
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. 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 publication 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 (CIA). These steps include the following: (1) identify resources to consider in the CIA; (2) define the timeframe for CIA; (3) define study area for each resource; (4) identify past, 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 (Corps) used NEPA guidance to identify resource topics that would be considered in the CIA (40 CFR 1508.25). From a review of the likely environmental impacts analyzed in **Chapter 3.0, Affected Environment and Environmental Consequences**, the Corps determined that the analysis of cumulative impacts would be limited to the following resource topics: Aquatic Resources and potential Waters of the U.S. (WOUS), Other 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 (for example, 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 (for example, 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, Climate Change**, is inherently a cumulative impact assessment. Similarly, the traffic analysis in **Section 3.14, Transportation and Traffic**, evaluates the effects from traffic that would result from growth in regional traffic through 2035 combined with the growth in traffic due to the Proposed Action or an alternative at buildout. That analysis, therefore, presents the cumulative traffic impacts that were determined to be significant. Mitigation measures are proposed to address the Proposed Action's contribution to the cumulative traffic impacts.

4.2.2 Definition of Timeframe for Cumulative Impact Analysis

For each resource topic that was carried forth, the timeframe for the CIA was defined to include past, present, and foreseeable future development that is anticipated in the next 18 to 20 years through approximately 2035. This is because applicable regional and general plans that cover the project area extend no further than 2035, and future development that would occur after 2035 cannot be predicted with the information available at this time.

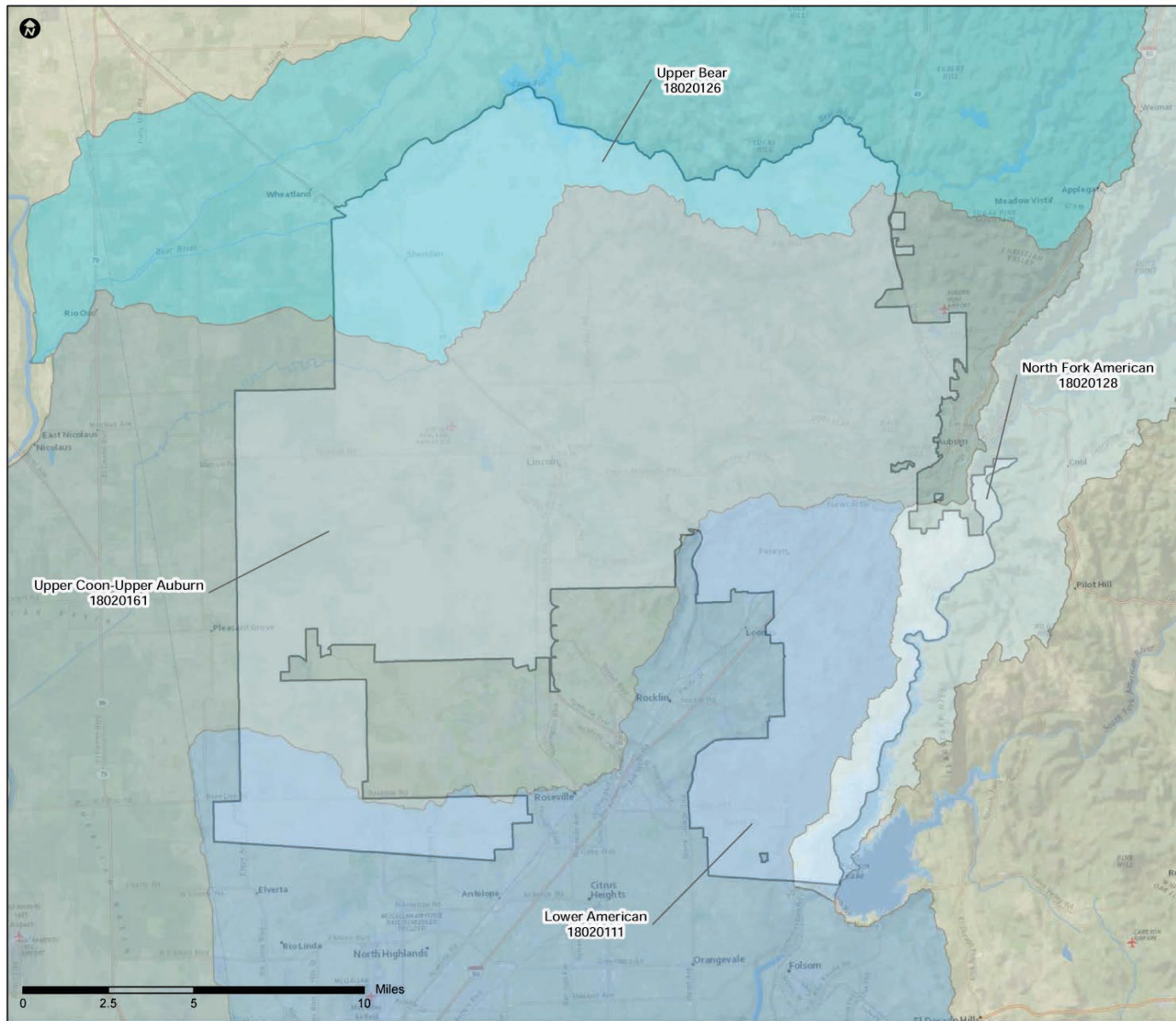
With respect to cumulative impacts on aquatic resources and potential WOUS, the analysis in this Draft EIS is substantially based on a CIA prepared by the Corps in 2016 for past, present, and foreseeable future loss of aquatic resources within the Placer County Conservation Plan (PCCP) Area, supplemented by a search of the Corps's Ombil Regulatory Module 2 (ORM2) database for acres of permitted fill within the Cities of Roseville and Rocklin, which are not participating in the PCCP; and therefore, were not included in the 2016 CIA prepared for the PCCP. The temporal scope of that study extends from approximately 1989 (or the first documented Corps' permit action recorded within the study area) to the "reasonably foreseeable" future (or 2035).

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 – Potential Waters of the United States and Other Biological Resources

The study area for cumulative impacts to aquatic resources, including potential WOUS, and other biological resources was defined to include the Placer County portion of the 8-digit HUC watershed that the project would be located in, which is the Upper Coon-Upper Auburn watershed (HUC 18020161). The Placer County portion of this HUC includes lands that fall within unincorporated Placer County, and portions of the Cities of Lincoln, Roseville and Rocklin (**Figure 4.0-1**).



**8-Digit HUCs
(Hydrologic Unit Codes)
in PCCP Area**

Legend

8-Digit HUC

- Lower American
18020111
- North Fork American
18020128
- Upper Bear
18020126
- Upper Coon-Upper Auburn
18020161

PCCP Area

Total Acres: 210,216.78

8-Digit HUC Name	Acres in PCCP
Lower American	39,710.07
Upper Bear	33,292.44
North Fork American	9,970.19
Upper Coon-Upper Auburn	127,244.08



Coordinate System: NAD 1983 UTM Zone 10N
 Projection: Transverse Mercator
 Datum: North American 1983

SOURCE: US Army Corps of Engineers, 2018

FIGURE 4.0-1

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, Sunset Boulevard West.

The study area for cumulative impacts to farmland is defined to include southwestern Placer County, which contains a wide range of agricultural uses, from grazing and row crops to orchards, and contain soils that are similar to those on 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 southwestern Placer County because, to the extent that there are any pre-historic and historic resources within the project APE, 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, cumulative impacts on cultural resources under the Proposed Action are not anticipated to cumulate from impacts of projects outside of southwestern Placer County.

The study area for cumulative effects to surface water hydrology and water quality is Pleasant Grove Creek watershed 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 (or an alternative) would result in noise both within 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 cumulative context 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 City of Roseville and the Placer County Water Agency for water supply; the City of Roseville's service area for wastewater, and the service area of the regional landfill for solid waste impacts.

4.2.4 Identification of Other Past, Present, and Reasonably Foreseeable Future Actions and Projects

For purposes of analyzing cumulative impacts on aquatic resources and potential WOUS, reasonably foreseeable projects were considered to be those where:

- The Corps is currently reviewing a Department of the Army (DA) permit application.
- A DA permit application has been withdrawn, but based on available information, the proposed project is located within the areas identified for growth under the PCCP.

- The Corps anticipates a DA permit application will be submitted in the reasonably foreseeable future. This includes actions for which a pre-application meeting has been scheduled or completed within the last 5 years, or actions for which a jurisdictional determination has been completed and the Corps believes that an application may be submitted in the reasonably foreseeable future.

With respect to other cumulative impacts, reasonably foreseeable projects and actions were identified based on growth projections in the City of Roseville General Plan, City of Lincoln General Plan, Placer County General Plan, the proposed Placer County Conservation Plan (PCCP), and the growth projections provided by the Sacramento Area Council of Governments (SACOG). In order to provide a more detailed analysis of certain cumulative impacts, these projections were supplemented by a list of reasonably foreseeable projects. The lists were developed by contacting the Cities of Roseville, Lincoln, and Placer County. Each of the plans/projections used in developing the CIA is presented below, including lists of reasonably foreseeable projects in each jurisdiction.

Reasonably Foreseeable Future Actions under the City of Roseville General Plan

The City of Roseville General Plan, adopted by the City Council in 2016 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 boundaries is fully entitled for future development, and according to development projections is anticipated to be built out by 2035.

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 (WRSP) area, to the southeast of the project site, is currently under development.
- Sierra Vista Specific Plan (SVSP) which includes the Westbrook project, is an approved specific plan for the development of an approximately 1,600-acre site to the south of a project site with approximately 8,679 residential units, commercial areas, parks, schools, and open space. A DA permit has been issued to the project and a portion of the project site is currently under construction.
- Creekview Specific Plan (CSP) is an approved specific plan for the development of an approximately 500-acre 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. A DA permit has been issued to the project.
- Al Johnson Wildlife Area is a 1,700-acre 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.
- Hewlett Packard Campus Oaks Project, a Rezone, General Plan Amendment, Master Plan Amendment and Development Agreement for a 189-acre portion of the HP property located approximately three miles southeast of the project site. The project proposes developing the site as a mixed use project referred to as "Campus Oaks" that would include residential uses of varying densities, commercial and office/tech uses, parks, and a fire station. The first phases of the project area currently under development.

Reasonably Foreseeable Future Actions under the Placer County General Plan

The Placer County General Plan, adopted by the Board of Supervisors in 1994 and updated most recently in 2013, 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.

The County has approved several large development and infrastructure projects in the vicinity of the Proposed Action in the last several years. These include:¹

- Placer Vineyards Specific Plan area, which is a County-approved mixed-use project on approximately 5,000 acres with approximately 14,000 residential units and 6 million square feet of non-residential development. The Corps is currently evaluating a permit application to construct the Placer Vineyards Specific Plan (PVSP) - Infrastructure Segment N project.
- Riolo Vineyards Specific Plan site, which is a 500-acre residential community subdivision. A DA permit has been issued to the project.
- The Regional University and Community Specific Plan project is an approximately 1,100-acre site, located west of the project site. It includes a 600-acre area designated for a private university campus, and other areas designated for residential and commercial uses.
- The Placer Parkway Corridor has been selected and approved by Placer County. The proposal is to eventually construct an approximate 15-mile-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 northern portion of the project site.
- Placer Ranch Specific Plan includes 2,213 acres within the County's Sunset Industrial Area (SIA). Placer County is currently considering a specific plan for the Placer Ranch area as part of an update to the SIA plan (now renamed Sunset Area Plan (SAP)). Development under the Placer Ranch Specific Plan would include residential development, non-residential commercial and industrial development, and a 300-acre university campus site.
- An expansion of the Western Regional Sanitary Landfill operated by the Western Placer Waste Management Authority.
- Curry Creek Community Plan, located west of the SVSP and WRSP. While the Board of Supervisors gave direction to County Staff to proceed with studying the area for future development in 2003, no formal community plan is pending at this time.

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 west of the project 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 at buildout in the year 2050.

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 growth that promotes compact, mixed-use development and more transit choices as an alternative to low-density development. The eastern half of the project site, which includes the Proposed Action and on-site alternatives, is designated in the SACOG Blueprint for attached residential uses and industrial 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 February 2016, SACOG adopted the 2016 Metropolitan Transportation Plan (MTP)/Sustainable Communities Strategy (SCS) as required by Senate Bill 375. SB 375 requires the formation of a SCS to reach greenhouse gas target emissions by reducing vehicle miles. The 2016 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 2036. The 2016 MTP/SCS accommodates another 811,000 residents, 439,000 new jobs, and 285,000 new homes with a transportation investment strategy of \$35 billion.

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), and the City of Lincoln) and state and federal agencies (Department of

Fish and Game (CDFG), U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), Corps, U.S. Environmental Protection Agency (USEPA), and the California Regional Water Quality Control Board (RWQCB)). 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 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 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 PCCP covers approximately 212,000 acres in the City of Lincoln and unincorporated Placer County. The 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, as a first step it was determined whether the Proposed Action in conjunction with other past, current, and reasonably foreseeable future actions would result in a significant cumulative impact.

For those cumulative impacts that were determined to be significant, the Proposed Action's contribution to the cumulative impact was evaluated to determine whether the contribution would be significant.

As a last step, for those cumulative impacts that were determined to be significant, mitigation measures were identified to be implemented by either the Applicant or the Corps, 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 **Chapter 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 Potential Waters of the U.S. and Other Biological Resources

Direct and Indirect Impacts of the Proposed Action

Section 3.4, Aquatic Resources and **Section 3.5 Biological Resources**, present the direct and indirect impacts of the Proposed Action on aquatic and other biological resources on the project site and in its vicinity, including effects on sensitive natural communities, special-status plant and wildlife species, and wildlife movement. The Proposed Action would result in the discharge of dredged and/or fill material into aquatic resources and loss of potential WOUS, including direct and indirect effects on vernal pool invertebrate 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, including Swainson's hawk.

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 of the Proposed Action on western spadefoot toad and western pond turtle would be limited to potential construction-phase losses that would be minimized by **Mitigation Measure BIO-7**. Similarly, construction-phase effects on protected raptor species and nesting birds would be minimized by the implementation of **Mitigation Measure BIO-8**. The Proposed Action would not have the potential to affect Valley Elderberry Longhorn Beetle or fish species; and therefore, would not have the potential to cumulate. Thus, they are not analyzed below.

Current Status of the Resource

As noted earlier, the study area for cumulative impacts on potential WOUS is the Placer County portion of the Upper Coon-Upper Auburn watershed. Most of the study watershed falls within unincorporated Placer County and Lincoln, with portions extending into Rocklin and Roseville. The portion of the watershed within Placer County and Lincoln is part of the PCCP area and was examined in detail by the Corps in the 2016 PCCP CIA discussed above. As part of that CIA, the Corps estimated the acres of aquatic resources within the watershed (**Figure 4.0-2**), and acres filled pursuant to permits issued by the Corps (including acres that may be filled in the future in conjunction with reasonably foreseeable projects), acres created/restored due to mitigation, and the net loss/gain in aquatic resources within the PCCP portion of the watershed. The status of aquatic resources within the PCCP portion of the watershed is summarized in **Table 4.0-1** below. As the table shows, of the total aquatic resources present within the PCCP portion of the watershed, approximately 358 acres of aquatic resources have either been filled or would be filled under DA permits. While mitigation has and is expected to offset more than half of that

fill, overall a net loss of about 126 acres (or 4 percent) of aquatic resources within the PCCP portion of the watershed is anticipated.

Table 4.0-1
Status of Potential WOUS in the Upper Coon-Upper Auburn Watershed (PCCP Portion)

Aquatic Resource Type	Total Acres	Acres Filled by Past, Present and Foreseeable Projects	Acres Created due to Mitigation	Net Loss/Gain
Vernal Pool	266.92	79.26	62.50	(16.76)
Seasonal Wetlands/Swales	420.46	152.57	75.75	(76.82)
Other Waters	1,098.22	60.38	67.12	6.74
Other Aquatic Resources	1,279.22	66.37	27.06	(39.31)
Total	3,064.82	358.58	232.43	(126.15)

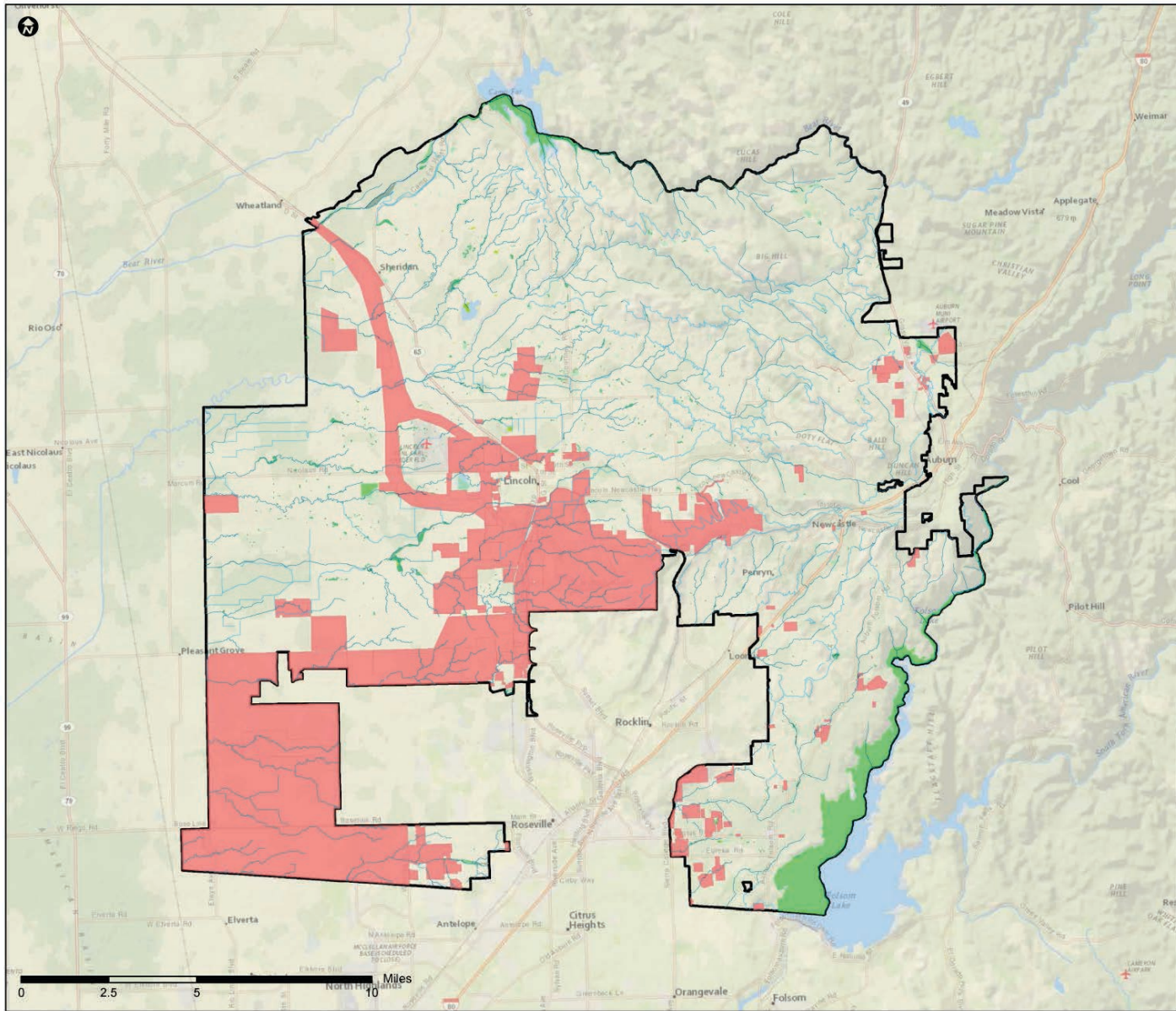
Source: USACE 2016

With respect to the portion of the watershed not covered by the 2016 PCCP CIA that lies within Roseville and Rocklin, based on the Corps' database, approximately 175 acres of fill was authorized to be discharged into aquatic resources by the Corps between 1989 and June 2018. **Figure 4.0-3** shows the locations of the permitted projects within Roseville and Rocklin. Based on the Corps' database, the projects that would result in filling of about 175 acres of WOUS in Roseville and Rocklin would provide compensatory mitigation in the form of preservation and/or reestablishment of a total of 300 acres. Therefore, there would be no net loss associated with the projects in Rocklin and Roseville, and if the affected acreage and compensatory mitigation for the Rocklin and Roseville projects are combined with the affected acreage and compensatory mitigation for projects in the rest of the Upper Coon-Upper Auburn watershed, the data suggests on a cumulative level, there would be a very small net loss (under 2 acres) of WOUS in the watershed.

Significance Thresholds

The contribution of the Proposed Action, or an alternative, to a cumulative impact on potential WOUS and other biological resources would be considered significant if the Proposed Action or an alternative would:

- Result in a net loss of aquatic resources functions and services;
- Result in an unmitigated loss of vernal pool grassland habitat; or
- Result in an unmitigated loss of wildlife foraging and movement habitat.



Aquatic Resources Overview

Legend

Acres of "Aquatic Resources" below do not overlap (data is listed in order of priority and layers below were erased so that no geographic area was duplicated between datasets).

Total Miles of NHD in PCCP Area:

- Connector: 2.83
- Canal/Ditch: 230.19
- Stream/River: 494.09
- Artificial Path (polygon length): 52.33

Total Acres of NWI in PCCP Area:

- Freshwater Emergent Wetland: 918.38
- Freshwater Forested/Shrub Wetland: 339.62
- Freshwater Pond: 1,011.96
- Lake: 4,371.07
- Other: 66.86
- Riverine: 142.34

Acres of USACE JD Acres:

- Vernal Pool: 321.91
- Seasonal Wetland: 573.62
- Wetland: 374.66
- Other Aquatic Resource: 333.64
- TOTAL JD WATERS: 1,603.83**

Total Acres of PCCP Area:

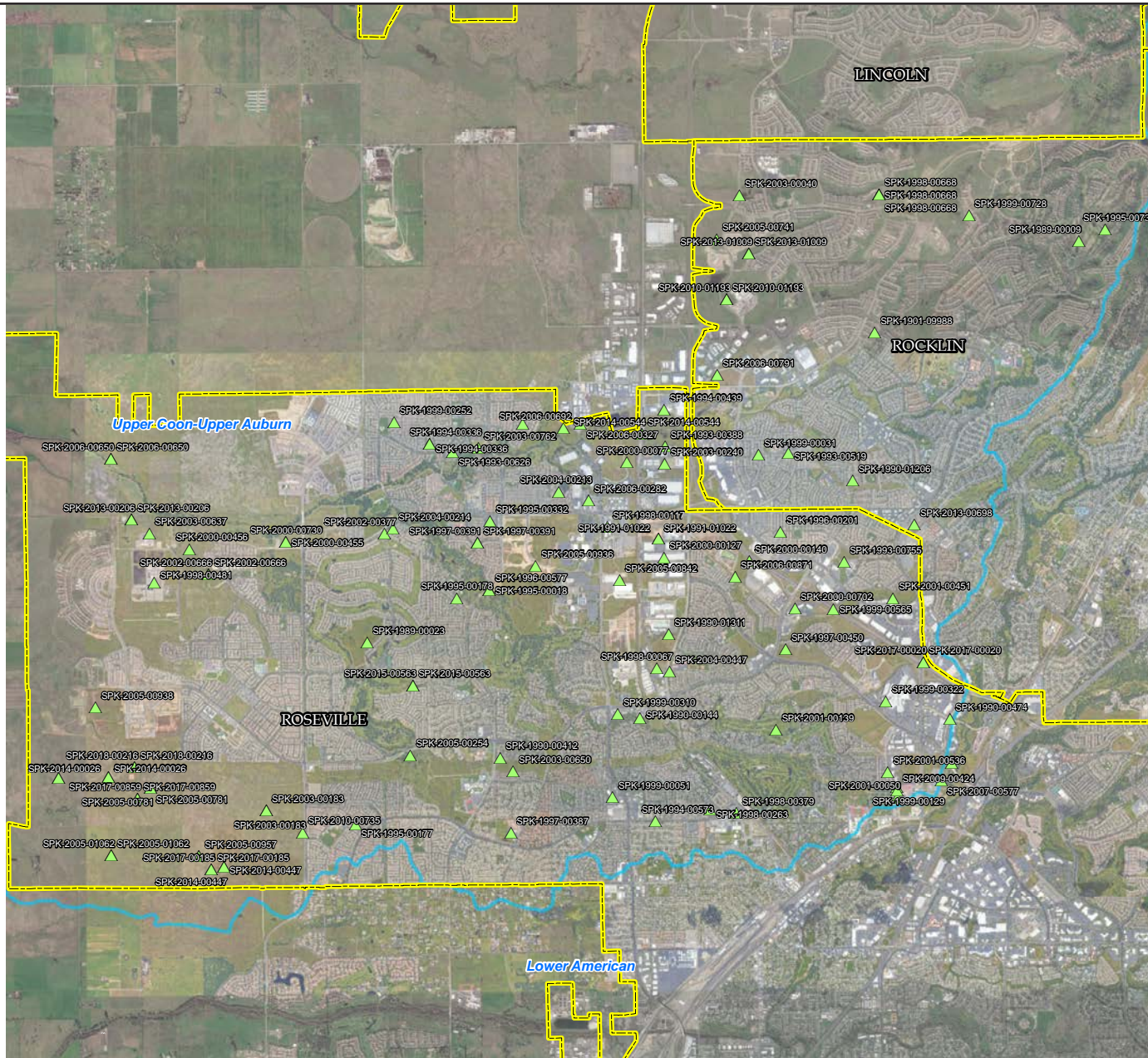
🗺️ 210,216.78



Coordinate System: NAD 1983 UTM Zone 10N
 Projection: Transverse Mercator
 Datum: North American 1983

SOURCE: US Army Corps of Engineers, 2018

FIGURE 4.0-2



SOURCE: Salix, 2018

FIGURE 4.0-3

Locations of Permitted Projects within Roseville and Rocklin

**Cumulative Impact AR-1 Loss of Potential Waters of the U.S., including Vernal Pool
Invertebrate Habitat**

Proposed Action The discussion above presents the cumulative loss of potential WOUS within the Placer County portion of the Upper Coon-Upper Auburn watershed. The Proposed Action would contribute to the cumulative loss of aquatic resources functions and services within the study area by filling approximately 18 acres of potential WOUS, including vernal pools, seasonal wetlands and seasonal wetland swales, and drainage channels.

However, the Proposed Action would be subject to the regulatory and permitting requirements of the Corps, USFWS, CDFW, and RWQCB. Projects subject to these requirements must demonstrate that with mitigation there would be no net loss of wetland and aquatic functions and services, and must also demonstrate that with mitigation, adverse impacts would not occur to special-status species that might be affected by filling of wetland and aquatic habitat and that wildlife resources will be protected from substantial adverse effects in areas subject to CDFW jurisdiction. In order to comply with regulatory requirements, as described under **Impact AR-1**, in the draft permittee-responsible compensatory wetlands mitigation plan (PRMP), the Applicant has proposed to compensate for unavoidable impacts by preserving approximately 26.89 acres and restoring approximately 28.06 acres of aquatic resources on the project site and on three mitigation properties, practically all of which would be vernal pool invertebrate habitat. Based on the Applicant's draft PRMP, the compensatory mitigation ratio for vernal pool preservation would be 1.36:1 and restoration would be 1.5:1, and the compensatory mitigation ratio for all other restoration of aquatic resources would be 1.5:1 mirroring the ratios proposed in the PCCP.

Because all activities in potential WOUS, including the Proposed Action, must comply with the no net loss of aquatic resource functions and services policy and, to the extent there are small losses of wetlands, such small losses would not represent a substantial cumulative loss of wetlands. Furthermore, the Proposed Action's contribution would not be substantial with the implementation of **Mitigation Measure AR-1a** which would ensure compliance with the Corps requirements for mitigation of aquatic resources impacts. In addition, the Corps will impose **Mitigation Measure CUM AR-1** on future development in the study area to further minimize the loss of potential WOUS.

No Action Alt. The No Action alternative would not result in the discharge of dredged and/or fill material into potential WOUS on the project site because all aquatic resources would be avoided by design. Thus, no cumulative impacts on aquatic resources, including vernal pool invertebrate habitat, under the No Action alternative were identified.

Alts. 1, 2, 3 Although the acreage of aquatic resources filled under each alternative varies, Alternatives 1, 2, and 3 would result in the loss of similar types of potential WOUS and would, therefore, also contribute to the cumulative loss of WOUS. However, as with the Proposed Action, development under any one of the alternatives would be required to comply with federal and state regulatory programs for the protection of wetlands and other aquatic resources and would implement **Mitigation Measure AR-1b** to provide compensatory mitigation at ratios acceptable to the Corps for impacts to potential WOUS. Therefore, the contribution of any one of the alternatives to any cumulative effect on aquatic resources, including potential WOUS, would not be substantial. In addition, the Corps will impose **Mitigation Measure CUM AR-1** on future development within the study area to further minimize the loss of potential WOUS.

Mitigation Measure CUM AR-1 Compensatory Mitigation for the loss of potential WOUS
(Applicability – All future development in the Study Area)

For proposed discharges of dredged and/or fill material into potential WOUS within the study area, the Corps will, in general, require at a minimum, 1:1 mitigation for each acre of aquatic resources lost for all future losses authorized under Department of the Army permits. The Corps will factor into its mitigation requirements the risk of mitigation failure or uncertainty of success and the temporal loss of function.

Cumulative Impact BIO-1 Loss of Annual Grassland Habitat

Proposed Action Substantial amounts of annual grassland habitat within the study area has already been removed in conjunction with past agricultural practices, urban development, and infrastructure. As of 2011, approximately 73,000 acres of grassland habitat within the study area had been converted although about 9,400 acres 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 of grassland habitat (TRA Environmental Sciences 2011). In addition, reasonably foreseeable future development within the City of Roseville and in Rocklin is anticipated to result in additional losses. Based on the historical losses of annual grassland habitat, and the fact that grassland habitat losses due to agricultural conversions would continue unmitigated, the Corps has determined that the cumulative impact on grassland habitat within the study area would be **significant**. By converting about 500 acres of grassland habitat, the Proposed Action would contribute to this impact.

However, to address the Proposed Action's impact on Swainson's hawk foraging habitat (or annual grassland habitat), the Applicant would be required to implement **Mitigation Measure BIO-8b** and conserve an equivalent acreage of grazing land or

farmland elsewhere in the County, which would also help preserve annual grasslands within the study area. In addition, **Mitigation Measure AR-1a** (implementation of the Applicant's draft PRMP) would also preserve uplands that support grassland habitat on the mitigation properties and on the project site. With the implementation of these mitigation measures, the Proposed Action's contribution to cumulative impacts on annual grassland habitat would not be substantial.

No Action Alt. Although the No Action alternative would not result in the discharge of dredged and/or fill material into potential WOUS, it would result in the loss of annual grassland habitat present on the site in order to develop housing and other urban land uses. Therefore, this alternative would contribute to the cumulative loss of annual grassland habitat in the study area and this cumulative impact is **significant**. As with the Proposed Action, the No Action alternative would also be subject to **Mitigation Measure BIO-8b**, as imposed and enforced by the City of Roseville, which would require the Applicant to conserve an equivalent acreage of grazing land or farmlands elsewhere in the County which would help preserve annual grasslands within the study area. Therefore, with the implementation of the mitigation measures, the No Action alternative's contribution to cumulative impacts on annual grassland habitat would not be substantial.

Alts. 1, 2, 3 Although the annual grassland acreage that would be removed would vary under each alternative, all three alternatives would require the removal of annual grassland habitat. Therefore, each of the alternatives would contribute to a **significant** cumulative impact on annual grassland habitat. However, effects on annual grassland habitat would not be substantial with the incorporation of the same mitigation measures listed above under the Proposed Action.

Cumulative Impact BIO-2 Effects on Wildlife Foraging and Movement Habitat

Proposed Action As noted in **Cumulative Impact BIO-1** above, approximately 12,000 acres of wildlife habitat would be lost due to future development within the study area. Additional losses would occur in association with future projects within the City of Roseville and Rocklin.

The Proposed Action would develop the project site with urban uses and infrastructure and in conjunction with that development remove about 500 acres of foraging and movement habitat for wildlife species. The combined effect of past, current, and future projects, including the Proposed Action, on wildlife foraging and movement habitat is considered a **significant** cumulative effect.

However, as noted above, the loss of grassland habitat on the project site would be compensated by preserving grassland habitat at ratios specified in the Applicant's draft PRMP (per **Mitigation Measure AR-1**), which would also be consistent with **Mitigation Measure BIO-8b**. In addition, the implementation of **Mitigation Measure BIO-10**

would ensure that wildlife movement within the preserved open space areas is not obstructed. Therefore, with mitigation, the Proposed Action's contribution to cumulative impacts on wildlife foraging and movement habitat would not be substantial.

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 a result, with mitigation, this cumulative impact would not be substantial.

No Action Alt. The No Action alternative would result in reduced development on the project site. Therefore, although the contribution would be smaller, this alternative would still contribute to cumulative impacts on wildlife movement and the same mitigation measures, including **Mitigation Measure CUM BIO-2**, would be required. As a result, with mitigation, this cumulative impact would not be substantial.

Alts. 1, 2, 3 Similar to the Proposed Action, Alternatives 1, 2, and 3 would result in the loss of wildlife foraging and movement habitat on the project site and thereby contribute to the cumulative impact. However, the same mitigation measures, including **Mitigation Measure CUM BIO-2**, would be required. As a result, with mitigation, this cumulative impact would not be substantial.

Mitigation Measure CUM BIO-2

Vernal Pool Grassland Habitat Mitigation

(Applicability – All future development in the Study Area)

The USACE will work with the study area cities and Placer County 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 loss of wetlands and vernal pool grassland habitat within the study area, and compensate for unavoidable losses.

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 a substantial effect from new sources of light and glare. Implementation of **Mitigation Measures AES-4a through 4c** is proposed to reduce this effect. 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 the City of Roseville. At the present time, the area to the north across West Sunset Boulevard is developed with the Toad Hill Ranches residential subdivision. Urban development is also located in the West Roseville Specific Plan (WRSP) to the southeast. The area to the east, west and south appears as undeveloped rangeland although future development to south (Creekview Specific Plan) has been approved and future development to the east (Placer Ranch Specific Plan) is considered likely in the future. No prominent natural or man-made features are located in the vicinity of the project site.

Significance Thresholds

The contribution of the Proposed Action, or an alternative, to a cumulative impact on visual resources would be considered significant if the Proposed Action or an alternative would:

- Result in an unmitigated substantial change in the visual character of the study area or a scenic vista, or cause an unmitigated substantial increase in light and glare.

Cumulative Impact AES-1 Effect on Visual Resources

No Action Alt., Proposed Action, Alts. 1, 2, 3 All of the on-site alternatives, as well as the Proposed Action and No Action alternative, 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 Sunset Boulevard West.

With the development of the Proposed Action or any of the alternatives, as well as other developments in the vicinity of the project site, including but not limited to, Creek View SP, Westbrook Project, Sierra Vista SP, the area 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. All alternatives, including the Proposed Action and nearby specific plan developments, would introduce new sources of light and glare. Although the Proposed Action, including its alternatives, would be required to meet the City's Community-wide Design Guidelines to ensure proposed development would be visually compatible with surrounding development, they would, in conjunction with existing and other proposed projects, nonetheless permanently and substantially alter the visual environment. No feasible mitigation measures are available to fully address the effect. Therefore, the contribution of the No Action alternative, Proposed Action, or Alternative 1, 2, or 3 to the cumulative effects on visual resources would be **significant**.

4.3.3 Agricultural Resources

Direct and Indirect Impacts of the Proposed Action

Section 3.2, Agricultural Resources, presents the direct and indirect impacts of the Proposed Action on agricultural resources. The Proposed Action would result significant effects on agricultural resources from the conversion of grazing land. **Mitigation Measure AG-1**, which would preserve open space to compensate for the loss of agricultural lands, would be implemented to mitigate 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 in 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 urban uses. As discussed in **Section 3.2**, between 1998 and 2014, approximately 2,344 acres of Prime Farmland in Placer County was converted to other uses.

Significance Thresholds

The contribution of the Proposed Action, or an alternative, to a cumulative impact on agricultural land would be considered significant if the Proposed Action or an alternative would:

- Result in a substantial unmitigated loss of farmland.

Cumulative Impact AG-1 Conversion of Important Farmland

No Action Alt., Proposed Action, Alts. 1, 2, 3 Within western Placer County, a majority of agricultural land has been identified as Farmland of Local Importance and Grazing Land. The entirety of the project site is designated as Farmland of Local Importance.

All of the alternatives, including the Proposed Action, in conjunction with other present and foreseeable future projects, would result in the conversion of agricultural land to non-agricultural uses. Although the affected land on the project site is Farmland of Local Importance and not Prime Farmland, and the project site is not in active agricultural use beyond some cattle grazing in the northwestern portion, nonetheless, because farmland is being lost to development throughout the region and the state and as such, the direct loss of farmland would be a **significant** cumulative impact. **Mitigation Measure AG-1** would address this effect and would provide substantial off-site mitigation for conversion of agricultural land. The Corps assumes that the same mitigation measure would be imposed by the City of Roseville on the No Action alternative and the other alternatives. Therefore, with mitigation, the contribution of the Proposed Action and all alternatives to the cumulative impact on important farmland would not be substantial.

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 that would be substantially reduced with implementation of **Mitigation Measure AQ-1**, although emissions of reactive organic gases (ROG) and particulate matter 10 microns in diameter or less (PM10) would remain significant. The Proposed Action would also have significant adverse effects related to criteria pollutant emissions generated during project occupancy and use, even after the implementation of **Mitigation Measures AQ-2a** and **2b**. The Proposed Action would also result in a significant effect related to exposure of project site residents to objectionable odors from the nearby landfill. 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 after mitigation. Therefore, it has minimal potential to contribute to cumulative effects related to toxic air contaminant emissions.

Current Status of the Resource

As discussed in **Section 3.3**, the Placer County portion of the Sacramento Valley Air Basin is under the jurisdiction of the Placer County Air Pollution Control District (Air District). At the present time, 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 for ozone (1-hour), ozone (8-hour), and respirable particulate matter (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 on air quality would be considered 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 of federal and state air quality standards.

Cumulative Impact AQ-1 Effects from Criteria Pollutant Emissions

Proposed Action *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. Numerous projects are proposed in the 11-county Sacramento Valley Air Basin and a complete listing of foreseeable future projects cannot be reasonably developed. However, all reasonably foreseeable projects in the vicinity of the Proposed Action are identified in **Table 4.0-2, Other Present and Reasonably Foreseeable Projects in the Project Vicinity, Construction Emissions**. In addition, **Table 4.0-3, Other Major DA Permit Projects in the Air Basin, Construction Emissions**,² presents information on all major projects subject to Corps jurisdiction that are proposed in the remainder of the Air Basin. As shown in the tables below, the emissions from several of these future projects would result in ROG, NO_x, and particulate matter emissions that exceed significance thresholds.

Earthmoving activities could result in substantial fugitive dust (PM₁₀) emissions. 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. PM₁₀ emissions associated with construction of the Proposed Action would not exceed the Air District threshold, and **Mitigation Measure AQ-1** would further reduce construction emissions. Exhaust emissions would be generated by construction equipment operations and construction employee vehicle trips. These emissions would include carbon monoxide (CO), ROG, nitrogen oxides (NO_x), sulfur dioxide (SO₂), and particulate matter. Painting and paving of roadways would primarily release ROG into the atmosphere. Exhaust emissions associated with construction of the Proposed Action are estimated to exceed Air District thresholds of 82 lbs/day for ROG and NO_x, both of which are precursors of ozone for which the Air Basin is in nonattainment. Although **Mitigation Measure AQ-1** would be implemented which would reduce NO_x and ROG emissions, the total emissions would still exceed the thresholds.

Although construction activities associated with the Proposed Action would contribute to a cumulative impact on air quality during the 15-30 year buildout of the Proposed Action and the emissions would exceed the Air District thresholds for ROG and NO_x, as shown by the General Conformity analysis conducted for this project (see *subsection 3.3.8, General Conformity*), these emissions are accounted for in the State Implementation Plan (SIP) and together with all other emissions in the nonattainment area would not be likely to exceed the emissions budgets specified in the applicable SIP for the Sacramento Valley Air Basin. Therefore, the contribution of the Proposed Action during construction to the cumulative impact on air quality in the Air Basin would not be substantial.

Operational Emissions

As noted above, the project site is located in an area that is designated non-attainment for federal and state ozone, PM₁₀, and PM_{2.5} standards. Vehicles, commercial operations,

² For more information on most of these projects, please see **Chapter 3.0, Affected Environment and Environmental Consequences**.

and some residential activities would generate ozone precursors contributing to the ozone problem within the Sacramento Valley 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, NO_x, and PM₁₀.

**Table 4.0-2
Other Present and Foreseeable Future Projects in Project Vicinity –
Construction Emissions (Pounds per Day)**

Project	ROG	NO _x	PM ₁₀	PM _{2.5}
Fiddymont Road Widening ^a	NA	NA	NA	NA
Westbrook Project	156	30	64	9
Creekview Specific Plan ^b	49	119	39	13
Regional University Specific Plan ^c	532	3,457	138	NA
Placer Vineyards Specific Plan ^d (Blueprint Scenario)	2,052	141	412	92
Riolo Vineyards Specific Plan ^e	143	773	60	NA
Placer Parkway Alternative 5 ^f	8,960	9,940	1,460	180
Pleasant Grove Retention Basin ^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 U.S. Army Corps of Engineers 2013. Placer Vineyards Specific Plan Draft EIS. Prepared by Impact Sciences.

^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 4.0-3
Other Major DA Permit Projects in the Air Basin –
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 3 ^{b,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 Final EIR, Document Control Number 2008-00142

^h Suncreek Specific Plan Project Draft EIR. Prepared for the City of Rancho Cordova by AECOM, October 2012.

Other past, present, and reasonably foreseeable future projects in the project vicinity are also expected to result in additional operational 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 in the project vicinity are reported in **Table 4.0-4, Other Present and Reasonably Foreseeable Actions in the Project Vicinity, Operational 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 4.0-5, Other Major DA Permit Projects in the Air Basin, Operational Emissions**, presents operational emissions that are available for some of the major projects in the Air Basin that are subject to Corps jurisdiction.

Future air quality conditions are anticipated to improve over time within the Sacramento Valley Air Basin due to improvements in emissions controls and the use of cleaner fuels and alternate energy, and full buildout of the Proposed Action would not result in a lack of conformity with approved federal air quality plans or the SIP.

**Table 4.0-4
Other Present and Reasonably Foreseeable Actions in Project Vicinity –
Operational Emissions (Pounds per Day)**

Project	ROG	NO _x	PM10	PM2.5
Fiddymment Road Widening ^a	NA	NA	NA	NA
Westbrook Project	273	139	460	87
Creekview Specific Plan ^b	242	99	293	56
Regional University Specific Plan ^c	761	457	476	NA
Placer Vineyards Specific Plan ^d Blueprint Scenario	2,052	141	412	92
Riolo Vineyards Specific Plan ^e	156	141	96	NA
Placer Parkway Alternative 5 ^f	60	60	20	NA
Pleasant Grove Retention Basin ^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

Notes:

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 USACE. 2013. Placer Vineyards Specific Plan Draft EIS. Prepared by Impact Sciences.

^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.

In February 2016, the SACOG reached a favorable conformity determination in approving the latest MTP/SCS. As described previously in **Chapter 1.0**, the SCS, formulated pursuant to Senate Bill 375, assumed full development of the eastern half of the Amoruso Ranch Specific Plan area. Since buildout of all land uses assumed in the SCS would not conflict with or obstruct implementation of applicable federal air quality plans or the SIP, the same would be true of the buildout of the Proposed Action. Therefore, emissions associated with operation and occupancy of the Proposed

Action and buildout of cumulative development would not cause direct adverse effects to the region's ability to achieve compliance with air quality standards.

**Table 4.0-5
Other Major DA Permit Projects in the Air Basin –
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 3 ^{b,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 Final EIR, Document Control Number 2008-00142

^h Suncreek Specific Plan Project Draft EIR. Prepared for the City of Rancho Cordova by AECOM, October 2012.

Compliance with the City's Transportation Systems Management Ordinance and implementation of **Mitigation Measure AQ-2**, which requires implementation of a number of measures to reduce vehicular traffic and energy use, would reduce the amount of emissions generated by the Proposed Action. The Proposed Action 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 Proposed Action are not accounted for in regional air quality attainment plans, even with mitigation, the emissions would be considered **significant** and the Proposed Action would make a significant contribution to the cumulative impact on regional air quality.

No Project Alt., All alternatives would result in some development on the project site. The intensity of development would be generally comparable to that under the Proposed Action, and

Alts. 1, 2, 3 the contribution of the alternatives to cumulative effects on air quality would be generally similar to that of the Proposed Action. Therefore, despite mitigation, operational emissions from all alternatives would result in a **significant** contribution to the cumulative impact on regional air quality.

4.3.5 Cultural Resources

Direct and Indirect Impacts of the Proposed Action

The Proposed Action would have the potential to damage undiscovered historic properties or human remains during construction, though implementation of **Mitigation Measures CR-1a** and **CR-1b** would minimize effects on cultural resources to a **less than significant** level. As these impacts would have the potential to cumulate, they are analyzed below.

Current Status of the Resource

Section 3.7, Cultural Resources 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.

Significance Thresholds

The contribution of the Proposed Action, or an alternative, to a cumulative impact on cultural resources would be considered 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 The cumulative geographic context for the evaluation of potential cumulative impacts to cultural resources consists of the City of Roseville and western Placer County.

Action, Alts. 1, 2, 3 Cultural resources have been recorded near the project APE, and project construction could result in the damage or destruction of as-yet unknown cultural resources. This impact, along with the effects of all past, present, and reasonably foreseeable projects, could result in a **significant** cumulative impact to cultural resources.

However, numerous state and federal laws, regulations, and statutes seek to protect cultural resources. These would apply to development within and outside the City and in the county. In addition, the City's General Plan provides local policies that safeguard 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 encountered. **Mitigation Measures CR-1a** and **CR-1b** would reduce the Proposed Action's contributions to cumulative cultural resources impacts by ensuring that any

unknown cultural resources or human remains discovered within the project APE are avoided or properly recorded and handled if discovered during construction. The same mitigation measures would be imposed by the City of Roseville on the No Action alternative and the Corps on the other alternatives. Therefore, with mitigation, the contribution of the Proposed Action and all alternatives to the cumulative impact on cultural resources would not be substantial.

4.3.6 Hydrology and Water Quality

Direct and Indirect Impacts of the Proposed Action

As analyzed in **Section 3.11, 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 Pleasant Grove Creek watershed (which includes University Creek watershed), they are analyzed below. Other hydrology and water quality impacts analyzed in **Section 3.11** would not have the potential to cumulate and are not discussed below.

Current Status of the Resource

As discussed in **Section 3.11**, the project site is located within the Pleasant Grove Creek watershed, which encompasses an area of approximately 400,000 acres in the Sacramento River Basin. The majority of the project site flows south into University Creek, a 3,477-acre watershed tributary to Pleasant Grove Creek, which drains into the Natomas Cross Canal watershed, which in turn discharges into the Sacramento River. Historic development within the Pleasant Grove Creek watershed has increased the amount of impervious surfaces, increasing runoff discharged into the creek and ultimately into Natomas Cross Canal. A situation currently exists within Sutter County in the sump areas upstream of the Natomas Cross Canal, where flooding is known to occur when the Sacramento River rises above a flood stage of 37.0 feet at the Verona Gauge. This occurs as a result of the limited discharge capacity of the Natomas Cross Canal when the Sacramento River is flooding.

Pleasant Grove Creek receives flows from several storm drains that capture runoff from urbanized areas to the east of the project site and is listed as an impaired water body for the following constituents: dissolved oxygen; pyrethroids; and, sediment toxicity.

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), and recent data suggest that withdrawals of up to 95,000–97,000 acre-feet per year (afy) are within the basin's safe yield (DWR 2003). 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 related to hydrology and water quality would be considered significant if the Proposed Action or an alternative would:

- Contribute runoff to facilities susceptible to flooding;
- Release sediment and other pollutants such as to cause 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, 2, 3 Cumulative development in the study area, including development of the project site under the No Action alternative, Proposed Action, or Alternative 1, 2, or 3 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 Pleasant Grove Creek watershed. 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 cumulative effects on flooding, water quality, and groundwater from the No Action alternative, Proposed Action, or Alternative 1, 2, or 3 would not be substantial.

Flooding

Storm water runoff generated as a result of the development under the No Action alternative, Proposed Action, and Alternatives 1, 2, and 3 would drain into University Creek and Pleasant Grove Creek and eventually into the Natomas Cross Canal. Projects upstream and east of State Route 65 in Lincoln and Rocklin have constructed or have planned regional detention storage basins along Pleasant Grove Creek and its tributaries. City of Roseville General Plan Policy 6 and Placer County General Plan Policy 4.E.11 require that individual projects mitigate their direct contribution of increased surface water flows to minimize the potential for increased on- and off-site flooding. As described in **Section 3.10**, the City is planning for a regional storm water retention basin in the Al Johnson Wildlife Area (AJWA) which is intended to detain flows until the waters in the Natomas Cross Canal recede. The regional retention basin will serve existing and future development in the University Creek and Pleasant Grove Creek watersheds. Under the No Action alternative, Proposed Action, and Alternatives 1, 2, and 3, the Applicant may elect to contribute storm water mitigation fees that would go towards the construction of this regional storm water detention capacity in AJWA. The regional facility may be used by not just projects in the City's jurisdiction, but also projects in Lincoln, Rocklin, or unincorporated Placer County.

To the extent that future projects in these watersheds elect not to participate in the City's fee program for flood control via the regional detention facility, Placer County will require 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). Three projects in unincorporated Placer County (Placer Vineyards, Regional University, and Placer Parkway) plan to incorporate on-site detention capacity and other measures to avoid downstream flooding (Placer County 2006; 2007; 2008). Therefore, increased runoff from cumulative development in the University Creek and Pleasant Grove Creek watersheds is not expected to result in adverse downstream flooding impacts. Thus, the contribution to cumulative effects related to flooding under the No Action alternative, Proposed Action, or Alternatives 1, 2, or 3 would not be substantial.

Water Quality

Changes in surface water quality could occur as a result of construction activities on the project site under the Proposed Action or the alternatives. Similarly, other urban development projects 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.

The City requires that erosion control plans be prepared and approved by the City to reduce water quality impacts during the construction of projects (Roseville Municipal Code Section 16.20.040 Grading plans). In addition, all construction projects that would disturb 1 acre or more would be required to comply with the applicable State General Permit (2009-0009-DWQ Construction General Permit) requirements for storm water runoff during construction which would reduce potential degradation of receiving water quality attributable to the No Action alternative, Proposed Action, and Alternatives 1, 2, and 3, and other developments in the University Creek and Pleasant Grove 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. In addition, the City's General Plan and Storm Water Quality Design Manual require that urban runoff measures, including Best Management Practices (BMPs), LID measures, and buffer areas, be implemented as part of individual development projects to protect water quality from pollutants in urban runoff. Similarly, new development located in unincorporated Placer County is 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 the No Action alternative, Proposed Action, or Alternatives 1, 2, or

3 to a cumulative impact on water quality from urban runoff would not be substantial.

Groundwater Use

The cumulative context for groundwater impacts is the North American River groundwater subbasin that generally underlies western Placer County and northern Sacramento County. The subbasin is located within the Sacramento Valley Groundwater Basin. It includes a surface area of 548 square miles (City of Roseville 2010a).

Urban growth in northern Sacramento County beginning in the 1950s increased the demand for groundwater such that the groundwater elevation trend along the Sacramento/Placer County line began to show a steady decline of 1 to 1.5 feet per year (City of Roseville 2010a). Groundwater elevations continued to decline at a relatively steady rate through the droughts of 1976 to 1977 and 1987 to 1992. The effect of the 1987 to 1992 droughts on groundwater elevations in most of the basin was however relatively minor, with the 1990 groundwater levels about 5 to 10 feet lower than the 1985 conditions (City of Roseville 2010a).

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, 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 groundwater 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. 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 (City of Roseville 2010a).

Groundwater is not used for consumptive uses in the City of Roseville under normal water conditions. It is used in dry years to supplement surface water supplies, and during peak times, to supplement pumping constraints. The estimated amount of groundwater per year needed to augment surface water supplies would range from 0 to 16,226 afy, in a zero BoR delivery year with 20 percent demand reduction in force. In addition, nearby Placer County projects could use groundwater in the short-term. However, because of the sustained recoveries of groundwater elevation since 1997 and the significant efforts to protect groundwater resources in the region, the cumulative impact on groundwater resources would not be substantial. It should be noted that if the City achieves reduction levels recommended by the Roseville Municipal Code (Chapter 14.09), groundwater would not be needed at all to supplement supplies. The

use of aquifer storage and recovery, which is an element of the groundwater management plan, would ensure that surplus water is injected in the groundwater basin to ensure no net decrease in groundwater levels. Thus, the contribution of the No Action alternative, Proposed Action, or Alternative 1, 2, or 3 to cumulative effects on long-term groundwater use is expected to not be substantial.

Groundwater Recharge

Development in the City of Roseville would result in the creation of new impervious surfaces by converting primarily undeveloped grazing land to urban uses. As discussed in **Section 3.10**, recharge occurs primarily along stream channels and through applied irrigation water. Furthermore, less than 5 percent of total recharge into the Sacramento Valley groundwater basin under natural conditions is attributable to Placer County (City of Roseville 2010a). This is because much of western Placer County consists of hydrologic group “d” soils, which are characterized by high runoff and low infiltration potential. Other areas of the City of Roseville and western Placer County are situated on soil and rock units similar to the project site, and do not have water intensive irrigation uses (City of Roseville 2010a). Given the low levels of recharge that occurs under existing conditions, the fact that the Proposed Action and alternatives (and other foreseeable development in the area) would protect and maintain creek corridors where infiltration would continue to occur, and the fact that the Proposed Action (and all future development) would include LID measures to infiltrate runoff to the extent feasible, the contribution to cumulative effects on groundwater recharge from the No Action alternative, Proposed Action, or Alternatives 1, 2, or 3 is expected to not be substantial.

4.3.7 Noise

Identification of Direct and Indirect Impacts of the Proposed Action

As discussed in **Section 3.13, Noise**, construction of the Proposed Action would generate noise levels that could affect nearby and on-site sensitive receptors. This effect would be reduced by implementation of **Mitigation Measure NOISE-1**, though the effect would remain substantial. In addition, noise associated with traffic generated by the Proposed Action would impact sensitive receptors adjacent to area roadways. This effect is considered significant and would not be rendered less than significant by implementation of **Mitigation Measure NOISE-3b**. These effects are analyzed below to determine whether they would cumulate with the effects from other past, present, and reasonably foreseeable future actions to result in significant adverse effects. 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 within 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 3.13**, ambient noise levels already exceed or nearly exceed the City's thresholds west of Fiddymont Road and north of Baseline Road.

Significance Thresholds

The contribution of the Proposed Action, or an alternative, to a cumulative impact related to noise would be considered significant if the Proposed Action or an alternative would:

- Result in a cumulative unmitigated significant increase in noise levels, beyond the levels that would exist without the project.

Cumulative Impact NOISE-1 Construction and Operational Noise Effects

Proposed Action

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 related noise impacts are anticipated.

It is unlikely that construction activities within the project site and the adjoining development under the Creekview project would be close enough to a particular sensitive receptor to create a substantial cumulative noise level. Other reasonably foreseeable projects such as Westbrook and Sierra Vista Specific Plan developments would be too distant to result in a cumulative noise impact. Furthermore, construction within the Creekview project site and the Amoruso Ranch project site would comply with the City of Roseville's Noise Ordinance. As discussed earlier, the construction of any project that occurs within the City would be limited to the hours of 7:00 AM and 7:00 PM Monday through Friday and 8:00 AM to 8:00 PM Saturday and Sunday. Also, 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, although as discussed under **Impact NOISE-1**, the Proposed Action by itself could result in a significant noise impact on nearby and on-site receptors, **no cumulative** noise impact would occur during construction.

Stationary Source Noise

It is not expected that urban uses on the project site and existing rural residences near

the project site 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 Creekview and Westbrook projects would include schools, parks, and commercial areas. No industrial or heavy manufacturing uses are proposed under the Proposed Action or any of the other nearby foreseeable projects that could cumulate and affect a sensitive receptor. Therefore, there would be **no cumulative** noise impact from multiple stationary sources.

Traffic Noise

Impact NOISE-3 in **Section 3.13** presents the traffic noise impacts that would result in 2035 at the buildout of the Proposed Action. The 2035 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. That analysis shows that several off-site roadways would have noise levels that exceed 60 decibels (dB) day night continuous noise level (Ldn). However, the contribution of the Proposed Action to the noise increase would not be significant on all off-site roadways except Sunset Boulevard West between Amoruso Way and Westbrook Boulevard. As discussed under **Impact NOISE-3**, the cumulative effect of the Proposed Action would be **significant**. **Mitigation Measure NOISE-3b** requires the use of Open Graded Asphalt Concrete (OGAC) along the affected section of the roadway. However, the roadway is not within City control and the implementation of the mitigation measure cannot be guaranteed. The Proposed Action's contribution to this cumulative effect would remain **significant**.

**No Action Alt.,
Alts. 1, 2, 3** All of the alternatives would develop the project site in a manner generally similar to the Proposed Action. The contribution of any one of the alternatives to cumulative effects related to construction and operational noise would be similar to that of the Proposed Action. Based on the significance criteria listed above, and for the same reasons presented for the Proposed Action, the cumulative impact on off-site receptors from traffic noise would be **significant**, even with mitigation; however, cumulative effects from construction noise would not be substantial, and stationary noise sources would have **no cumulative** effect.

4.3.8 Utilities and Service Systems

Identification of Direct and Indirect Impacts of the Proposed Action

For reasons presented in **Section 3.16, Utilities and Service Systems**, the effects of the Proposed Action on water supply would not be substantial. However, because substantial new development is planned for

western Placer County at this time, the Proposed Action's impact on water supply has the potential to cumulate with the impact from other development and is therefore evaluated below.

With regard to wastewater, as described in **Section 3.16**, under **Impact UTIL-4**, the Proposed Action by itself would not require the expansion of the Pleasant Grove Wastewater Treatment Plant (WWTP) as adequate capacity exists at this time to treat the flows that would be generated at buildout of the Proposed Action. However, the Proposed Action would be developed incrementally over time and some of the excess capacity available at this time may not be available for the later phases of the Proposed Action. Therefore, **Impact UTIL-4** 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-5** 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 3.16**, these issues are not analyzed further below.

Current Status of the Resource

Water supplied to the Proposed Action would be obtained from the American River, which supplies water to the Central Valley Project (CVP) and State Water Project (SWP) storage reservoirs that in turn respond to water demands imposed by their contracts and other non-project agricultural, municipal, and industrial demands. Within the City of Roseville's service area, most water supplies are for residential, commercial, and industrial users. The City of Roseville's water demand in 2015 was 22,881 acre-feet per year (afy). Within Placer County Water Agency's service area, the majority of treated water is delivered to residential and commercial users. In 2015, the total demand for retail and wholesale treated water was 48,681 acre-feet; 32,166 acre-feet and 16,515 acre-feet, respectively (Placer County 2016).

With respect to groundwater resources, as explained in **Section 3.16**, the sustainable safe yield for the western Placer County portion of the North American Sub-basin is approximately 100,000 afy. Total groundwater usage due to agricultural and urban demands in western Placer County in 2012 was about 97,000 afy (GEI 2013). The trend in groundwater use has been declining since 2008, which, if the trend continues, could allow for additional groundwater development. The 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).

Significance Thresholds

The contribution of the Proposed Action, or an alternative, to a cumulative impact on water supply would be considered 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, Alts. 1, 2, 3 Development of the Proposed Action, along with other foreseeable future development within the City of Roseville, including buildout of the City's General Plan, would exceed the City of Roseville's existing currently contracted surface water supplies. Total cumulative water demand is estimated at 59,657 afy as shown in **Table 4.0-6, Cumulative Water Demand**. In normal/wet years, the City's American River supply of 58,900 afy would not be sufficient to meet the projected demand associated cumulative development. When the total projected potable water demand is compared to the supply, demand exceeds supplies by 757 afy.

**Table 4.0-6
Cumulative Water Demand**

Development Area	Surface Water Demand (afy)
City Buildout Demand	58,590
Proposed Action	1,067
Total Demand	59,657
American River Allocation per WFA (Normal/Wet Years)	58,900
American River Shortfall (afy)	757

Source: City of Roseville 2016; Impact Sciences 2018

Because the pace and timing of regional developments in Placer County through 2035 is currently unknown, and because some of the pending projects currently contemplated by the City's General Plan may never come to fruition, the specific additional water supplies and the timing for obtaining them to serve potential future projects are uncertain. In addition to the City's full use of its Water Forum Agreement allocation of surface water from the American River, it is likely that future water supply would come from mandatory conservation measures and a cooperative agreement between the PCWA and the City for surface water (see **Mitigation Measure UTIL-1**). As the treated water from the PCWA is expected to have full (100 percent) reliability, the supplemental use of groundwater is not anticipated. However, future urban growth would result in additional demands for water within the study area and therefore, groundwater may be utilized as needed.

Future water demands, as developed from community General Plan scenarios and other land use projections, are considered in the water supply operations model used for Central Valley Project (CVP) and State Water Project (SWP) for planning purposes. However, there are several large water supply projects that have not been assessed through the current water supply operations modeling (i.e., California Department of

Water Resources CALSIM II model) in a comprehensive manner. Additionally, there has been no comprehensive assessment of the future cumulative conditions that addresses new federal rules to protect endangered species, which directly and indirectly influence regional water supplies through obligations imposed on the integrated CVP/SWP operations. Climate change also may result in additional uncertain effects to future water supply conditions and CVP/SWP operations. In short, the CVP/SWP system is facing an unprecedented level of uncertainty that makes it impossible for lead agencies such as the Corps to predict the future without a great deal of speculation.

Water demand associated with buildout of the City's General Plan and the Proposed Action would be supplied by existing and assured sources of water. As a matter of policy, the City of Roseville will not approve new specific plans or other projects absent sufficient water for buildout of such plans and projects. Nonetheless, any increase in water demand in a region that does not have adequate and assured water supplies for cumulative development has the potential to result in a **significant** cumulative impact on water resources. No mitigation measures within the Corps' control are available to address these potentially significant cumulative effects. Therefore, the contribution of the Proposed Action and alternatives to cumulative effects on water supply would be **significant**.

4.4 REFERENCES

- California Department of Water Resources (DWR). 2003. *California's Groundwater Bulletin 118, Update 2003*.
- Council on Environmental Quality 1997. *Considering Cumulative Effects under the National Environmental Policy Act*. January.
- City of Roseville. 2010. *City of Roseville General Plan 2025*. Adopted May 5, 2010.
- GEI. 2013. *Western Placer County Sustainable Yield*. November.
- Placer County. February. 1994. *Stormwater Management Manual*. <http://www.placer.ca.gov/Departments/Works/Resources/~media/dpw/flood%20control/documents/Swmm2004.ashx>.
- Placer County. 2006. *Revised Draft EIR Placer Vineyards Specific Plan*. Prepared by Quad Knopf
- Placer County. 2007. *Draft EIR Placer Parkway*. <http://www.placerparkway.org/>. Prepared by URS.
- Placer County. 2008. *Regional University Specific Plan*. <http://www.placer.ca.gov/Departments/CommunityDevelopment/EnvCoordSvcs/EIR/RegionalUniversity/SpecificPlan.aspx>.
- Placer County. 2016. *Amoruso Ranch Specific Plan Final EIR*. May.
- Sacramento Area Council of Governments. 2012. "Metropolitan Transportation Plan/Sustainable Communities Strategy." <http://www.sacog.org/2035/mtpscsc/>.
- 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.