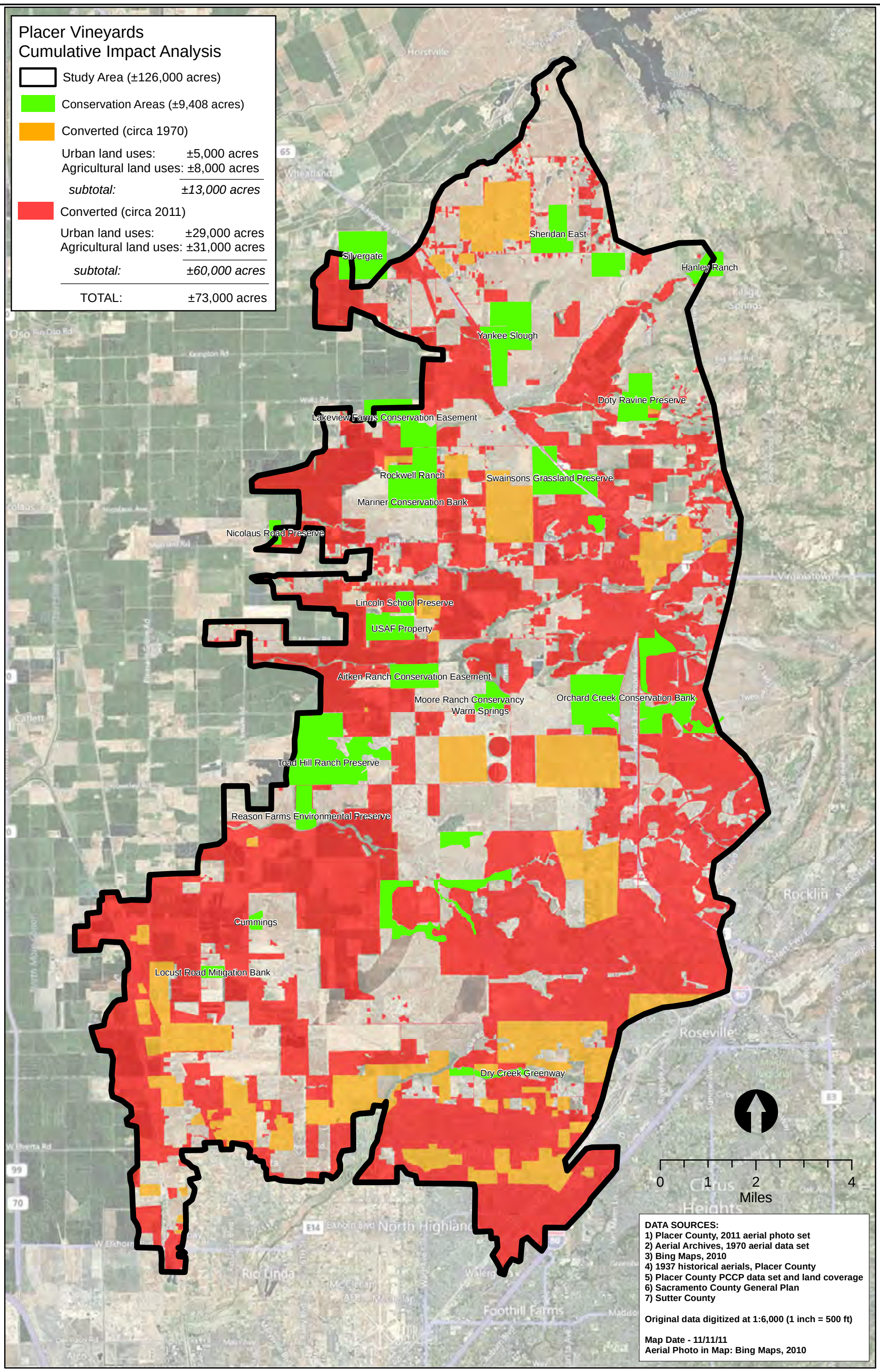
According to the U.S. Fish and Wildlife Service (USFWS), from 1992 to 1998, 125,591 acres (50,824 hectares) of grazing land were converted to other agricultural uses in the Central Valley (USFWS 2005). It is likely that much of this land supported vernal pools.

Conversion of vernal pool habitats to intensive agricultural uses continues to contribute to the decline of vernal pools. In recent years, the habitats have also been destroyed as a result of urban development, including residential, commercial, and industrial projects, and infrastructure associated with urbanization (USFWS 2005). As of 2005, the vernal pool habitat in the Central Valley was reduced further to 896,000 acres (363,000 hectares) of the remaining habitat (Holland 2009). The amount of loss over this period of time was not distributed evenly across Central Valley. For example, Merced County lost 6,100 acres (2,500 hectares) between 1986 and 1997, and an additional 18,000 acres (7,300 hectares) of habitat between 1997 and 2005. Placer County lost 10,440 acres (4,225 hectares) between 1994 and 1997, and an additional 6,600 acres (2,670 hectares) of habitat between 1997 and 2005. On the other hand, Mariposa County did not have any vernal pool habitat losses in this timeframe (Holland 2009).

According to Holland, the majority (81 percent) of vernal pool grasslands were lost because of conversion of range land to agricultural land, which is typically outside of the normal regulatory processes that apply to other land use conversions (urban, commercial, infrastructure, and industrial) under both federal and state laws. Therefore, the vernal pool losses associated with converting grazing land to agricultural land are mostly unmitigated (AECOM 2009). Little to no vernal pool habitat has been created or preserved to compensate for these losses due to agricultural conversions (Holland 2009).

Study Area Vernal Pool Habitat and Wetlands

As noted earlier, according to Holland, Placer County lost 10,440 acres (4,224 hectares) between 1994 and 1997 and an additional 6,600 acres (2,670 hectares) of vernal pool habitat between 1997 and 2005 (Holland 2009). The change in vernal pool grassland habitat within the study area is shown on **Figure 4.0-2, Converted Vernal Pool Grassland in Cumulative Study Area Circa 2011**. The graphic shows the vernal pool grassland areas that had been converted by 1970, with about 8,000 acres (3,000 hectares) (62 percent) converted by agricultural uses and about 5,000 acres (2,000 hectares) (38 percent) by urban development. The graphic also shows vernal pool grassland areas that were converted between 1970 and 2011, with about 31,000 acres (13,000 hectares) due to agricultural conversions and about 29,000 acres (12,000 hectares) due to urban development. During this timeframe, approximately 9,400 acres (3,800 hectares) of vernal pool grassland habitat within the study area was placed in preserves or conservation areas.



SOURCE: Salix Consulting – 2011

FIGURE **4.0-2**

Converted Vernal Pool Grassland in Cumulative Study Area Circa 2011

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Between approximately 1990 and 2010, 252 projects were permitted by the USACE in the study area. Of these permitted projects, 230 permits contained complete data regarding impacts and mitigation that the USACE used to estimate the magnitude of wetland impacts within the study area (see **Appendix 4.1** which presents details of the permits that were reviewed to develop the data reported below). The 230 permits included 27 individual permits, 190 nationwide permits, one regional general permit, and eight letters of permission. **Table 4.0-2, Study Area Wetland Impacts and Mitigation (in Acres) based on USACE Permits Issued since 1990,** below, presents the acres of wetlands filled as a result of development authorized by these permits, as well as the mitigation to compensate for the filling of wetlands. The permits authorized the fill of about 438.93 acres (177.63 hectares) of wetlands. This included approximately 148 acres (60 hectares) (44 percent of total) of vernal pools and 291 acres (118 hectares) (66 percent) of other waters of the U.S. The projects authorized by the permits provided various forms of mitigation, which included on-site preservation, creation, and restoration, payment towards the National Fish and Wildlife Fund, purchase of mitigation credits in study area mitigation banks, and purchase of mitigation credits in mitigation banks outside the study area. As **Table 4.0-2** shows, a total of about 1,254 acres (507 hectares) of mitigation were required under the permits issued. In general, the USACE required compensatory mitigation, which includes creation, restoration/enhancement, as well as preservation, for vernal pool losses at an average rate of 3.15 acres (1.27 hectares) for every acre filled whereas losses of other waters of the U.S. were compensated at an average rate of about 2.71 acres (1.1 hectares) for every acre filled. However, if the impacts are compared only to mitigation provided in the form of creation, restoration or enhancement of wetlands, vernal pool losses were compensated at an average rate of 1.41 acres (0.57 hectare) for every acre filled and losses of other waters of the U.S. were compensated at an average rate of about 1.46 acres (0.59 hectare) for every acre filled. Approximately 93 percent of the mitigation was provided within the study area and 7 percent outside the study area. It is noted that the numbers reported above are based on a review of permits issued by the USACE. These do not take into account the rates of success or failure of wetlands mitigation.

Table 4.0-2
Wetland Impacts and Mitigation (in Acres) based on Recent Permits Issued by the USACE in Study Area

Wetland Type	Total Impact	Total Mitigation	On-site Mitigation			Mitigation Banks within Study Area		Mitigation Banks Outside of Study Area[a]	
			Creation	Restored/ Enhanced	Preserved	Creation	Preservation	Creation	Preservation
Vernal Pools	147.55[b]	465.24	71.33	0	76.41	121.05	132.09	16.35	48.01
Other Waters of U.S.	291.38[c]	788.69	180.30	13.95[d]	296.36	231.68	39.95	26.45	0
Total	**438.93**	**1,253.93**	**251.63**	**13.95**	**372.77**	**352.73**	**172.04**	**42.8**	**48.01**
Total Delineated	1,099.51								

Notes:
[a] *Includes mitigation sites that are in unknown locations*
[b] *Total impact does not include 0.87 acre of temporary impact to vernal pools.*
[c] *Total impact does not include 13.79 acres of temporary impact to other waters of the U.S.*
[d] *Includes 11.9 acres of restored and 2.05 acres of enhanced wetlands*

Other Present and Reasonably Foreseeable Future Actions and Projects

Based on the permit applications that are on file with the USACE and information on the development projects that have received approval from the local jurisdictions, the projects listed in **Table 4.0-3, Present and Reasonably Foreseeable Actions in the Cumulative Study Area**, are present and reasonably foreseeable future actions and projects within the cumulative study area for biological resources.

Table 4.0-3
Present and Reasonably Foreseeable Actions in the Cumulative Study Area

Project	Total Vernal Pools and Other Waters of the U.S. * (acres)	Estimated Impacts** (acres)
Fiddyment Road Widening[a]	0.44	0.44
Amoruso Specific Plan	ND	ND
Creekview Specific Plan[b]	33.83	14.17
Regional University Specific Plan[c]	85.28	18.00
Sierra Vista Specific Plan[d]	36.07	24.81
Riolo Vineyards Specific Plan[e]	12.58	1.17
Placer Parkway Alternative 5[f]	152.00	ND
Reason Farms Retention[g]	71.44	0.75
Westbrook Specific Plan[h]	12.55	9.56
Elverta Specific Plan[i]	36.40	~36.40
Lincoln 270[j]	30.37	10.56
Sutter Pointe Specific Plan[k]	70.00	ND
Village 7 Lewis Property[l]	30.63	6.87

Note: ND – not determined

[a] *Department of the Army Permit SPK-2010-00735. August 5, 2011. (note: these impacts are permitted for fill)*

[b] *Granite Bay Development II, LLC. 30 November 2010. Biological Resources Assessment for the 560-Acre Creekview Specific Plan. Prepared by North Fork Associates.*

[c] *Placer County. December 2007. Draft EIR Regional University Specific Plan. Prepared by PBS&J.*

[d] *Gibson and Skordal. 2012. Memorandum. May 18.*

[e] *Placer County. January 2008. Draft EIR Riolo Vineyards Specific Plan. Prepared by URS.*

[f] *Placer County. June 2007. Draft EIR Placer Parkway. Prepared by URS. (note: Alternative 5 was determined to be the preferred alternative)*

[g] *City of Roseville. 16 October 2002. Draft EIR for the City of Roseville Retention Basin Project. Prepared by URS.*

[h] *Department of Army permit application for Westbrook Specific Plan*

[i] *Sacramento County. 2007. Elverta Specific Plan Final EIR.*

[j] *Department of Army permit application for Lincoln 270.*

[k] *Measure M Group. 10 September 2007. Wetland Delineation for Sutter Pointe Specific Plan. Prepared by ECORP.*

[l] *City of Lincoln. June 2009. Draft EIR Village 7 Specific Plan Project. Prepared by PBS&J.*

* *Jurisdictional waters of the U.S.*

** *On-site impacts, not yet approved by USACE*

Placer County's population is expected to increase by 270,837 people from 2005 to reach a total of 570,709 by 2035 (SACOG 2008) and increase by 484,000 people from 2007 to reach a total of 811,000 by 2060 (Hausrath Economics Group 2008). Most of this growth is expected to occur in the cities and unincorporated areas of western Placer County. The majority of the population and employment growth requires land for urban/suburban residential, commercial, office and industrial uses, and associated infrastructure and public support facilities (e.g., wastewater treatment plants, libraries, landfills, etc.). Based on plans and proposals for development in the cities and the unincorporated areas and on planning level assumptions about development density, an estimated 68,000 acres (28,000 hectares) of land conversion would accommodate this growth, of which 57,000 acres (23,000 hectares) would be in unincorporated Placer County and Lincoln. The remainder would be in the cities of Auburn, Loomis, Rocklin, and Roseville (PCCP 2011). According to the draft PCCP, the far western portions of Placer County are expected to be preserved.

As explained above, the Sacramento County 2030 General Plan identifies some growth areas to the south of the Placer County southern boundary, within the study area. The area identified for growth is designated for low-density residential uses. The remaining areas within the Sacramento County portion of the study area are designated for agricultural uses, so would not likely be developed.

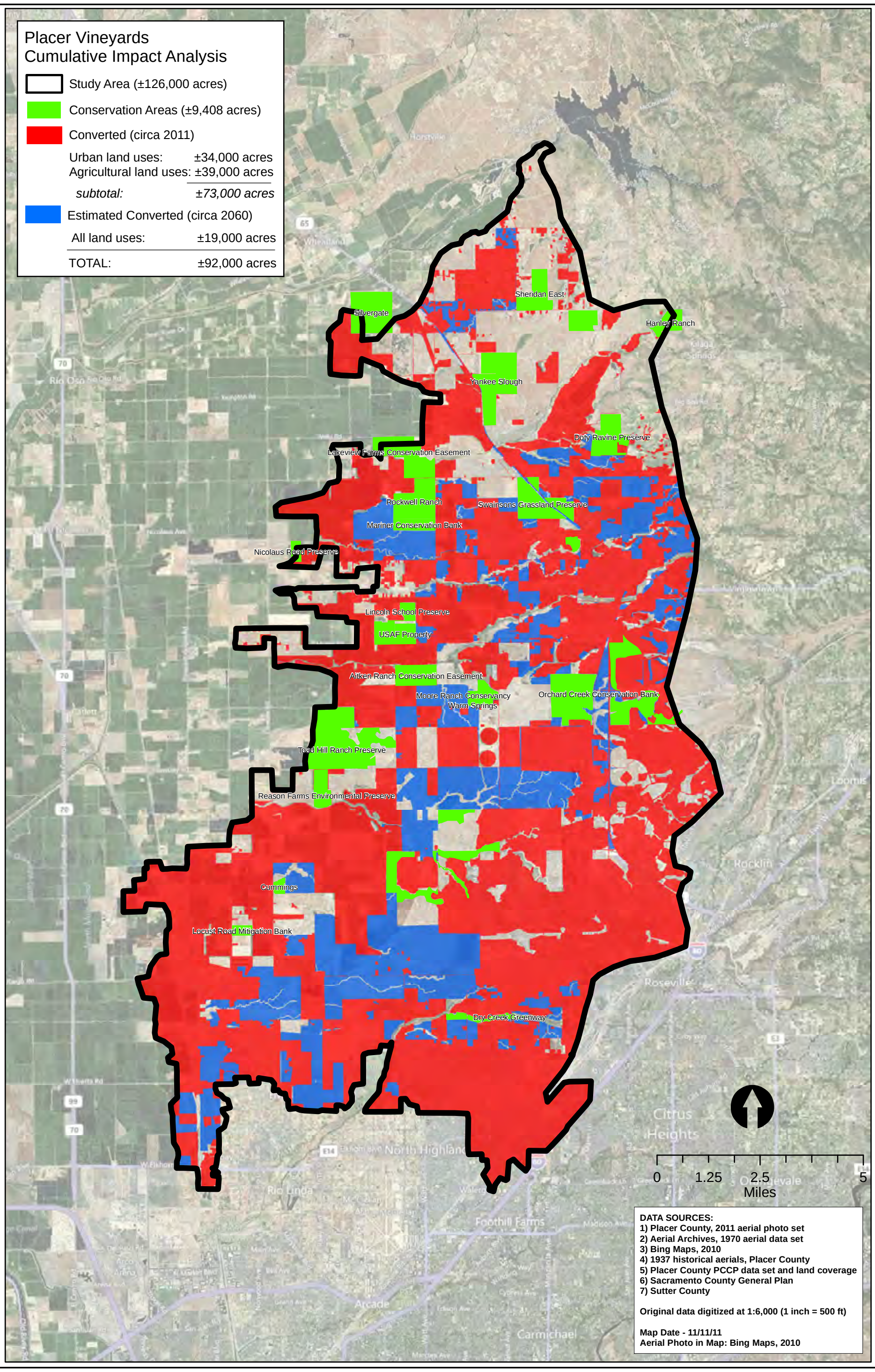
The study area also includes a portion of Sutter County. With respect to the Sutter County portion of the study area, the County General Plan designates most of the area for agricultural and open space uses and a portion of it for development of a new town under the Sutter Pointe Specific Plan.

Figure 4.0-3, Converted Vernal Pool Grassland in Cumulative Study Area Circa 2060, shows the additional areas of vernal pool grassland habitat within the study area that are anticipated to be converted between 2010 and 2060 based on the projected growth in the area as reported in the draft PCCP and other information. As shown in this figure, approximately 19,000 acres (7,700 hectares) of additional potential habitat would be converted if the projected growth occurs in the study area.

Significance Thresholds

The contribution of the Proposed Action or an alternative to a cumulative impact would be considered significant if the Proposed Action or an alternative would:

- Result in a net loss of wetlands
- Result in an unmitigated loss of vernal pool grassland habitat; or
- Result in an unmitigated loss of wildlife foraging and movement habitat.



SOURCE: Salix Consulting – 2011

FIGURE **4.0-3**

Converted Vernal Pool Grassland in Cumulative Study Area Circa 2060

1090.002•11/12

The first threshold listed above relates to the federal policy of "no net loss" of wetland acreage and function. As stated in the Memorandum of Agreement between the USACE and U.S. EPA for the determination of mitigation under the Clean Water Action Section 404(b)(1) Guidelines,

> *the Clean Water Act and the Section 404(b)(1) Guidelines set forth a goal of restoring and maintaining existing aquatic resources. The Corps will strive to avoid adverse impacts and offset unavoidable adverse impacts to existing aquatic resources, and for wetlands, will strive to achieve a goal of no overall net loss of values and functions…. The determination of what level of mitigation constitutes "appropriate" mitigation is based solely on the values and functions of the aquatic resource that will be impacted. "Practicable" is defined at Section 230.3(q) of the Guidelines. However, the level of mitigation determined to be appropriate and practicable under Section 230.10(d) may lead to individual permit decisions which do not fully meet this goal because the mitigation measures necessary to meet this goal are not feasible, not practicable, or would accomplish only inconsequential reductions in impacts. Consequently, it is recognized that no net loss of wetlands functions and values may not be achieved in each and every permit action. However, it remains a goal of the Section 404 regulatory program to contribute to the national goal of no overall net loss of the nation's remaining wetlands base.*

Consequently, the USACE's compensatory mitigation program has been designed to ensure to the maximum extent practicable that each project that will fill wetlands provide compensatory mitigation that takes into account not just the acreage of wetlands affected but also their functions and values. The USACE's compensatory mitigation program requires mitigation in kind and in amounts (ratios) that take into account temporal loss as well as risk of failure. Based on the above, if a proposed project, after avoidance and minimization, provides mitigation that meets the USACE's requirements for compensatory mitigation, it is presumed that such a project would not result in a net loss of wetlands and would not make a substantial contribution to a cumulative impact on wetlands.

Cumulative Impact BIO-1 Loss of Wetlands and Other Waters of the U.S.

No Action Alt.

The No Action Alternative would not result in filling of any wetlands on the project site because filling of the waters of the U.S. would be avoided by design. Therefore, this alternative would have a **less than significant** cumulative impact on wetlands, and no mitigation is required.

Proposed Action (Base Plan and Blueprint Scenarios)

Agricultural practices and conversions, urban development, and infrastructure development have resulted in a cumulative loss of wetlands, including vernal pools, in the study area. Future growth is anticipated to further add to this cumulative impact and the Proposed Action would contribute to this impact by filling 119.2 acres (48.2 hectares) of vernal pools and other waters of the U.S. Compliance with the USACE's regulatory requirements will reduce the Proposed Action's contribution to the cumulative impact to less than significant. However, because a final wetlands mitigation plan has not been submitted to the USACE by the Applicants, the USACE cannot determine whether a no net loss of wetlands will be achieved and therefore concludes that the Proposed Action's contribution to the cumulative impact will be **significant**.

As noted earlier, conversion of grasslands with embedded vernal pools to intensive agricultural uses has contributed to the decline of vernal pools and other wetlands in the study area. The total amount of wetland fill that has occurred in the study area is not available. However, data on fills permitted by the USACE are available and as noted above, based on DA permits issued by the USACE between 1990 and 2010, the USACE authorized the filling of about 438.93 acres (177.63 hectares) of wetlands in the study area. This included approximately 148 acres (60 hectares) (34 percent of the total amount of wetlands filled in the study area) of vernal pools and 291 acres (118 hectares) (66 percent) of other waters of the U.S.

Future growth in the study area is anticipated to further add to this cumulative impact. As shown in **Table 4.0-2**, foreseeable projects subject to the USACE regulatory program, if approved as proposed, could potentially result in the filling of approximately 114 acres (46 hectares) of wetlands and other waters of the U.S. The Proposed Action would also contribute substantially to the cumulative loss of wetlands in the study area by filling approximately 119 acres (48 hectares) of wetlands and other waters of the U.S., including vernal pools, seasonal wetlands and seasonal wetland swales, seeps, drainage channels, ditches, and ponds.

However, all new urban and infrastructure development projects listed in **Table 4.0-2** that would result in impacts to the waters of the U.S. would be subject to the regulatory and permitting requirements of the USACE, the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and the Regional Water Quality Control Board. In compliance with the no net loss policy of the federal government, these projects would be required to demonstrate that after avoidance and minimization, any compensatory mitigation put forth by the project proponents for loss of wetland habitats would result in no net loss of wetland functions and values and that adverse impacts to special-status species that might be affected by filling of wetland habitat are avoided, minimized or mitigated. As noted earlier, the USACE's compensatory mitigation program requires mitigation in kind and in amounts (ratios) that take into account temporal loss as well as risk of failure. Therefore, if a proposed project, after avoidance and minimization, provides mitigation that meets the USACE's requirements for compensatory mitigation, it is presumed that such a project would not result in a net loss of wetlands and would not make a substantial contribution to a cumulative impact on wetlands. Because all development projects, including the Proposed Action, are required by law to comply with the no net loss policy and provide compensatory mitigation that meets USACE requirements, the projects are generally not expected to result in a significant cumulative loss of wetlands and other waters of the U.S. in the study area.

However, the USACE has not received DA permit applications as yet for some of the reasonably foreseeable development and infrastructure projects in the study area,

and in those instances that it has received DA permit applications, it has not yet received detailed mitigation plans and therefore cannot determine whether or not the reasonably foreseeable development and infrastructure projects will adequately mitigate all losses of wetlands. Therefore conservatively, the USACE concludes that there could be a **significant cumulative** impact on wetlands in the study area. As discussed under **Impact BIO-1**, the mitigation plan put forth by the Applicants is conceptual at this time, and because a final wetlands mitigation plan has not been submitted by the Applicants to the USACE, the USACE cannot determine whether a no net loss of wetlands will be achieved for the Proposed Action. Therefore, the USACE concludes that the Proposed Action's contribution to the cumulative impact will be **significant**.

To address the Proposed Action's contribution to the cumulative impact, **Mitigation Measure BIO-1** will be implemented. In addition, the USACE will impose **Mitigation Measure CUM BIO-1** on future development in the study area to further minimize loss of wetlands and vernal pools.

Alts. 1 through 5 Although the acreage of wetlands and other waters of the U.S. filled under each alternative varies, Alternatives 1 through 5 (individually or combined) would result in the loss of similar types of wetlands and vernal pools. The alternatives would therefore also contribute to the cumulative impact on wetlands. As with the Proposed Action, development under any of the alternatives would be required to comply with the federal and state regulatory programs for the protection of wetlands and would implement **Mitigation Measure BIO-1** to provide compensatory mitigation for wetland impacts at ratios acceptable to the USACE. Therefore, the contribution of any of the alternatives (singly or combined) to any cumulative effect on wetlands and vernal pools would be rendered less than significant. However, because a detailed mitigation plan is currently not available for any of the alternatives, conservatively the USACE assumes that the alternatives will make a significant contribution to the cumulative loss of wetlands in the study area. As noted above, the USACE will impose **Mitigation Measure CUM BIO-1** on future development in the study area to further minimize loss of wetlands and vernal pools.

Mitigation Measure CUM BIO-1:

For development and infrastructure projects proposed in the study area, the USACE will, in general, require greater than 1 acre of mitigation for each acre of aquatic resources lost for all future losses authorized under Department of the Army permits. The USACE will factor into its mitigation requirements the risk of mitigation failure or uncertainty of success and the temporal loss of function.

Cumulative Impact BIO-2 Loss of Vernal Pool Grassland Habitat

No Action Alt.

As described above, substantial amount of vernal pool grassland habitat in the study area has already been removed in conjunction with past agricultural practices, urban development, and infrastructure projects. As of 2011, approximately 73,000 acres (30,000 hectares) of potential vernal pool grassland habitat in the study area had been converted although about 9,400 acres (3,800 hectares) of this habitat was put in preserves within the study area between 1970 and 2011. Based on growth projected for the City of Lincoln and unincorporated western Placer County over the next 50 years, urban and rural development and major infrastructure projects are expected to result in the elimination, loss, or modification of approximately 12,000 acres (4,900 hectares) of vernal pool habitat (TRA Environmental Sciences 2011). In addition, reasonably foreseeable future development within the City of Roseville and its sphere of influence and in the Sutter and Sacramento County portions of the study area is anticipated to result in additional losses. **Figure 4.0-3** shows the vernal pool grassland habitat conversions projected to occur through 2060 based on projected growth in the study area. The figure is a generalized representation of the resource and is largely based on the projections of land conversions developed for western Placer County and Lincoln under the PCCP, supplemented with other data for the City of Roseville, as well as with available data for portions of the study area that are in Sutter and Sacramento counties. As the graphic shows, an estimated 19,000 acres (7,700 hectares) of vernal pool grassland areas are anticipated to be converted over the next 50 years. This includes approximately 3,500 acres (1,400 hectares) of vernal pool grassland habitat that exists on the project site.

The No Action Alternative has been developed to avoid the filling of all waters of the U.S. on the project site. In addition to avoiding all wetlands, the land use plan for the No Action Alternative provides a 50-foot buffer around all wetlands that would further protect the preserved wetlands. Consequently, this alternative would not result in filling of any wetlands on the project site and therefore would avoid the direct take of vernal pool crustacean species. However, the No Action Alternative would indirectly affect the quality of vernal pool habitat by removing the grassland areas and developing upland areas that discharge into vernal pools and wetlands. Therefore, the alternative would contribute to the cumulative loss of vernal pool grassland habitat in the study area by developing 1,300 acres (530 hectares) of upland habitat.

Absent the need for a DA permit from the USACE, impacts to vernal pool crustaceans under this alternative would require authorization under Section 10 of the ESA. Compliance with Section 10 requirements will render the No Action Alternative's contribution to the cumulative impact on vernal pool grassland habitat **less than significant.**

With respect to other reasonably foreseeable future projects, implementation of **Mitigation Measure CUM BIO-1** and **Mitigation Measure CUM BIO-2** would be required to minimize the effect to **less than significant**.

Proposed Action (Base Plan and Blueprint Scenarios)

As discussed above, cumulative development in the study area has resulted in the conversion of a substantial amount of vernal pool grassland habitat to agricultural, rural residential, urban and infrastructure land uses. Future growth is anticipated to further add to this cumulative impact and the Proposed Action would contribute to this impact by developing approximately 3,500 acres (1,400 hectares) of annual grassland habitat with embedded vernal pools. However with mitigation, the Proposed Action's contribution to this cumulative impact would be rendered **less than significant**.

Based on the historical losses of vernal pool grassland habitat and the fact that vernal pool grassland habitat losses due to agricultural conversions would continue unmitigated, the USACE has determined that the cumulative impact on vernal pool habitat within the study area would be **significant**. By converting about 3,500 acres (1,400 hectares) of grassland habitat, including about 100 acres (40 hectares) of crustacean habitat, the Proposed Action would contribute to this impact.

As stated above, all new development, including the Proposed Action, would be subject to the regulatory and permitting requirements of the USACE, the U.S. Fish and Wildlife Service, the California Department of Fish and Wildlife, and the Regional Water Quality Control Board. Projects subject to these requirements must demonstrate that mitigation for loss of wetland habitats would result in no net loss of wetland functions and values and that mitigation would be sufficient to ensure that adverse impacts to special-status species that might be affected by filling of wetland habitat would be avoided or mitigated. Specifically, **Mitigation Measure BIO-1** would reduce the Proposed Action's effects on waters of the U.S., including vernal pools and the effects on listed crustacean aquatic habitat to **less than significant**. Furthermore, as part of the mitigation for wetland impacts and to address the Proposed Action's impact on state special-status species foraging habitat, the Applicants will be required to conserve an equivalent acreage of grazing land or farmland elsewhere in the County which would also help preserve vernal pool grasslands within the study area. With the implementation of these mitigation measures, the Proposed Action's contribution to the cumulative impact on vernal pool grassland habitat would be rendered **less than significant.**

Because all development projects would comply with the no net loss policy and would compensate for the filling of crustacean habitat, the cumulative impact on vernal pool crustacean habitat would be reduced to less than significant. In addition, the USACE will impose **Mitigation Measure CUM BIO-1** on future development in the study area to minimize loss of wetlands and vernal pools. With respect to loss of vernal pool grassland habitat due to other reasonably foreseeable future projects, **Mitigation Measure CUM BIO-2** would be implemented by the USACE to minimize the effect to **less than significant**.

Alts. 1 through 5

Although the acreage of open space preserved on the site varies under each on-site alternative, Alternatives 1 through 5 (individually or combined) would nonetheless result in the loss of vernal pool grassland habitat. Therefore, the alternatives would contribute to a **significant** cumulative impact on vernal pool grassland habitat. However, the effects of the alternatives would be reduced to **less than significant** by the same mitigation measures listed above under the Proposed Action.

With respect to other reasonably foreseeable future projects, implementation of **Mitigation Measure CUM BIO-1** and **Mitigation Measure CUM BIO-2** would be required to minimize the effect to **less than significant**.

Mitigation Measure CUM BIO-2:

The USACE will work with the study area cities and counties to encourage regional and local planning efforts, such as the SACOG Blueprint and the proposed PCCP, that are designed to focus and concentrate growth in certain portions of the study area, minimize future losses of wetlands and vernal pool grassland habitat within the study area, and compensate for unavoidable losses.

Cumulative Impact BIO-3 Effects on Wildlife Foraging and Movement Habitat

No Action Alt., Proposed Action, Alts. 1 through 5

Cumulative development has resulted in the conversion and fragmentation of a substantial amount of natural habitat in the study area. As a result, areas available to wildlife for foraging and movement have been reduced and fragmented. Future growth, including any of the alternatives, is anticipated to further add to this cumulative impact. Mitigation is proposed in this Draft EIS to reduce the contribution of any of the alternatives to **less than significant**.

As noted in **Cumulative Impact BIO-2** above, approximately 12,000 acres (4,900 hectares) of habitat would be lost due to future development within the Placer County portion of the study area. Additional losses, estimated at about 7,000 acres (3,000 hectares) of habitat, would occur in association with future projects in Sutter and Sacramento County portions of the study area and with future projects within the City of Roseville or its sphere of influence.

The Proposed Action and Alternatives 1 through 5 would develop the project site with urban uses and infrastructure and in conjunction with that development remove about 4,500 acres (1,800 hectares) of foraging and movement habitat for wildlife species. The No Action Alternative would remove approximately 2,300 acres (930 hectares) of foraging and movement habitat. The combined effect of past, current, and future projects, including all of the alternatives, on wildlife foraging and movement habitat is a **significant** cumulative effect.

The loss of grassland habitat on the project site (which also represents Swainson's hawk foraging habitat) would be compensated by preserving grassland habitat at the CDFW-

specified ratios. **Mitigation Measure BIO-1** would also preserve uplands that support grassland habitat, and the implementation of **Mitigation Measure BIO-9** would ensure that wildlife movement within the open space corridors on the project site is not obstructed, that stream habitat that is disturbed during construction is restored, and that human intrusion in stream corridors is minimized. The mitigation measure requires the use of either bridges or culverts large enough that wildlife have enough space to pass through road crossings without having to travel over the road surface, the implementation of bank stabilization measures, and/or restoration and revegetation of stream corridor habitat that has been damaged due to the project's construction, and the use of signage to discourage access to the riparian areas by humans. Therefore, with mitigation, the contribution of the No Action Alternative, Proposed Action, or Alternatives 1 through 5 (individually or combined) to the cumulative impact would be rendered **less than significant**.

It is reasonable to assume that other future projects would also be required to reduce their individual impacts as part of their environmental review process and permitting. However, despite these measures, some reduction in wildlife habitat would still occur as a result of cumulative development. **Mitigation Measure CUM BIO-2** would be implemented to address this impact. As noted in that mitigation measure, the USACE will work with study area cities and counties to focus and concentrate growth in certain portions of the study area, minimize future losses of wetlands and vernal pool grassland habitat within the study area, and compensate for unavoidable losses. These efforts would minimize further fragmentation of and reductions in wildlife movement habitat in the study area and would concentrate the habitat preservation efforts in certain portions of western Placer County that would lead to the preservation of large tracts of land that are contiguous and provide wildlife movement opportunities. Therefore, the cumulative impact would be reduced to **less than significant**.

4.3.2 Aesthetics

Direct and Indirect Impacts of the Proposed Action

Section 3.1, Aesthetics, presents the Proposed Action's direct and indirect impacts on visual resources at the project site and in its vicinity. The Proposed Action would have a significant effect on scenic vistas and visual character by altering views of open rangeland, foothills, and Sierra Nevada, and by converting undeveloped rangeland to urban development. No feasible mitigation measures are available to fully mitigate these effects. The Proposed Action would also result in substantial effects from new sources of light and glare. As the effects of the Proposed Action on scenic vistas, visual character, and light and glare could cumulate with the effects of other projects in the vicinity, those are discussed below. The Proposed Action will not damage scenic resources and therefore has no potential to contribute to cumulative effects on scenic resources.

Current Status of the Resource

The project site is located in the western portion of Placer County. At the present time, the project site is developed with 150 rural residences mostly in the northwest corner. The majority of the project site is not developed and appears as undeveloped rangeland. Natural features on the project site include Dry Creek and riparian oak woodland which abuts the project site's southeastern boundary. Prominent man-made features in the vicinity of the project site include three major utility line corridors (Placer County 2006).

Significance Thresholds

The contribution of the Proposed Action or an alternative to a cumulative impact would be significant if the Proposed Action or an alternative would:

- Result in an unmitigated substantial change in the visual character of the study area or an unmitigated substantial increase in light and glare.

Cumulative Impact AES-1 Effect on Visual Resources

No Action Alt., Proposed Action, Alts. 1 through 5

All of the alternatives, including the Proposed Action, would have a **significant** cumulative effect on scenic vistas and the visual character of the project vicinity by altering views of open rangeland, foothills, and Sierra Nevada, and by converting undeveloped rangeland to urban development as viewed from Walerga Road, Watt Avenue, and Baseline Roads.

With the development of the Proposed Action or any of the alternatives and the Sierra Vista Specific Plan, the areas on both sides of Baseline Road west of Walerga Road would change from a primarily rural landscape to urban development, thereby permanently altering the visual character of the area, both under daytime conditions and at night, although unlike the Proposed Action and Alternatives 1 through 5, the No Action Alternative would leave certain areas on the project site adjacent to Baseline Road undeveloped and thereby would have a lesser impact on the visual character of the Baseline Road corridor. Similarly, the Proposed Action and all of the alternatives would place urban uses on the west side of Walerga Road and in conjunction with existing development on the east side of Walerga Road, would alter the visual character of the area as viewed from that roadway. The views from Watt Avenue both to the east and to the west would be altered by the proposed development under all alternatives. All of the alternatives, including the Proposed Action, and the Sierra Vista Specific Plan development would also introduce new sources of light and glare. Although all of the alternatives would be required to meet the County's Design Guidelines, ensuring that proposed development would be visually compatible with surrounding development, it would, in conjunction with existing and other proposed projects, nonetheless permanently and substantially alter the environment. No feasible mitigation measures are available to fully address the effect. Therefore, the contribution of the No Action Alternative, Proposed Action, and Alternatives 1 through 5 to the cumulative effect would be **significant**.

4.3.3 Agricultural Resources

Direct and Indirect Impacts of the Proposed Action

Section 4.2, Agricultural Resources, presents the direct and indirect impacts of the Proposed Action on agricultural resources. The Proposed Action would result in significant effects on agricultural resources from the loss of Important Farmland in active agricultural production. **PVSP EIR Mitigation Measure 4.4-1a,** which requires the Applicants to compensate for the loss of Important Farmland by placing conservation easements on an equivalent acreage of undeveloped land or agricultural land to the acreage affected, would be implemented to reduce this effect.

Current Status of the Resource

The loss of farmland is occurring throughout California, including in western Placer County. Since the Placer County General Plan was adopted in 1994, areas within the project vicinity have changed from being rural, undeveloped, or agricultural in nature to urban residential and commercial development. Similarly, lands in the City of Roseville that were at one time in agricultural uses have since been developed with infrastructure and urban uses. As discussed in **Section 3.2, Agricultural Resources**, between 1992 and 2008, approximately 2,625 acres (1,062 hectares) of Prime Farmland in Placer County was converted to other uses. Sacramento and Sutter Counties lost approximately 20,048 acres (8,113 hectares) and 5,593 acres (2,263 hectares), respectively, of Prime Farmland during the same period (California Department of Conservation 1994 through 2008).

Significance Thresholds

The contribution of the Proposed Action or an alternative to a cumulative impact would be significant if the Proposed Action or an alternative would:

- Result in a substantial unmitigated loss of Important Farmland.

Cumulative Impact AG-1 Conversion of Important Farmland

No Action Alt., Proposed Action, Alts. 1 through 5

Within western Placer County, a majority of agricultural land has been identified as Farmland of Local Importance and Grazing Land. The vast majority of the project site is designated as Farmland of Local Importance; however it also contains lands that are classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland.

While the No Action Alternative would result in the conversion of about 1,091 acres (442 hectares) of Important Farmland, the Proposed Action and all of the other alternatives would result in the conversion of about 2,300 acres (930.8 hectares) of Important Farmland to non-agricultural uses. Because farmland is being lost to development throughout the region, the direct loss of Important Farmland and agricultural productivity would be a significant cumulative impact. **PVSP EIR Mitigation Measure 4.4-1a** would address the effect related to loss of Important Farmland which provides substantial off-site mitigation. However, as stated in **Section 3.2**, despite mitigation the effect of the Proposed Action and the alternatives

would remain significant. Consequently, the No Action, Proposed Action, and Alternatives 1 through 5 would make a **significant** contribution to the cumulative loss of Important Farmland in the study area.

4.3.4 Air Quality

Direct and Indirect Impacts of the Proposed Action

Section 3.3, Air Quality, presents the direct and indirect impacts of the Proposed Action on air quality, including impacts from construction and operational emissions, carbon monoxide hot spots, and odors. The Proposed Action would have an adverse effect on air quality from construction activities that would be substantially reduced with implementation of **PVSP EIR Mitigation Measures 4.8-1a** through **4.8-1e,** although the impact from the emissions of reactive organic gases (ROG), oxides of nitrogen (NOx), and respirable particulate matter (PM10) would remain significant. The Proposed Action would also have adverse effects related to criteria pollutant emissions generated during project occupancy and use. As these impacts would have the potential to cumulate, they are analyzed below.

The Proposed Action would result in less than significant effects related to exposure to toxic air contaminants and exposure to objectionable odors. Therefore, it has a minimal potential to contribute to cumulative effects related to toxic air contaminant emissions and odors.

Current Status of the Resource

As discussed in **Section 3.3, Air Quality,** the Placer County portion of the Sacramento Valley Air Basin (SVAB) is under the jurisdiction of the Placer County Air Pollution Control District (Air District). At the present time, the entire SVAB, including the Placer County portion of the Air Basin, is designated as "severe" federal nonattainment for ozone (8-hour) and nonattainment for fine particulate matter (PM2.5). The Placer County portion of the Air Basin is also in nonattainment of the state standards of ozone (1-hour), ozone (8-hour), and PM10. As discussed in detail in **Section 3.3**, the Air District has prepared attainment plans for the area in order to demonstrate achievement of the state and federal ambient air quality standards for ozone, PM10, and PM2.5. The County and City General Plans contain policies intended to improve air quality in the region.

Significance Thresholds

The contribution of the Proposed Action or an alternative to a cumulative impact would be significant if the Proposed Action or an alternative would:

- Result in substantial unmitigated emissions of air pollutants (ozone, PM10, and PM2.5) for which the Air Basin is in nonattainment.

Cumulative Impact AIR-1 Effects from Criteria Pollutant Emissions

No Action Alt., Proposed Action, Alts. 1 through 5

All of the alternatives, including the Proposed Action, would have a **less than significant** cumulative impact from emissions of carbon monoxide (CO) but would have a **significant** cumulative impact on air quality due to construction and operational emissions of other criteria pollutants, including nitrogen oxides (NOx) and reactive organic gases (ROG), which contribute to the formation of ozone for which the Air Basin is in nonattainment, and particulate matter (PM10 and PM2.5), also for which the Air Basin is in nonattainment.

Construction Emissions

Cumulative development would result in multiple construction projects occurring at the same time, generating emissions from earthmoving activities, heavy equipment operation, workers traveling to and from construction sites, and miscellaneous activities such as paving roadways and parking lots and painting of commercial/residential structures. Innumerable projects are proposed in the 11-county Sacramento Valley Air Basin and a complete listing of reasonably foreseeable projects cannot be reasonably developed. However all reasonably foreseeable projects in the vicinity of the Proposed Action are identified in **Table 4.0-4 Other Present and Reasonably Foreseeable Projects in the Project Vicinity, Construction Emissions**. In addition, **Table 4.0-5, Other Major DA Permit Projects in the SVAB,** presents information on all major projects under the authority of the USACE that are proposed in the remainder of the Air Basin. Both tables report estimated construction emissions associated with these projects where data were readily available. As shown in the tables below, the emissions from some of these actions would result in ROG, NOx, and particulate matter emissions that exceed significance thresholds. Earthmoving activities for the Proposed Action and any of the alternatives could result in substantial fugitive dust (PM10) emissions, and would be likely to result in localized PM10 concentrations in excess of state and federal standards. A major portion of PM10 would settle on the construction site or its immediate vicinity, while a small fraction would contribute to regional ambient particulate concentrations. As shown in **Section 3.3**, PM10 emissions associated with construction of any of alternatives are estimated to exceed the Air District threshold of 82 lbs/day (37 kg/day), even with **PVSP EIR Mitigation Measures 4.8-1a** through **4.8-1e** which require the implementation of dust control measures.

Table 4.0-4
Other Present and Foreseeable Future Projects in Project Vicinity
Construction Emissions (Pounds per Day)

Project	ROG	NOx	PM10	PM2.5
Fiddyment Road Widening[a]	NA	NA	NA	NA
Amoruso Specific Plan	NA	NA	NA	NA
Creekview Specific Plan[b]	49	**119**	39	13
Regional University Specific Plan[c]	**532**	**3,457**	**138**	NA
Westbrook Project[d]	**156**	30	34	9
Riolo Vineyards Specific Plan[e]	**143**	**773**	60	NA
Placer Parkway Alternative 5[f]	**8,960**	9,940	**1,460**	180
Reason Farms Retention[g]	**121**	872	**948**	ND
Sierra Vista Specific Plan[h]	**1,607**	80	**169**	37
Elverta Specific Plan[i]	257	47	630	133
Lincoln 270[j]	NA	NA	NA	NA
Sutter Pointe Specific Plan[k]	NA	NA	NA	NA
Village 7 Lewis Property[l]	**125**	**146**	**343**	84

Note:
NA – not available
Bold: *Exceeds Significance Thresholds. Significance Thresholds are not the same for all of the projects listed.*

[a] *Department of the Army Permit SPK-2010-00735. August 5, 2011.*
[b] *City of Roseville. December 2010. Draft EIR Creekview Specific Plan. (note: emissions are for the year 2013)*
[c] *Placer County. December 2007. Draft EIR Regional University Specific Plan. Prepared by PBS&J. (note: emissions are for the year 2009)*
[d] *Department of Army permit application for Westbrook Specific Plan.*
[e] *Placer County. January 2008. Draft EIR Riolo Vineyards Specific Plan. Prepared by URS.*
[f] *Placer County. June 2007. Draft EIR Placer Parkway. Prepared by URS. (note: Alternative 5 was determined to be the preferred alternative)*
[g] *City of Roseville. 16 October 2002. Draft EIR for the City of Roseville Retention Basin Project. Prepared by URS.*
[h] *Impact Sciences. 2012.*
[i] *U.S. Army Corps of Engineers. December 2012. Elverta Specific Plan Draft EIS. (note: Alternative A was determined to be the preferred alternative)*
[j] *Department of Army permit application for Lincoln 270.*
[k] *Measure M Group. 10 September 2007. Wetland Delineation for Sutter Pointe Specific Plan. Prepared by ECORP.*
[l] *City of Lincoln. June 2009. Draft EIR Village 7 Specific Plan Project. Prepared by PBS&J. (note: emissions are for the year 2013)*

Table 4.0-5
Other Major DA Permit Projects in the SVAB
Construction Emissions (Pounds per Day)

Project	ROG	NOx	PM10	PM2.5
Folsom South[a]	**120**	**128**	579	126
Natomas Levee, Phase 2[b]	NA	NA	NA	NA
Natomas Levee, Phase 3b[c]	NA	NA	NA	NA
Natomas Levee, Phase 4A[d]	**303**	**1,846**	15,388	NA
Rio Del Oro[e]	**627**	**2,071**	NA	NA
Sunridge Properties[f]	**385**	**501**	276	NA
Arboretum	NA	NA	NA	NA
Cordova Hills[g]	**3,616**	**405**	2,723	576
River Islands at Lathrop	NA	NA	NA	NA
Suncreek[h]	**194**	**141**	289	64

Note:
NA – not available
Bold: *Exceeds Significance Thresholds. Significance Thresholds are not the same for all of the projects listed.*

[a] *Department of the Army Permit SPK-2007-02159. August 11, 2011.*
[b] *Department of the Army Permit SPK-2007-00211. January 21, 2009.*
[c.] *Department of the Army Permit SPK-2008-01039. April 2, 2010.*
[d] *Department of the Army Permit SPK-2009-00480. November 8, 2010.*
[e] *Department of the Army Permit SPK-1999-00590. June 13, 2012.*
[f] *Department of the Army Permit SPK-2009-00511. January 25, 2011.*
[g] *Cordova Hills: Sacramento County, Cordova Hills FEIR, Document Control Number 2008-00142*
[h] *Suncreek Specific Plan Project Draft EIR. Prepared for the City of Rancho Cordova by AECOM, October 2012.*

Emissions of CO, ROG, NOx, sulfur dioxide (SO_2), and particulate matter would be generated by construction equipment operations and construction employee vehicle trips. Painting and paving of roadways would primarily release ROG into the atmosphere. Emissions associated with construction of the No Action Alternative, Proposed Action, or Alternatives 1 through 5 are estimated to exceed Air District thresholds of 82 lbs/day for ROG and NOx, even with **PVSP EIR Mitigation Measures 4.8-1a** through **4.8-1e** which require implementation of vehicle air pollutant control strategies.

The No Action Alternative, Proposed Action, or Alternatives 1 through 5 (individually or combined) would contribute to these cumulative impacts during the 12- to 27-year buildout of the site. The emissions would exceed the Air District thresholds for ROG and NOx, and together with all other emissions in the nonattainment area, the resulting emissions are expected to exceed the emissions budgets specified in the applicable SIP for the Sacramento Valley Air Basin. Therefore, the contribution of the construction phases of any of the alternatives to the cumulative impact on air quality in the Air Basin would remain **significant** even after implementation of **PVSP EIR Mitigation Measures 4.8-1a** through **4.8-1e**.

Operational Emissions

The project site is located in an area that is designated non-attainment for ozone, PM10, and PM2.5. Vehicles, commercial operations, and some residential activities associated with the Proposed Action would generate ozone precursors contributing to the ozone problem within the Air Basin. Area sources, such as residential wood burning stoves and fireplaces, are substantial sources of particulate matter. Operational emissions from buildout of the Proposed Action are estimated to exceed Air District thresholds for ROG, NOx, and PM10.

Other past, present and reasonably foreseeable future projects in the project vicinity are also expected to result in additional emissions of criteria pollutants and contribute to the existing exceedances of ambient air quality standards in the Air Basin. The estimated emissions associated with other present and reasonably foreseeable future projects are reported in **Table 4.0-6, Other Present and Reasonably Foreseeable Actions in the Project Vicinity, Construction Emissions**. Future development in the rest of the Air Basin (which is substantially larger than the project vicinity) would also result in additional emissions which cannot be reasonably quantified, although **Table 4.0-7, Other Major DA Permit Projects in the SVAB, Operational Emissions,** presents data that are available for some of the major projects in the Air Basin that are under USACE authority.

Table 4.0-6
Other Present and Reasonably Foreseeable Actions in Project Vicinity
Operational Emissions (Pounds per Day)

Project	ROG	NOx	PM10	PM2.5
Fiddyment Road Widening[a]	NA	NA	NA	NA
Amoruso Specific Plan	NA	NA	NA	NA
Creekview Specific Plan[b]	**242**	**99**	**293**	56
Regional University Specific Plan[c]	**761**	**457**	**476**	NA
Westbrook Project[d]	**273**	**139**	**460**	88
Riolo Vineyards Specific Plan[e]	**156**	**141**	**96**	NA
Placer Parkway Alternative 5[f]	60	60	20	NA
Reason Farms Retention[g]	0	0	0	0
Sierra Vista Specific Plan[h]	**1,585**	**994**	**3,225**	614
Elverta Specific Plan[i]	**659**	**238**	1,736	974
Lincoln 270[j]	NA	NA	NA	NA
Sutter Pointe Specific Plan[k]	NA	NA	NA	NA
Village 7 Lewis Property[l]	**288**	**143**	**336**	65

Note:
NA – not available
Bold: *Exceeds Significance Thresholds. Significance Thresholds are not the same for all of the projects listed.*
[a] *Department of the Army Permit SPK-2010-00735. August 5, 2011.*
[b] *City of Roseville. December 2010. Draft EIR Creekview Specific Plan.*
[c] *Placer County. December 2007. Draft EIR Regional University Specific Plan. Prepared by PBS&J. (note: emissions are for the year 2010)*
[d] *Department of Army permit application for Westbrook Specific Plan.*
[e] *Placer County. January 2008. Draft EIR Riolo Vineyards Specific Plan. Prepared by URS.*
[f] *Placer County. June 2007. Draft EIR Placer Parkway. Prepared by URS. (note: Alternative 5 was determined to be the preferred alternative)*
[g] *City of Roseville. 16 October 2002. Draft EIR for the City of Roseville Retention Basin Project. Prepared by URS.*
[h] *Impact Sciences. 2012.*
[i] *U.S. Army Corps of Engineers. December 2012. Elverta Specific Plan Draft EIS. (note: Alternative A was determined to be the preferred alternative)*
[j] *Department of Army permit application for Lincoln 270.*
[k] *Measure M Group. 10 September 2007. Wetland Delineation for Sutter Pointe Specific Plan. Prepared by ECORP.*
[l] *City of Lincoln. June 2009. Draft EIR Village 7 Specific Plan Project. Prepared by PBS&J.*

Table 4.0-7
Other Major DA Permit Projects in the SVAB
Operational Emissions (Pounds per Day)

Project	ROG	NOx	PM10	PM2.5
Folsom South[a]	**2,061**	**709**	2,433	1,529
Natomas Levee, Phase 2[b]	NA	NA	NA	NA
Natomas Levee, Phase 3b[c]	NA	NA	NA	NA
Natomas Levee, Phase 4A[d]	NA	NA	NA	NA
Rio Del Oro[e]	**733**	**676**	1,115	NA
Sunridge Properties[f]	**NA**	**NA**	NA	NA
Arboretum	NA	NA	NA	NA
Cordova Hills[g]	**857**	**415**	1,326	252
River Islands at Lathrop	NA	NA	NA	NA
Suncreek[h]	**523**	**335**	961	185

Note:
NA – not available
Bold: *Exceeds Significance Thresholds. Significance Thresholds are not the same for all of the projects listed.*

a. *Department of the Army Permit SPK-2007-02159. August 11, 2011.*
b. *Department of the Army Permit SPK-2007-00211. January 21, 2009.*
c. *Department of the Army Permit SPK-2008-01039. April 2, 2010.*
d *Department of the Army Permit SPK-2009-00480. November 8, 2010.*
e. *Department of the Army Permit SPK-1999-00590. June 13, 2012.*
f. *Department of the Army Permit SPK-2009-00511. January 25, 2011.*
g *Cordova Hills: Sacramento County, Cordova Hills FEIR, Document Control Number 2008-00142*
h *Suncreek Specific Plan Project Draft EIR. Prepared for the City of Rancho Cordova by AECOM, October 2012.*

In order to bring an air basin into compliance with state and federal air pollutant standards, air districts use general plans and similar planning documents to determine where and how future growth will occur within the region. When development occurs that is not consistent with the intensity of development presented in a general plan or if it was not previously accounted for, it is assumed that the emissions associated with that development are unaccounted for in the SIP, which could hinder the region's ability to come into compliance with state and federal air pollutant standards. As the Proposed Action (base plan scenario) was approved by the County in 2007, its emissions of criteria air pollutants within are likely accounted for in the SIP; however, it is not possible to demonstrate this fact and it is likely that the emissions from the Proposed Action Blueprint scenario are not accounted in the SIP. Therefore, conservatively this analysis concludes that emissions associated with operation and occupancy of the No Action Alternative, Proposed Action, or Alternatives 1 through 5 (individually or combined) and buildout of cumulative development would cause direct adverse effects to the region's

ability to achieve compliance with air quality standards.

PVSP EIR Mitigation Measures 4.8-3a through **4.8-3k** and **4.13-1a** through **4.13-1p**, which require implementation of a number of measures to reduce vehicular and area source emissions, would reduce the amount of emissions generated by the No Action Alternative, Proposed Action, or Alternatives 1 through 5. All of the alternatives would also be subject to a variety of policies that would promote the use of alternative forms of transportation and pedestrian access to commercial and office uses within the project site. However, because the operational air emissions associated with the No Action Alternative, the Proposed Action, and Alternatives 1 through 5 (individually or combined) are not accounted for in regional air quality attainment plans, even with mitigation, the emissions would be significant and all of the alternatives would make a **significant** contribution to the cumulative impact on regional air quality.

The above conclusion notwithstanding, transportation conformity analysis performed for the Metropolitan Transportation Plan and Sustainable Communities Strategy 2035 (MTP/SCS) for the SACOG region (which is substantially the same as the Sacramento Valley Air Basin) shows that although the region will experience growth in population (including the growth in population and employment as a result of the Proposed Action (both scenarios)[2], the region's daily air pollutant emissions from transportation sources will decrease in the future. The conformity analysis provides the estimates of population growth, increase in vehicle miles traveled (VMT), and daily air pollutant emissions for the region for 2014, 2017, 2018, 2025, and 2035 (SACOG 2012). The results for 2018, 2025, and 2035 are shown in **Table 4.0-8, Projected Population Growth, Traffic and Air Pollutant Emissions.**

Table 4.0-8
Projected Population Growth, Traffic and Air Pollutant Emissions

	2018	2025	2035
Population	2,459,000	2,713,000	3,086,000
Daily VMT (1,000s of miles)	64,666	69,174	75,658
Daily NOx Emissions (tons)	35.87	22.05	16.25
Daily ROG Emissions (tons)	24.04	19.17	15.73

Source: SACOG 2012

2 Based on a review of Appendix E-3 Land Use Forecast Background Documentation in the SACOG MTP/SCS 2035 Update, the Proposed Action (both scenarios) is included in the regional growth projections for Placer County. Therefore the Proposed Action is accounted for in the MTP/SCS analysis of the growth in the SACOG region.

As the table above shows, even though population and vehicle traffic are projected to increase by 25 percent and 17 percent respectively in the SACOG region, daily emissions of ozone precursors are expected to decrease substantially, with NOx emissions decreasing by 55 percent and ROG by 35 percent between 2018 and 2035 as a result of vehicle fleet improvements, fuel efficiency measures, transportation control measures in the SIP for the SACOG region, and denser future development pursuant to the SCS. These population and traffic increases represent the best understanding of overall growth projections for the region and include projects such as Placer Vineyards Specific Plan as well as other projects in the region.[3]

CO Concentrations

Background CO concentrations in Placer County are low, and despite anticipated increases in traffic volumes, future roadside CO concentrations are expected to decrease from existing concentrations due to improved fuel combustion efficiency (Placer County 2006). Therefore, all of the alternatives, in conjunction with buildout of reasonably foreseeable development in the area, would have a **less than significant** effect related to CO concentrations.

4.3.5 Cultural Resources

Direct and Indirect Impacts of the Proposed Action

The Proposed Action would potentially damage undiscovered historic properties or human remains during construction, though implementation of **Mitigation Measures CR-1** through **CR-3** would render the effects less than significant. As these effects would have the potential to cumulate, they are analyzed below.

Current Status of the Resource

Section 3.6 provides a description of regional prehistory, ethnography, and prehistoric and contact period archaeology, in addition to a description of regional history and the historic built environment. Loss of cultural resources in the project area due to previous ground disturbing activities is unquantifiable.

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3 Please see SACOG MTP/SCS 2035 Update Appendix E-3 for projected changes in land use, population, and employment in the SACOG region through 2035.

Significance Thresholds

The contribution of the Proposed Action or an alternative to a cumulative impact would be significant if the Proposed Action or an alternative would:

- Result in an unmitigated loss of significant prehistoric and historic resources.

Cumulative Impact CR-1 Damage to Historic Properties or Human Remains

No Action Alt., Proposed Action, Alts. 1 through 5

Development in the region could result in the damage or destruction of known archaeological and historical resources, as well as any existing undiscovered subsurface artifacts. Based on record searches conducted with the North Central Information Center, California State University, Sacramento and field surveys for a number of proposed projects in western Placer County, including but not limited to the Proposed Action and Sierra Vista Specific Plan, the project vicinity is known to include both prehistoric and historic cultural resources, some of which have been determined to be eligible for the National Register of Historic Places (NRHP). Historic and prehistoric resources were discovered during field studies on the project site. Historic resources and prehistoric sites are also known to occur elsewhere in southwestern Placer County. The combination of the No Action Alternative, Proposed Action, or Alternatives 1 through 5, and other foreseeable projects would increase density of development in the area which would increase the potential for impacts to cultural resources, including sites that are eligible for the NRHP. Numerous laws, regulations, and statues, at both the federal and state levels, seek to protect cultural resources. These would apply to all development within the study area. In addition, the Placer County General Plan provides local policies for the protection of cultural resources from unnecessary impacts. These policies include inventory and evaluation processes and require consultation with qualified archaeologists in the event that previously undiscovered cultural materials are accidentally exposed. By ensuring that cultural resources discovered within the project Area of Potential Effect are properly recorded and handled, **Mitigation Measures CR-1** through **CR-3** would reduce the contribution of all alternatives to the cumulative effect on cultural resources to **less than significant**.

4.3.6 Hydrology and Water Quality

Direct and Indirect Impacts of the Proposed Action

As analyzed in **Section 3.10, Hydrology and Water Quality**, the Proposed Action would result in potentially adverse effects related to water quality, flooding, and groundwater. As these effects of the Proposed Action would have the potential to cumulate with similar impacts from other past, present and future actions in the Curry Creek watershed as well as the lower portion of Pleasant Grove Creek watershed, they are analyzed below. Other hydrology and water quality impacts analyzed in **Section 3.10** would not have the potential to cumulate and are not discussed below.

Current Status of the Resource

As discussed in **Section 3.10,** the Proposed Action is located in three major watersheds: Dry Creek Drainage Basin, Curry Creek Drainage Basin, and Steelhead Creek Drainage Basin. The Dry Creek watershed is about 80 square miles (207 square kilometers) in area, but encompasses only 477 acres (198 hectares) of the project site along the southeast boundary of the project site. The Curry Creek watershed encompasses a total of 1,360 acres (550 hectares) with about 240 acres (97 hectares) within the project site. The Upper Steelhead Creek watershed flows west across the property and takes up a total of 4,380 acres (1,772 hectares) of the project site.

Historic development within the Dry Creek, Curry Creek, and Steelhead Creek watersheds have increased the amount of impervious surfaces, increasing runoff discharged into the creeks and ultimately into Pleasant Grove Canal. Steelhead Creek is part of a flood control system that surrounds the Natomas Basin located west of the project site in Sutter and Sacramento counties. With additional upstream development in Placer County, there is the potential for increased flows into the Natomas Basin at Sankey Gap and into areas of Sutter County east of Steelhead Creek.

The project site is located in the North American subbasin of the Sacramento Valley groundwater basin. Total storage capacity in the subbasin is estimated at approximately 4.9 million acre-feet (maf) (604,000 hectare-meters), and recent data suggest that withdrawals of up to 95,000 acre-feet per year (afy) (11,700 hectare-meters per year) are within the basin's safe yield (Department of Water Resources 2006; Placer County 2006). The majority of groundwater production occurs in the northern portion of the subbasin.

Significance Thresholds

The contribution of the Proposed Action or an alternative to a cumulative impact would be significant if the Proposed Action or an alternative would:

- Contribute runoff to facilities susceptible to flooding;
- Release sediment and other pollutants such that there could be downstream water quality effects;
- Require groundwater withdrawal which, combined with other withdrawals, exceeds the safe yield of the aquifer; or
- Interfere substantially with groundwater recharge.

Cumulative Impact HYDRO-1 Flooding, Water Quality, and Groundwater

No Action Alt., Proposed Action, Alts. 1 through 5	Cumulative development in the study area, including all of the alternatives, would increase the amount of impervious surfaces which would, in turn, generate increased storm water runoff and would have the potential to result in downstream flooding and water quality impacts in the Dry Creek, Curry Creek, and Steelhead Creek watersheds. Cumulative urban development would also have the potential to affect groundwater levels through potential reduction in recharge and from withdrawal of groundwater for consumptive use. For reasons presented below, the contribution of any of the

alternatives, including the Proposed Action, to these cumulative impacts would be **less than significant**.

Flooding

Steelhead Creek is part of a flood control system that surrounds the Natomas Basin located west of the project site in Sutter and Sacramento counties. Steelhead Creek intercepts drainage from the Steelhead Creek Drainage Basin and diverts it around and through the Natomas Basin. The Natomas Basin is historically an area that experienced significant flooding and is now partially protected by a system of levees, canals, and pumps. In the 100-year storm event, the capacity of the current system is exceeded and flows enter the Natomas Basin where Sankey Road crosses Steelhead Creek. The location where the flows occur is referred to as the Sankey Gap. With additional upstream development in Placer County, there is the potential for increased flows into the Natomas Basin at Sankey Gap and into areas of Sutter County east of Steelhead Creek.

Placer County General Plan Policy 4.E.11 requires that individual projects mitigate their direct contribution of increased surface water flows to minimize the potential for increased on- and off-site flooding (Placer County 1994b). Placer County requires each project to provide on-site detention to avoid contributing flows that would exasperate the downstream flooding problem as described in the Stormwater Management Manual (Placer County 1994a). Two future projects in unincorporated Placer County (Regional University and Placer Parkway) have incorporated on-site detention capacity and other measures to avoid downstream flooding (Placer County 2008; Placer County 2007). Similarly, as described under **PVSP EIR Mitigation Measure 4.3.2-1**, the drainage system design for the all of the alternatives will limit post-project flows into Curry Creek and Steelhead Creek watersheds. A variety of on-site attenuation facilities are proposed to be constructed in the tributaries to Steelhead Creek. The results of the 100-year comparison analysis for Steelhead Creek for the Proposed Action indicate that the proposed detention would adequately mitigate the peak discharge rates to less than the pre-project amounts. In the 200-year analysis, the pre-project and post-project mitigated peak flows are virtually identical. Runoff from Curry Creek and Steelhead Creek drainage basins are therefore not expected to cause downstream flooding impacts.

Detention and retention of flows within the Dry Creek watershed are not currently recommended by the Flood Control District downstream of the City of Roseville. The Dry Creek watershed has substantial upstream proposed and current development, which combined with the any of the alternatives, would increase the flows in Dry Creek, and increased runoff from cumulative development in the Dry Creek watershed is expected to result in adverse downstream flooding impacts. The contribution of any of the alternatives would be **significant**. **PVSP EIR Mitigation Measures 4.3.2-11a** and **4.3.2-11b** would reduce the contribution of all alternatives to the cumulative flooding

effect but not to less than significant. The cumulative flooding effect would remain **significant and unavoidable**.

Water Quality

Development on the project site would drain into Dry Creek, Curry Creek, and Steelhead Creek drainage basins. Changes in water quality could occur as a result of project construction activities. Similarly, other urban development would also involve soil disturbing construction activities, such as vegetation removal, grading, and excavation. These soil disturbances would expose soil to wind and water-generated erosion. As previously described, sediment from erosion can have long and short-term water quality effects, including increased turbidity, which could result in adverse impacts on fish and wildlife habitat and the physical integrity of stream channels.

All construction projects that would disturb 1 acre (0.4 hectare) or more, which is assumed to be the case for each construction phase of any of the alternatives, would be required to comply with the applicable State General Permit (2009-0009-DWQ Construction General Permit) requirements for storm water runoff during construction. The permit would reduce potential degradation of receiving water quality attributable to the No Action Alternative, Proposed Action, or Alternatives 1 through 5 as well as other development in the Dry Creek, Curry Creek, and Steelhead Creek watersheds.

With respect to post-construction storm water runoff, all new development in the study area would be required to comply with National Pollutant Discharge Elimination System (NPDES) requirements related to post-construction runoff. All of the alternatives are subject to the County's Storm Water Management Plan requirements and is required to include storm water quality improvements and LID measures to reduce the volumetric increase in flows as well as improve water quality (Placer County 1994). As a result of existing regulations and local requirements, the contribution of any of the alternatives to a cumulative impact on water quality from urban runoff would be **less than significant**.

Groundwater Use

The cumulative context for groundwater impacts is the North American River groundwater sub-basin that generally underlies western Placer County and northern Sacramento County. The sub basin is located within the Sacramento Valley Groundwater Basin. It includes a surface area of 548 square miles (1,429 square kilometers) (Department of Water Resources 2006).

Urban growth and agriculture production in northern Sacramento County increased the demand on groundwater such that the groundwater elevation trend along the Sacramento/Placer county line began to show a steady decline from the late 1940s (earliest measurement) to approximately 1980. The test wells in the area however indicate that groundwater elevations have stabilized in recent years (MWH 2007).

The regional groundwater management efforts are focused on controlling the fluctuations in groundwater levels to keep them within an acceptable range. The City of Roseville, the City of Lincoln, Placer County Water Agency (PCWA), and the California American Water Company have cooperatively developed the Western Placer County Groundwater Management Plan (WPCGMP). The overarching goal of the WPCGMP is to maintain the quality and ensure the long-term availability of groundwater to meet backup, emergency, and peak demands without adversely affecting other groundwater uses within the WPCGMP area (MWH 2007). The Water Forum Agreement currently represents the most likely long-term plan for development of groundwater and surface water supplies in Placer and Sacramento counties, and it reflects projected land use and water demand throughout the two counties in year 2030 as envisioned in current approved general plans (Water Forum 2000).

The project site is currently used for agriculture which uses groundwater for irrigation. All of the alternatives would eliminate the groundwater demand as build out continues. Other western Placer County projects that would replace groundwater-irrigated agriculture would also continue to reduce demand on the groundwater basin. During normal water years, groundwater supplies would not be needed for the project. However, during dry years, if a significant amount of recycled water (12,000 afy to 15,000 afy) is not available to supplement the potable water supply, pumping of groundwater would increase in order to serve the No Action Alternative, the Proposed Action, or Alternatives 1 through 5. All of the alternatives would have an adequate supply of recycled water if the project's wastewater is treated at the Dry Creek Waste Water Treatment Plant (DCWWTP). However, if the wastewater generated under any of the alternatives is treated at Sacramento Regional County Sanitation District (SRCSD), the necessary amount of recycled water needed during dry years would not be available and more water from PCWA would be required which could include increased withdrawal of groundwater.

Groundwater Recharge

Development in Placer County would result in the creation of new impervious surfaces by converting primarily undeveloped grazing land to urban uses. As discussed in **Section 3.10, Hydrology and Water Quality**, recharge occurs primarily along stream channels and through applied irrigation water. Much of western Placer County consists of hydrologic group "d" soils, which are characterized by high runoff and low infiltration potential. Therefore, Placer County provides a very limited amount of recharge into the Sacramento Valley groundwater basin. Other areas of western Placer County are situated on soil and rock units similar to the project site, and do not have water intensive irrigation uses (Placer County 2006). Given the low levels of recharge that occurs under existing conditions, the fact that all of the alternatives (and other foreseeable development in the area) would protect and maintain creek corridors where infiltration

would continue to occur, and the fact that all of the alternatives (and all future development) would include low impact development (LID) measures to infiltrate runoff to the extent feasible, the contribution of the No Action Alternative, Proposed Action, or Alternatives 1 through 5 to a cumulative effect on groundwater recharge would be **less than significant**.

PVSP EIR Mitigation Measure 4.3.2-11a:

Prior to any development pursuant to the Specific Plan within the Dry Creek Drainage Shed, the developer shall submit to the Placer County Department of Public Works project-specific drainage reports, calculations and plans addressing up-gradient and project flows within the Dry Creek drainage shed for review and approval. Placer County Storm Water Management Manual and the Placer County Code require developments to not cause adverse impacts to upstream or downstream properties.

PVSP EIR Mitigation Measure 4.3.2-11b:

The Master Project Drainage Study and project-specific drainage reports shall design for conveyance of future, fully-developed, unmitigated flows from upstream development outside of the Specific Plan area.

4.3.7 Noise

Identification of Direct and Indirect Impacts of the Proposed Action

As discussed in **Section 3.12**, **Noise**, associated with traffic generated by the Proposed Action would impact sensitive receptors adjacent to area roadways. This effect is significant and would not be rendered less than significant by implementation of **PVSP EIR Mitigation Measure 4.9-4.** This effect is analyzed below to determine whether it would cumulate with the effects from other past, present and reasonably foreseeable future actions to result in a significant adverse effect. All other noise impacts of the Proposed Action would be limited to the project site and would not cumulate with noise from other cumulative projects.

Current Status of the Resource

Urban and rural development in the study area has resulted in increased ambient noise levels from the addition of mobile and stationary noise sources associated with these land uses. Vehicular traffic is the predominant source of noise in the area. As discussed in **Section 3.12, Noise**, ambient noise levels already exceed or nearly exceed the County's thresholds along Walerga Road, Baseline Road, and Watt Avenue.

Significance Thresholds

The contribution of the Proposed Action or an alternative to a cumulative impact would be significant if the Proposed Action or an alternative would:

- Result in an unmitigated increase in noise levels.

Cumulative Impact NOISE-1 Construction and Operational Noise Effects

No Action Alt., Proposed Action, Alts. 1 through 5

Construction Noise

Noise impacts would result from operation of construction equipment and from noise generated by vehicular traffic traveling to and from a construction site. The magnitude of the impact would depend on the type of construction activity, the noise level associated with each piece of construction equipment, the duration of construction, availability of noise barriers, and the distance between the source of the noise and receptors. Properties located adjacent to construction sites would be affected temporarily; therefore short-term construction noise impacts are anticipated. Project residents could be exposed to noise from construction activities related to development under the Sierra Vista Specific Plan to the north, and the Elverta Specific Plan and the Riolo Vineyards Specific Plan to the south.

It is unlikely that construction activities within the project site and the other concurrent projects would be close enough to a particular sensitive receptor to create a substantial combined noise level. The only exception would be Sierra Vista Specific Plan development. Both the Sierra Vista project and the Proposed Action could involve concurrent construction activities on both sides of Baseline Road. However, both projects would comply with the Noise Ordinance of each jurisdiction which limits the hours during which construction may occur. The Placer County Health Services "Standard Construction Noise Conditions of Approval" limits construction of any project that occurs within the County to the hours of 6:00 AM and 8:00 PM Monday through Friday (during Daylight Savings Time), 7:00 AM and 8:00 PM Monday through Friday (during Standard Time) and 8:00 AM to 6:00 PM on Saturday. Furthermore, any periods in which more than one project would be under construction in proximity to the same sensitive receptor would likely be very short, and would only occur during the hours mentioned above. For these reasons, the cumulative impact would be less than significant and the contribution of the No Action Alternative, Proposed Action, or Alternatives 1 through 5 (individually or combined) would be **less than significant**.

Stationary Source Noise

It is not expected that urban uses within the study area would be exposed to or generate, multiple sources of stationary noise that would be close enough to each other to exceed noise thresholds. The sources of noise within the project, and surrounding new developments such as Sierra Vista, Elverta, and Riolo Vineyards, would include schools, parks, and commercial areas. No industrial or heavy manufacturing uses are proposed under any of the alternatives or any of the other foreseeable projects that could cumulate and affect a sensitive receptor. Therefore, there would be a **less than significant** cumulative noise impact from multiple stationary sources.

Traffic Noise

As discussed in **Section 3.12, Noise**, several roadways adjacent to proposed residential areas under the No Action Alternative, Proposed Action, and Alternatives A through E including Fiddyment Road, Walerga Road, Watt Avenue, Elverta Road, and Baseline Road would have noise levels that exceed 60 decibels (dB) day-night average sound level (Ldn). Depending on the distance to residences at these locations, the exterior noise levels could exceed County standards under 2025 conditions. The 2025 noise analysis represents a cumulative noise analysis as it takes into account traffic from not just the Proposed Action but also other past, present, and reasonably foreseeable future development. **PVSP EIR Mitigation Measure 4.9-4** requires new development on the project site to include noise reduction measures such as berms, setbacks, and other feasible measures to reduce noise impacts in residential areas of the project site. However, noise reduction measures may not be applicable in some cases and it is unlikely that the noise impact would be eliminated at all affected locations. The cumulative impact on sensitive receptors near major roadways would remain **significant**.

Similarly, cumulative traffic, including traffic associated with the No Action Alternative, Proposed Action, and Alternatives 1 through 5 (individually or combined), would increase ambient noise levels along off-site roadways and despite installation of noise barriers where feasible, it is unlikely that the significant noise impact would be eliminated at all affected locations off-site. The cumulative impact on off-site receptors near major roadways would remain significant and the project's contribution to the cumulative impact would be **significant**.

4.3.8 Utilities and Service Systems

Identification of Direct and Indirect Impacts of the Proposed Action

For reasons presented in **Section 3.15, Utilities and Service Systems**, the effects of the Proposed Action on surface and groundwater supplies and water conveyance infrastructure would be less than significant with implementation of **PVSP EIR Mitigation Measures 4.11.7-1a** through **4.11.7-1c**. However, because substantial new development is planned for western Placer County at this time, the Proposed Action's impact on water supply and infrastructure has the potential to cumulate with the impact from other development and is therefore evaluated below.

As described in **Section 3.15** under **Impact UTIL-3**, the Proposed Action would require the expansion of the Dry Creek Wastewater Treatment Plant (WWTP) to treat the flows that would be generated at buildout of the Proposed Action. The treatment requirement for the Proposed Action could be handled by the planned capacity of Dry Creek WWTP. Therefore, **Impact UTIL-3** analyzes the combined effect of the Proposed Action and other reasonably foreseeable projects in the area on WWTP capacity. That

analysis is therefore an assessment of the cumulative impact of the Proposed Action in conjunction with the impacts of other future development. Similarly **Impact UTIL-4** presents the impact of the Proposed Action in conjunction with the impacts of other reasonably foreseeable future development on solid waste handling and disposal facilities, and also represents a cumulative analysis. As they are adequately addressed in **Section 3.15**, these issues are not analyzed further below.

Current Status of the Resource

The initial water supplied to the Proposed Action would be from the Placer County Water Agency's (PCWA) Foothill Water Treatment Plant. Once the infrastructure is put into place, the long-term water supply would be provided by the Sacramento River. The PCWA has three sources of water: 100,400 afy (12,384 hectare-meters per year) from the Yuba/Bear River, 120,000 afy (14,801 hectare-meters per year) from the Middle Fork Project (American River), and 35,000 afy (4,317 hectare-meters per year) from the Central Valley Project (Sacramento River). Within PCWA's service area, the majority of treated water is delivered to residential and commercial users. The total demand for treated water was 35,573 acre-feet (4,587 hectare-meters) in 2004 (Placer County Water Agency 2005).

With respect to groundwater resources, as explained in **Section 3.15**, the sustainable safe yield for the western Placer County portion of the North American Sub-basin is approximately 95,000 afy (11,700 hectare-meters per year). Total groundwater usage from agricultural and urban demands within the Placer County portion of the North American Sub-basin on average is about 90,000 afy (11,100 hectare-meters per year) in 2003 (Placer County Water Agency 2006). Under these pumping conditions, the groundwater levels at the southern end of the basin have been stable since the 1980s, indicating that 90,000 afy (11,100 hectare-meters per year) is also within the safe yield of the basin. These groundwater levels indicate that groundwater pumping is currently in balance with the natural groundwater recharge rate. This is attributed to the conversion of agricultural lands to urban uses over the past several decades as well as introduction of surface water supplies to serve urban development. It is expected that basin pumping demands will continue to decrease over time as urban development increases in the area (Placer County 2006).

Significance Thresholds

The contribution of the Proposed Action or an alternative to a cumulative impact would be significant if the Proposed Action or an alternative would:

- Result in a demand for water that requires the development of new sources of water.

Cumulative Impact UTIL-1 Effect on Water Supply

No Action Alt., Proposed Action, and Alts. 1 through 5	The cumulative effect from the Proposed Action and alternatives on water supply would be **less than significant.** Development of the Proposed Action, along with other foreseeable future development within Placer County, including current demands on PCWA contracted water, would not exceed the PCWA's existing currently contracted surface water supplies. Total cumulative water demand is estimated to be between 180,286 afy to 183,102 afy (22,238 to 22,585 hectare-meters per year) as shown in

Table 4.0-9, Cumulative Water Demand. This leaves between 75,114 and 72,298 afy (9,265 and 8,918 hectare-meters per year) of the PCWA contracted water in surplus. The PCWA has 255,400 afy (31,503 hectare-meters per year) contracted from three different sources. In addition, there is 5,000 afy (617 hectare-meters per year) in temporary surplus water available from the South Sutter Water District. The PCWA would be able to provide water to accommodate the cumulative demand from the Proposed Action (or any of its alternatives) and other existing and future development in its service area. The cumulative impact would be **less than significant**.

Table 4.0-9
Cumulative Water Demand

Development Area	Surface Water Demand (afy)
PCWA Zones 1 and 5	113,563
City of Roseville and San Juan Water District	55,000
Proposed Action – Base Plan Scenario [a]	11,723
Proposed Action – Blueprint Scenario [b]	14,539
Total Demand	**180,286 [a] – 183,102 [b]**
PCWA Water Contracts	255,400
PCWA Surplus	**75,114 [a] – 72,298 [b]**

Source: Impact Sciences 2011, Placer County Water Agency. February 3, 2006
[a] *reflects the sum that includes surface water demand associated with Base Plan Scenario*
[b] *reflects the sum that includes surface water demand associated with the Blueprint Scenario*

The water supply infrastructure is capable of serving the existing needs and the Proposed Action but additional projects would require infrastructure improvements. There are no infrastructure limitations on the delivery of Yuba/Bear River water. However, existing infrastructure is not currently able to deliver all water contracted to PCWA from the American River and Sacramento River. PCWA has a variety of completed and planned infrastructure projects which would provide enough water to accommodate the cumulative demand for water. A new American River Pump Station was completed in 2008, which increased the raw water delivery capacity to western Placer County (Placer County Water Agency 2008). An additional pipeline would be needed to supply the project site with water from the American River Pump Station. Two water conveyance projects are underway currently. The Auburn Tunnel Outlet Modification Project would supply water from the North Fork of the American River to western Placer County. The project is expected to be completed by the end of 2012 (PCWA 2012a). The Ophir Road Pipelines Project would construct part of the transmission main for the future Ophir Road Water Treatment Plant to deliver irrigation water from the American River and is expected to be complete in mid-2013 (PCWA 2012b). Additional infrastructure

improvements would be needed to supply water to the project site.

In summary, the cumulative water demand in the PCWA service area would be supplied by PCWA's existing currently contracted surface water supplies and cumulative impact to long-term water supply would be **less than significant.** However, the cumulative impact on current infrastructure capacity would be potentially **significant**. Implementation of **PVSP EIR Mitigation Measures 4.11.7-1a** through **4.11.7-1c** would reduce the contribution of the alternatives to this impact to **less than significant.**

4.4 REFERENCES

AECOM. 2009. Loss of Central Valley Vernal Pools: Land Conversion, Mitigation Requirements, and Preserve Effectiveness. Prepared for Placer Land Trust. December 2009.

California Department of Conservation. *California Farmland Conversion Report 2006–2008.* 2008.

California Department of Conservation. *California Farmland Conversion Report 2004–2006.* 2006.

California Department of Conservation. *California Farmland Conversion Report 2002–2004*. 2004.

California Department of Conservation. *California Farmland Conversion Report 2000–2002.* 2002.

California Department of Conservation. *California Farmland Conversion Report 1998–2000.* 2000.

California Department of Conservation. *California Farmland Conversion Report 1996–1998.* 1998.

California Department of Conservation. *California Farmland Conversion Report 1994–1996.* 1996.

California Department of Conservation. *California Farmland Conversion Report 1992–1994.* 1994.

California Department of Water Resources, 20 January 2006. *Sacramento River Hydrologic Region Sacramento Valley Groundwater Basin North American Subbasin*.

Frayer, W.E., D.D. Peters, and H.R. Pywell. 1989. Wetlands of the California Central Valley: Status and Trends, 1939 to mid-1980s. U.S. Fish and Wildlife Service, Portland, OR.

Hausrath Economics Group. 5 December 2008. Updated projections of growth and land conversion for urban development in Placer County through 2060.

Holland, Robert. California's Great Valley Vernal Pool Habitat Status Loss: Rephotorevised 2005. Prepared for Placer Land Trust. December 2009.

MWH. 2007. Western Placer County Groundwater Management Plan. November 2007.

Placer County. February 1994a. *Stormwater Management Manual*. Available: http://www.placer.ca.gov/Departments/Works/Resources/~/media/dpw/flood%20control/documents/Swmm2004.ashx. Accessed: 28 March 2012.

Placer County. 1994b. *General Plan*. Available: http://www.placer.ca.gov/Departments/CommunityDevelopment/Planning/Documents/CommPlans/PCGP.aspx. Accessed: 23 March 2012.

Placer County. March 2006. Revised Draft EIR Placer Vineyards Specific Plan. Prepared by Quad Knopf

Placer County. June 2007. Draft EIR Placer Parkway. Prepared by URS. Available: http://www.placerparkway.org/. Accessed: 28 March 2012.

Placer County. 10 September 2008. *Regional University Specific Plan.* Available: http://www.placer.ca.gov/Departments/CommunityDevelopment/EnvCoordSvcs/EIR/RegionalUniversity/SpecificPlan.aspx. Accessed: 23 March 2012.

Placer County Water Agency (PCWA). 2005. Placer County Water Agency 2005 Urban Water Management Plan. Prepared by Brown and Caldwell. December.

Placer County Water Agency (PCWA). 2006. PCWA's Integrated Water Resources Plan. Prepared by Brown and Caldwell. Adopted by Board of Directors, December 21, 2006.

Placer County Water Agency (PCWA). 2006. Updated Placer Vineyards Base Specific Plan Water Supply Assessment. February 3.

Placer County Water Agency (PCWA) 2012a. Auburn Tunnel Outlet Modification project http://www.pcwa.net/public-information/construction-projects/auburn-tunnel-outlet-modification-project-ophir.htm. Accessed October 29, 2012.

Placer County Water Agency (PCWA). 2012b. Construction Projects. Available: http://www.pcwa.net/public-information/construction-projects/. Accessed: 7 May 2012.

Placer County Water Agency (PCWA).2008. News Release. March 7.

Sacramento Area Council of Governments. 2008. Statistics: Population Estimates. Available: http://www.sacog.org/about/advocacy/pdf/fact-sheets/PopulationStats.pdf. Accessed: 4 April 2012.

Sacramento Area Council of Governments. 19 April 2012. Metropolitan Transportation Plan/Sustainable Communities Strategy. Available: http://www.sacog.org/2035/mtpscs/. Accessed: 8 May 2012.

Sacramento Area Coalition of Governments. 2012. Conformity Analysis for the Metropolitan Transportation Plan and Sustainable Communities Strategy 2035, Adopted April 2012.

TRA Environmental Sciences. 2011. Placer County Conservation Plan, Western Placer County. Agency Review Draft Document, February 1, 2011. Prepared for Placer County Community Development Resources Agency. February.

U.S. Fish and Wildlife Service Region 1. 2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon.

Water Forum. 2000. Water Forum Agreement. January 2000.

5.0 OTHER STATUTORY REQUIREMENTS

5.1 INTRODUCTION

The National Environmental Policy Act (NEPA) requires that an EIS include the following categories of environmental consequences:

- Irreversible and irretrievable commitment of resources
- Adverse environmental effects that cannot be avoided
- The relationship between short-term uses of the environment and maintenance and enhancement of long-term productivity
- Energy requirements and conservation potential

In addition, NEPA requires that an EIS include a discussion of growth-inducing effects and a discussion about how the project would comply with federal, state, and local laws, policies, and plans. All of these NEPA requirements are addressed in this chapter.

5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that an environmental analysis include identification of "any irreversible and irretrievable commitments of resources which would be involved in the Proposed Action should it be implemented" (40 CFR 1502.16). Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that this use could have on future generations. Irreversible effects result primarily from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource as a result of the action that cannot be restored (e.g., extinction of a Threatened or Endangered species or the disturbance of a cultural resource).

Both construction and operation of land development allowed by the Proposed Action would necessarily lead to the consumption of limited, slowly renewable, and non-renewable resources, committing such resources to uses that future generations would be unable to reverse. Construction of land development allowed by the Proposed Action would result in the irreversible or irretrievable commitment of slowly renewable or nonrenewable resources such as lumber; metals such as iron, copper, and lead; aggregate materials used in concrete and asphalt such as sand and stone; petroleum-based construction materials such as plastics; and fossil fuels in construction vehicles and equipment.

Once the residential units, institutional, and commercial development allowed by the Proposed Action are occupied and operational, there would be continued commitment of fossil fuels, such as oil and natural gas, for the operations of building systems and the movement of goods and people to and from the mixed-use community. Title 24 of the California Code of Regulations regulates the amount of energy consumed by new development for heating, cooling, ventilation, and lighting purposes. Nevertheless, the consumption of such resources would represent a long-term commitment of those resources.

5.3 ADVERSE IMPACTS THAT CANNOT BE AVOIDED

NEPA requires disclosure of adverse environmental effects that cannot be avoided (40 CFR 1502.1). Even with implementation of the proposed mitigation, the Proposed Action would result in adverse unavoidable effects to the following resources:

Impact AES-1	Effect on Scenic Vistas
Impact AES-3	Degradation of Visual Character
Impact AG-1	Conversion of Important Farmland
Impact AQ-1	Emissions Associated with Construction
Impact AQ-2	Criteria Pollutant Emissions Associated with Occupancy/Operation
Impact BIO-1	**Loss and Degradation of Functions and Services of the Waters of the U.S. through Direct Removal, Filling, Hydrological Interruption or Other Means**
Impact GHG-1	GHG Emissions due to Construction
Impact GHG-2	GHG Emissions due to Operation/Occupancy
Impact LU-4	Conflict with SACOG Blueprint
Impact TRA-1	Increased Traffic along Placer County Roadways
Impact TRA-2	Increased Traffic at Placer County Intersections
Impact TRA-3	Increased Traffic along Sacramento County Roadway Segments
Impact TRA-4	Increased Traffic at Sacramento County Intersections
Impact TRA-5	Increased Traffic along Sutter County Roadway Segments
Impact TRA-6	Increased Traffic at Sutter County Intersections
Impact TRA-7	Increased Traffic at City of Roseville Intersections
Impact TRA-8	Increased Traffic at State Highway Segments
Impact UTIL-2	Availability of Recycled Water Supplies to Meet Demand
Impact UTIL-4	Increased Demand for Solid Waste Services

5.4 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

NEPA requires consideration of the relationship between short-term uses of the environment and long-term productivity associated with a project (40 CFR § 1502.16). This comparison is generally interpreted to recognize that a short-term (temporary) use of the environment may enable the advancement of long-term community needs. For example, construction of a school would negatively affect traffic and air quality in the short-term, but would fulfill a long-term community need to provide adequate educational facilities for its residents. A community might be willing to accept this trade-off.

Implementation of the Proposed Action would result in temporary and short-term construction-related impacts associated predominantly with traffic, emissions of air pollutants, greenhouse gas emissions, and noise. The Applicants would implement mitigation measures identified in each resource section to reduce these impacts to the extent feasible.

Once the mixed-use community is established and occupied, the Proposed Action would result in increased demand for goods and services. The Proposed Action would therefore enhance the long-term economic productivity of the western Placer County region. In addition, the provision of housing would fulfill a long-term community need.

5.5 GROWTH-INDUCING IMPACTS

NEPA identifies growth-inducing effects in the context of indirect effects. The indirect effects of a Proposed Action may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air, water, and other natural systems or ecosystems (40 CFR § 1508(b)).

A project may indirectly foster growth in a geographic area if: (1) the project removes an impediment to growth (e.g., the establishment of an essential public service, the provision of new access to an area, a change in zoning or general plan approval); or (2) there is economic expansion in response to the project (e.g., changes in revenue base, employment expansion).

An evaluation of the Proposed Action relative to these criteria is provided below.

5.5.1 Elimination of Obstacles of Growth

Removal of Infrastructure Limitations or Provision of Capacity

The elimination of physical obstacles to growth can result in unforeseen growth. A number of physical constraints to growth currently exist in the vicinity of the project, specifically in the area east of Curry Creek, and south of Baseline Road due to approved Specific and Community Plans. The primary growth obstacles in the project area include limited capacity of the roadway, potable water, recycled water, wastewater, and electric distribution systems serving the unincorporated area of Placer County.

The Proposed Action and on-site alternatives would remove roadway capacity limitations through the widening of Watt Avenue and Baseline Road, intersection improvements, and construction of many other on-site roadways that would connect the site with the existing roadway system. The construction of these roadway improvements would facilitate the expansion of urban development into an area where none currently exists.

The extension of water, wastewater, and recycled water service to the project site would not necessarily eliminate a physical obstacle to growth as the Proposed Action would not increase the capacity of these systems for serving future development. Construction of a new electric substation and transmission lines would only provide electrical transmission capacity to the project site.

The Proposed Action is, however, not the only project in the region that proposes to extend development further west into southwestern Placer County. The western growth pattern is reinforced by other projects in the region. The U.S. Army Corps of Engineers (USACE) has received DA permit applications for other development projects in the project vicinity, including Sierra Vista Specific Plan and the Westbrook project, and Creekview Specific Plan project in the City of Roseville, all of which would extend urban development to the north and west of the currently developed portions of the City. Further west, Sutter Pointe Specific Plan has been approved by Sutter County which would develop a new city in southern Sutter County. Placer County has approved the Riolo Vineyards and Regional University development projects, and has identified the Curry Creek area for development, all located northwest of the project site. These projects would include their own infrastructure extensions and it is not planned that they would rely on the infrastructure improvements of the Proposed Action.

Therefore, development further west into southwestern Placer County would still occur if the Proposed Action is not developed; however, implementation of the Proposed Action or alternatives could facilitate future growth through the extension and widening of major roadways such as Baseline Road.

5.5.2 Economic Effects

The analysis of economic effects is based on the multiplier effect. A "Multiplier" is an economic concept that describes inter-relationships among various sectors of the economy. The multiplier effect provides a quantitative description of the direct employment effect of a project, as well as indirect and induced employment growth. The multiplier effect acknowledges that the on-site employment and population growth of each project is not the complete picture of growth caused by the project (Placer County 2006).

Stimulation of Economic Activity

The proposed land uses included in the Proposed Action (Base Plan) are anticipated to generate approximately 7,824 direct jobs.[1] Additional local employment can be generated indirectly through expenditure patterns of direct employment associated with the project. For example, workers in offices in the commercial and business professional zones of the Proposed Action would spend money in the local economy. These employee expenditures would result in additional jobs. Indirect jobs tend to be in

[1] This figure is derived from Table 4.10-14, p, 4.10-25, Volume II Placer Vineyards Specific Plan Revised Draft EIR, March, 2006.

relative proximity to the places of employment and residences. In addition to direct and indirect employment, the Proposed Action may also result in induced employment. Induced employment follows the economic effect of employment beyond the expenditures of the employees within a project area to include jobs created by the stream of goods and services necessary to support businesses within the project. For example, when a manufacturer buys products or sells products, the employment associated with those transactions are considered induced employment.

The indirect jobs multiplier effect and induced jobs multiplier effect are shown in **Table 5.0-1, Employment Growth**, below. The multipliers were determined using the Association of Bay Area Government's (ABAG) San Francisco Bay Area Input-Output model's estimates.

Table 5.0-1
Employment Growth under the Baseline Scenario

Project Component	Direct Employment	Indirect Multiplier	Indirect Employment	Induced Multiplier	Induced Employment	Total Direct, Indirect and Induced Employment
Commercial	3,636	0.07	255	2.56	653	4,544
Commercial Office (Business Professional)	3,400	0.47	1,598	5.26	8,406	13,404
Public School	788	0.47[1]	370	5.26[1]	1,946	3,104
Total	**7,824**		**2,223**		**11,005**	**21,052**

Source: Placer Vineyards Specific Plan Revised Draft EIR, Hausrath Economics Group (HEG) Placer Vineyards Specific Plan Baseline Fiscal Impact Analysis, January 2006

[1] *It is assumed that the indirect and induced factor for public school employees is the same for business professionals.*

Increased future employment generated by resident and employee spending ultimately results in physical development of space to accommodate those employees. It is the characteristics of this physical space and its specific location that will determine the type and magnitude of environmental impacts of the additional economic activity. Although the economic effect can be estimated, the actual environmental implications of this type of economic growth are too speculative to predict or evaluate, because they can be spread throughout the Sacramento metropolitan region and beyond.

5.6 ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Construction and operation of the Proposed Action would result in an increase in energy demand over existing conditions. Energy would be required to build and maintain commercial, residential, and other uses proposed under the Specific Plan. Short-term energy use would be associated with the operation of construction vehicles and equipment used to construct the proposed community. Long-term energy use would be mostly associated with the use of electricity and natural gas in the homes and businesses and the use of fuel in vehicles traveling to and from the project site. All new buildings that are constructed

would be subject to Title 24 of the California Code of Regulations which establishes energy efficiency standards for new development in the state.

Demand for electricity and natural gas is evaluated in **Impact UTIL-5, Increased Demand for Electricity, Natural Gas, and Telecommunications,** in **Section 3.15**. In addition, the proposed **PVSP EIR Mitigation Measure 4.11.5-1b** would require the implementation of energy efficiency and conservation strategies to minimize energy use.

5.7 COMPLIANCE WITH OTHER ENVIRONMENTAL LAWS AND REGULATIONS

5.7.1 Federal

National Environmental Policy Act

The National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321; 40 CFR §1500.1) applies to all federal agencies that manage, regulate, or fund projects or programs that could have environmental effects. It requires federal agencies to disclose and consider the environmental implications of their proposed actions. NEPA requires the preparation of an appropriate document to ensure that federal agencies accomplish the law's purposes.

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) was enacted in 1981 to minimize the conversion of the nation's farmland to non-agricultural uses under federal projects and programs. The Act assures that—to the extent possible—federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners.

For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. The Natural Resources Conservation Service (NRCS), which is an agency of the U.S. Department of Agriculture, oversees the FPPA and maintains an inventory of farmland in the U.S. The NRCS delegates the responsibility for designating farmland to appropriate local and state officials. The California Farmland Mapping and Monitoring Program (FMMP) is a supporting program that maps farmland in the State of California.

Clean Air Act

The federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. Basic elements of the act include national ambient air quality standards for major air pollutants, hazardous air pollutants standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

In the 1990 CAA Amendments, Congress added specific provisions to the conformity requirements for transportation actions. "Conformity" requires that federal agencies demonstrate their actions' consistency with State Implementation Plans. These conformity requirements have also been determined to apply to air quality. A U.S. Environmental Protection Agency (USEPA) final rule states that a conformity determination of a federal action is required for "each pollutant where the total of direct and indirect emissions" caused by the action equals or exceeds the emissions limits established in the rule.

Endangered Species Act

The Endangered Species Act (ESA) of 1973, as amended, protects fish and wildlife species, and their habitats that have been identified as Threatened or Endangered. Section 7 of the ESA requires federal agencies to aid in the conservation and recovery of listed species and to ensure that their activities will not jeopardize the continued existence of listed species or adversely modify designated critical habitat. The U.S. Fish and Wildlife Service (USFWS) in the Department of the Interior and the National Oceanic and Atmospheric Administration Fisheries in the Department of Commerce share responsibility for administration of the federal ESA.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 protects migratory bird species from take. Take, under the MBTA, is defined as the action of, or an attempt to, pursue, hunt, shoot, capture, collect, or kill (50 Code of Federal Regulations [CFR] 10.12). The definition differentiates between "intentional" take (take that is the purpose of the activity in question) and "unintentional" take (take that results from, but is not the purpose of, the activity in question). Under the MBTA, projects that are likely to result in take of birds protected under the MBTA would require the issuance of take permits from the USFWS. Activities that would require such a permit would include destruction of migratory bird nesting habitat during the nesting season when eggs or young are likely to be present.

National Historic Preservation Act

The National Historic Preservation Act (NHPA), as amended, directs federal agencies to integrate historic preservation into all activities that either directly or indirectly involve land use decisions. The NHPA establishes the National Register of Historic Places, and defines federal criteria for determining the historical significance of archaeological sites, historic buildings and other resources. Under Section 106 of the NHPA the lead federal lead agency is required to identify the area of potential effects for its undertaking; to identify any potential historic properties within the area of potential effects; to apply the National Register criteria of significance to determine whether any of the identified properties qualify as historic properties (that is, cultural resources that meet the significance criteria that determine their eligibility for listing on the National Register of Historic Places); and determine whether the undertaking's effects on eligible historic properties would be adverse. The NHPA is administered by the National Park Service, the Advisory Council on Historic Preservation, State Historic Preservation Office (SHPO), and each federal agency.

Executive Order 12898 – Environmental Justice

On February 11, 1994, the President issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The order focuses federal attention on the relationship between the environment and human health conditions of minority communities and calls on agencies to make achieving environmental justice part of their mission. The Order requires the USEPA and all federal and state agencies receiving federal funds to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. It also requires the agencies to develop strategies to address this problem.

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act—enacted in 1977 and amended several times, most recently in 2004—established the National Earthquake Hazards Reduction Program (NEHRP) as a means to address earthquake risks to life and property in the nation's seismically active states, including but not limited to California. The Act charges NEHRP with the following specific activities.

- Developing effective measures for earthquake hazards reduction.
- Promoting the adoption of earthquake hazards reduction measures at federal state and local levels through a program of grants, contracts, cooperative agreements, and technical assistance; and through the development of standards, guidelines, and voluntary consensus codes for earthquake hazards reduction for buildings, structures, and lifelines.
- Developing and maintaining a repository of information on seismic risk and hazards reduction.
- Improving the understanding of earthquakes and their effects through interdisciplinary research that involves engineering, natural sciences, and social, economic, and decisions sciences.
- Developing, operating, and maintaining an Advanced National Seismic Research and Monitoring System.

NEHRP is overseen by the Interagency Coordinating Committee on Earthquake Hazards Reduction, made of the directors of the Federal Emergency Management Agency (FEMA), the United States Geological Survey (USGS); the National Science Foundation; the Office of Science and Technology Policy; and the Office of Management and Budget.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 provides the USEPA with authority to require reporting, record-keeping, and testing requirements, and restrictions relating to chemical substances and/or mixtures. TSCA addresses the production, importation, use, and disposal of specific chemicals including PCBs, asbestos, radon, and lead-based paint. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics and pesticides. For the past decade, the USEPA has focused efforts on protecting citizens from existing chemicals by making basic screening-level toxicity information publicly available. In 2008, the USEPA expanded those efforts with the Chemical Assessment and Management Program (ChAMP).

Solid Waste Disposal Act and Resource Conservation and Recovery Act

The Solid Waste Disposal Act (SWDA) (42 USC Sections 6901–6992(k)), which includes as a subsection the Resource Conservation and Recovery Act (RCRA) (42 USC sections 6921–6939(e)), creates a "cradle-to-grave" (from manufacture to disposal) regulatory system for hazardous wastes, and delegates substantial authority to the states for waste management under USEPA supervision. RCRA requires the USEPA to adopt criteria for identifying hazardous wastes, to formulate a list of "designated" hazardous wastes, and to set forth standards for facilities that handle them.

Comprehensive Environmental Response, Compensation and Liability Act

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 USC sections 9601–9675), which was later amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), sets forth regulations for cleanup of hazardous wastes after improper disposal; identifies federal response authority; and outlines responsibilities and liabilities of "potentially responsible parties"— those parties who have control over the hazardous material itself, the property where hazardous material has been disposed or spilled, the vehicle that it was spilled from, etc. The CERCLA also specifies where Superfund money can be used for site cleanup. Notably, CERCLA cross-references other statutes for hazardous material definition, but permits the USEPA to add materials as their hazardous properties become known.

Clean Water Act

The Clean Water Act (CWA) is the principal federal law protecting the quality and integrity of the nation's surface waters. The CWA offers a range of mechanisms to reduce pollutant input to waterways, manage polluted runoff, and finance municipal wastewater treatment facilities. Permit review serves as the CWA's principal regulatory tool; CWA regulation operates on the premise that all discharges to jurisdictional waters are unlawful unless specifically authorized by a permit.

Under Section 404 of CWA, discharges of dredged or fill material into "waters" of the U.S. are prohibited without a permit from the USACE. Among other regulatory program requirements, an applicant for a Department of the Army (DA) permit involving a discharge must demonstrate under USEPA's 404(b)(1) guidelines that the proposed activity is the least environmentally damaging practicable alternative that achieves the project's overall purpose.

Section 401 of the CWA requires certification from the state to ensure compliance with state water quality standards for any activity that may result in a discharge to a water body. A project that would result in the discharge of any pollutant, including soil, into waters and wetlands requires coordination with the appropriate California Regional Water Quality Control Board to obtain Section 401 certification.

Section 303(d) requires states to list surface waters not attaining (or not expected to attain) water quality standards after the application of technology-based effluent limits, and states must prepare and implement a total maximum daily load for all listed waters. For point source discharges to surface water, the Clean Water Act authorizes the USEPA or approved states to administer the National Pollutant Discharge Elimination System (NPDES) Program.

Safe Drinking Water Act

The Safe Drinking Water Act of 1974, amended in 1986 and again in 1996, is the cornerstone federal law protecting drinking water quality. It gives the USEPA authority to establish drinking water standards and to oversee the water providers (cities, counties, water districts, and agencies) who implement those standards, and also includes provisions for the protection of surface waters and wetlands in support of drinking water quality.

In California, the USEPA delegates some of its Safe Drinking Water Act implementation authority to the California Department of Public Health's Division of Drinking Water and Environmental Management (DPH), which administers a wide range of regulatory programs relevant to potable water supply quality and safety.

5.7.2 State

Williamson Act

The California Land Conservation Act, also known as the Williamson Act, was adopted in 1965 in order to encourage the preservation of the state's agricultural lands and to prevent its premature conversion to urban uses. In order to preserve these uses, this act established an agricultural preserve contract procedure by which any county or city within the state taxes landowners at a lower rate using a scale based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. In return, the owners guarantee that these properties would remain under agricultural production for a 10-year period. This contract is renewed automatically unless a notice of non-renewal is filed by the owner. In this manner, each agricultural preserve contract (at any given date) is always operable at least nine years into the future. As part of the Williamson Act, the state provides subventions to local participating governments. Subventions provide fiscal assistance to local governments to take part in the land preservation program.

California Clean Air Act

The California Clean Air Act (CCAA) establishes an air quality management process that generally parallels the federal process. The CCAA focuses on attainment of the state ambient air quality standards that are more stringent than the federal standards for certain pollutants and measurement periods.

The CCAA requires that air districts prepare an air quality attainment plan if the district violates state air quality standards for carbon monoxide, sulfur dioxide, nitrogen oxide, and ozone, but does not require an attainment plan for exceedances in particulate matter 10 microns in diameter or smaller (PM10) standards. The CCAA requires that the state air quality standards be met as expeditiously as practicable, but it does not set precise attainment deadlines.

The air quality attainment plan requirements established by the CCAA are based on the severity of air pollution problems caused by locally generated emissions. Upwind air pollution control districts are required to establish and implement emission control programs commensurate with the extent of pollutant transport to downwind districts.

California Air Resources Board and Ambient Air Quality Standards

The State of California and the federal government have established ambient air quality standards for several different pollutants. For some pollutants, separate standards have been established for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other standards, such as protection of crops, materials, or avoidance of nuisance conditions.

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Section 2050 et seq.) establishes state policy to conserve, protect, restore, and enhance Threatened or Endangered species and their habitats. CESA mandates that state agencies should not approve projects that jeopardize the continued existence of Threatened or Endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that would affect a species that is both federally and state-listed, compliance with ESA satisfies CESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with CESA under California Fish and Game Code Section 2080.1. The CDFW administers CESA and authorizes take through Section 2081 on a discretionary basis and with the issuance of an incidental take permit (except for species designated as fully protected).

California Native Plant Protection Act

The California Native Plant Protection Act preserves, protects, and enhances Endangered native plants in California. The act gave the California Fish and Game Commission the power to designate native plants as Endangered, Threatened, or Rare, and to require permits for collecting, transporting, or selling such plants.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is the principal state law governing water quality regulation in California. The Porter-Cologne Act established a comprehensive program to protect water quality and the beneficial uses of water, and established the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) which are charged with implementing its provisions, and which have primary responsibility for protecting water quality in California. The SWRCB is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies, but much of the daily implementation of water quality regulations is carried out by the nine RWQCBs.

The RWQCBs issue NPDES permits for waste discharges to surface water from both point and nonpoint sources. The NPDES permit system includes an individual permit system for municipal wastewater treatment plants and several categories of stormwater discharges. General NPDES stormwater permits apply to industrial facilities and any general ground-disturbing construction activity greater than 1 acre (0.4 hectare). Before construction of such projects, applicants must submit a Notice of Intent (NOI) to the RWQCB and prepare a Storm Water Pollution Prevention Plan (SWPPP). A SWPPP generally describes

proposed construction activities, receiving waters, stormwater discharge locations, and best management practices that will be used to reduce project construction effects on receiving water quality.

California Health and Safety Code 7050.5 and Public Resources Code 5097.98

Under the California Health and Safety Code, the intentional disturbance, mutilation, or removal of interred human remains is a misdemeanor. The code requires that, upon discovery of human remains outside of a dedicated cemetery, the County Coroner must be notified and further ground disturbance must cease until the County Coroner makes a report determining whether the find represents a crime scene or a Native American burial. If the Coroner recognizes the remains to be those of a Native American, he must contact the Native American Heritage Commission (NAHC) within 24 hours. Public Resources Code 5097.98 sets forth procedures by which the NAHC may identify a Most Likely Descendant, who may inspect the remains and consult with the landowner to provide for the respectful treatment and/or reinterment of the remains.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (California Public Resources Code Sec 2621 et seq.) charges the State of California with defining hazard corridors (Earthquake Fault Zones) along active faults, within which local jurisdictions must strictly regulate construction; in particular, the Act prohibits construction of structures intended for human occupancy (defined for purposes of the Act as more than 2,000 person-hours per year) across active faults. The Act establishes a legal definition for the term active, defines criteria for identifying active faults, and establishes a process for reviewing building proposals in and adjacent to defined Earthquake Fault Zones, to be implemented by the state's local jurisdictions (cities and counties), who typically do so through the building permit review process.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (California Public Resources Code Sections 2690–2699.6) addresses secondary earthquake-related hazards, including liquefaction and seismically induced landslides. Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act charges the state with mapping areas subject to hazards, and makes cities and counties responsible for regulating development for human occupancy within mapped Seismic Hazard Zones. In practice, as with the Alquist-Priolo Act, local jurisdiction building permit review serves as the primary mechanism for controlling public exposure to seismic risks, since cities and counties are prohibited from issuing development permits for sites within Seismic Hazard Zones until or unless appropriate site-specific geologic/geotechnical investigations have been carried out and measures to avoid or reduce damage have been incorporated into the development proposal. Like the Alquist-Priolo Earthquake Fault Zone Maps, the maps produced by the Seismic Hazards Mapping Program are useful as a first-order risk assessment tool for liquefaction and seismically induced landslide risks to projects of all types, although the Seismic Hazards Mapping Act, like the Alquist-Priolo Act, actually regulates only construction for human occupancy.

California Building Standards Code

The State of California's minimum standards for structural design and construction are given in the California Building Standards Code (CBSC) (CCR Title 24). The CBSC is based on the federal UBC (International Code Council 1997), which is used widely throughout United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for California conditions with numerous, more detailed or more stringent regulations. The CBSC provides standards for various aspects of construction, including but not limited to, excavation, grading, and earthwork construction; fills and embankments; expansive soils; foundation investigations; and liquefaction potential and soil strength loss.

Hazardous Waste Control Act

The California Hazardous Waste Control Act (HWCA) is the primary state law that regulates hazardous waste and hazardous waste disposal facilities, and is administered by the DTSC. Like the federal RCRA, the HWCA regulates transportation and disposal of hazardous wastes, sets forth hazardous waste facility standards and directs administrative and enforcement procedures. It also lists and categorizes specific hazardous wastes.

Safe Drinking Water and Toxic Enforcement Act

The Safe Drinking Water and Toxic Enforcement Act, commonly referred to by its ballot measure, Proposition 65, prohibits businesses from discharging known carcinogens or reproductive toxins into sources of drinking water, and requires businesses (such as grocery stores) to warn persons about possible exposure on the business premises to such carcinogens or toxins.

State Senate Bills 610 and 221

In 2001, the California Legislature passed Senate Bills 610 (Water Code Section 10910 et seq.) and Senate Bill 221 (Water Code Section 66473.7) to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 were companion measures which sought to promote more collaborative planning between local water suppliers and cities and counties.

Senate Bill 610 requires the preparation of "water supply assessments" (WSAs) for large developments (i.e., more than 500 dwelling units or nonresidential equivalent). These assessments, prepared by "public water systems" responsible for serving project areas (in this case, the City itself), address whether existing and projected water supplies are adequate to serve the project while also meeting existing urban and agricultural demands and the needs of other anticipated development in the service area in which the project is located. Senate Bill 221 requires cities and counties to include, as a condition of approval of such tentative maps, the preparation of a "water supply verification." The verification, which must be completed by no later than the time of approval of final maps, is intended to demonstrate that there is a sufficient water supply for the newly created residential lots.

5.7.3 Plans and Policies

Placer County General Plan

The Placer County General Plan sets forth goals, policies, and actions that are applicable to the proposed project with respect to the following resource categories:

- Health and Safety
- Land Use
- Noise
- Public Facilities and Services

Placer County Grading, Erosion and Sediment Control Ordinance

The County's Grading, Erosion and Sediment Control (Placer County Code Chapter 15.48) requires a grading permit (Grading Plan approval) for fill or excavation greater than 250 cubic yards (191 cubic meters), cuts or fills exceeding 4 feet (1.2 meters) in depth, soil disturbances exceeding 10,000 square feet (929 square meters), grading within or adjacent to a drainage course or wetland, and grading within a floodplain. For many types of grading, a grading plan must be submitted and approved before grading may proceed. In addition, a soil or geologic investigation report is required if grading includes cut or fill exceeding 10 feet (3 meters) in depth, when highly expansive soils are present, and in areas of known or suspected geological hazards.

Water Forum Agreement

The Water Forum Agreement (WFA) is the result of the efforts of a diverse group of community stakeholders. The stakeholder group was formed in 1994 with the goal to formulate principles for developing solutions to meet future regional water supply needs. The objectives of the Water Forum Plan are to: (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 first objective is to be met by additional diversions of surface water, increased conjunctive use of surface water and groundwater, expanded water conservation, and water reclamation. The second objective includes development of responsible and feasible alternatives to improve fish flow patterns, reduce daily flow fluctuations, and improve in-stream harvest.

Western Placer Groundwater Management Plan

The Western Placer Groundwater Management Plan (WPCGMP) was developed by the Cities of Roseville and Lincoln in partnership with the Placer County Water Agency and the California American Water Company in response to Senate Bill (SB) 1938 requirements. The goal of the plan is to "maintain the quality and ensure the long term availability of groundwater to meet backup, emergency, and peak demands without adversely affecting other groundwater uses within the WPCGMP area."

5.7.4 Methods of Compliance

Table 5.0-2 provides a listing of the applicable laws, policies, and permit requirements that need to be addressed as part of implementing any of the EIS alternatives. Included is the method of compliance, which could be the assessment of a resource area in this EIS, obtaining a permit or approval from a county or local agency, or additional consultation with federal or state agencies.

Table 5.0-2
Compliance with Applicable Laws, Policies, Plans, and Permit Requirements

Applicable Laws, Policies, Plans, and Permit Requirements	Method of Compliance
Federal	
National Environmental Policy Act	Addressed in EIS
Farmland Protection Policy Act	Addressed in EIS
Clean Air Act	Addressed in EIS
Endangered Species Act	Consultation with USFWS and National Marine Fisheries Service
Migratory Bird Treaty Act	Addressed in EIS
National Historic Preservation Act	Addressed in EIS; Consultation with SHPO
Executive Order 12898 – Environmental Justice	Addressed in EIS
Earthquake Hazards Reduction Act	Addressed in EIS
Federal Antiquities Act	Addressed in EIS
National Natural Landmarks Program	Addressed in EIS
Toxic Substances Control Act	Addressed in EIS
Solid Waste Disposal Act and Resource Conservation Recovery Act	Addressed in EIS
Comprehensive Environmental Response, Compensation, and Liability Act	Addressed in EIS
Clean Water Act	DA permit under Section 404 of CWA; water quality certification under Section 401 of CWA
Safe Drinking Water Act	Ongoing reporting to California Department of Public Health
State	
Williamson Act	Addressed in EIS
California Clean Air Act	Addressed in EIS
California Air Resources Board and Ambient Air Quality Standards	Addressed in EIS
California Endangered Species Act	Addressed in EIS
California Native Plant Protection Act	Addressed in EIS
Porter-Cologne Water Quality Control Act	Addressed in EIS; CWA 401 permits
California Health and Safety Code 7050.5 and Public Resources Code 5097.98	Addressed in EIS
Alquist-Priolo Earthquake Fault Zoning Act	Addressed in EIS
Seismic Hazards Mapping Act	Addressed in EIS

Applicable Laws, Policies, Plans, and Permit Requirements	Method of Compliance
California Building Standards Code	Addressed in EIS
Hazardous Waste Control Act	Addressed in EIS
Safe Drinking Water and Toxic Enforcement Act	Addressed in EIS
State Senate Bills 610 and 221	Addressed in EIS
Local	
Placer County General Plan	Addressed in EIS
Placer County Grading, Erosion and Sediment Control Ordinance	NPDES Permit Compliance
Water Forum Agreement	Addressed in EIS
Western Placer Groundwater Management Plan	Addressed in EIS

Notes: CWA = Clean Water Act, EIS = Environmental Impact Statement, NPDES = National Pollutant Discharge Elimination System,
SHPO = State Historic Preservation Office, USFWS = United States Fish and Wildlife Service.

5.8 REFERENCES

Placer County. 2006. "Final Environmental Impact Report for the Placer Vineyards Specific Plan." Quad Knopf.

6.0 CONSULTATION AND COORDINATION

6.1 PUBLIC INVOLVEMENT

This section describes the public involvement activities that have occurred during the development of this document.

6.2 PUBLIC SCOPING

On March 16, 2007, the U.S. Army Corps of Engineers (USACE) published a Notice of Intent (NOI) in the Federal Register to prepare an Environmental Impact Statement (EIS) for the Placer Vineyards Specific Plan project. The NOI provided information on the proposed Placer Vineyards Specific Plan and EIS preparation, and provided information about the public scoping meetings and directions for submitting scoping comments. On March 28, 2007, the USACE and Placer County held two public meetings to support scoping under the National Environmental Policy Act (NEPA). The scoping meetings were noticed in local newspapers and letters were also sent to local agencies and stakeholders. The meetings were held at the Placer County Community Development Resource Center, Planning Commission Hearing Room, 3091 County Center Drive, in Auburn, California. Comments were accepted during the scoping meeting and throughout the comment period, which ended on April 12, 2007. Written comments were received during the scoping period from federal, state, and local agencies, and the general public in addition to verbal comments. Refer to **Appendix 1.0** for a summary of the meeting materials and comments provided during scoping.

6.3 AGENCY COORDINATION

On December 30, 2009, the USACE requested the U.S. Environmental Protection Agency (USEPA), National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) cooperate in the preparation of the EIS because of their expertise with regard to aquatic resources and endangered species, respectively. The USEPA accepted the role of cooperating agency on January 21, 2010, and participated in project meetings and provided input during the preparation of the Draft EIS. The NMFS declined the role of cooperating agency on June 11, 2010. USFWS did not respond to the USACE request but did provide input during the preparation of this Draft EIS.

6.4 DOCUMENT AVAILABILITY

This document is posted on the USACE website at:

http://www.spk.usace.army.mil/Missions/Regulatory/Permitting/EnvironmentalImpactStatements.aspx.

A hardcopy of this document is also available to the public at the USACE address found below. Comments on this document must be submitted within 45 days of the publication of the Notice of Availability. All comments should reference USACE ID SPK-1999-00737 in the subject line and be sent to:

U.S. Army Corps of Engineers, Sacramento District
Regulatory Division
Attn: Will Ness
1325 J Street, Room 1350
Sacramento, California 95814-2922

Fax: (916) 557-6877

Electronic Mail: DLL-CESPK-RD-EIS-Comments@usace.army.mil

Web site: www.spk.usace.army.mil

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7.3 SUBCONSULTANTS

Name	Qualifications	Participation
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8.0 INDEX

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