This section of the DEIR identifies the hydrological resources in the vicinity of the proposed Preserve at Sunridge project, the existing drainage conditions associated with the proposed project site and water quality in the project vicinity. This section also evaluates the project's potential impacts with respect to flooding, drainage, erosion, and surface water and groundwater resources and identifies mitigation measures to lessen potential impacts.

4.7.1 EXISTING CONDITIONS

REGIONAL SURFACE HYDROLOGY

Surface watersheds are those land areas that catch rain or snow and drain to specific marshes, streams, rivers, lakes, or the ground water table. There are several watersheds in Sacramento County including the Lower Sacramento, the Lower American, the North Fork of the American, the Upper Butte, the Upper Yuba, the South Fork of the American, and the Upper Cosumnes. The largest watershed in the County is the Lower Sacramento watershed (LSW), which covers approximately 27,000 square miles and drains the Sacramento Valley, the Modoc Plateau, and parts of the Cascade Range and Sierra Nevada Range. The LSW is one of the largest watersheds in the United States and covers most of northern California. The main tributaries in the LSW are the Feather, Yuba, Pit, and American rivers. The Lower American, North Fork American, South Fork American, and Upper Cosumnes watersheds are adjacent to the LSW. In addition to the natural hydrologic processes of rainfall runoff, snowmelt, and base flow from groundwater, the flows in the Sacramento River are greatly affected by reservoir releases, water diversions, irrigation return flows, and diversions through bypasses. Both the Sutter and Yolo bypasses have the capacity to carry larger volumes of water than the Sacramento River channel and are used to prevent flooding during wetter years and higher flows.

Surface Water Resources

The main surface water resources in the vicinity of the Preserve at Sunridge (proposed project) project include the American River, the Cosumnes River, Morrison Creek, Laguna Creek, Elder Creek, and the Folsom South Canal (FSC). The American River is located approximately five miles north of the project site and flows westward from the crest of the Sierra Nevada above Lake Tahoe to its confluence with the Sacramento River in the city of Sacramento. The American River drains approximately 1,862 square miles. The North, Middle and South forks of the American River are each approximately 80 to 85 miles long, with incised deep V-shaped canyons with gradients averaging about 100 feet per mile. Like the Sacramento River, in addition to the natural hydrologic processes of rainfall runoff, snowmelt, and base flow from groundwater, the flows in the American River are greatly affected by Folsom Dam/Reservoir releases, water diversions, and irrigation return flows,

The Cosumnes River is approximately 80 miles long and is the only un-dammed river on the west slope of the Sierra. The river flows through the Central Valley on its way to its confluence with the Mokelumne River and the San Joaquin Delta. The river is located approximately five miles southeast of the project's southern boundary and has a natural flow regime of drying up in drought years and flooding during wetter years. Increasing concerns over the health of the Cosumnes River has lead an effort, managed by the Cosumnes River Task force, to assess and evaluate the river's health. A detailed discussion of this effort is provided in the following discussion.

The Morrison Creek drainage basin includes Morrison Creek and covers approximately 192 square miles and has nine tributaries. Morrison Creek starts near the intersection of Douglas Road and Mather Boulevard and flows southwest and eventually drains into the Beach Stone

Lakes area west of Interstate 5 (I-5) and in turn into the Sacramento River. The Sacramento River is identified as an impaired waterway on California's Clean Water Act Section 303(d) list due to diazinon (an organophosphorus pesticide used for urban and agricultural pest control), mercury and unknown toxicity. Laguna Creek starts near the eastern portion of the Sunrise Douglas Community Plan (SDCP) area and drains into Blodgett Reservoir, located near Grant Line Road, approximately one mile south of the project site. Laguna Creek flows southward to its confluence with the Cosumnes River, near Twin Cities Road and Highway 99. Laguna Creek has been substantially altered by various channels, levees, and culverts, which were constructed to primarily to alleviate potential flooding hazards. Elder Creek starts near the southern boundary of the Plan area and drains into Morrison Creek, west of Highway 99, and ultimately into the Beach Stone Lakes area. Currently Morrison Creek is identified as an impaired waterway on California's Clean Water Act Section 303(d) list due to diazinon (an organophosphorus pesticide used for urban and agricultural pest control). Morrison Creek has been included in the Total Maximum Daily Load (TMDL) Report for Diazinon and Chlorpyrifos Impaired Urban Creeks in Sacramento County (September 2004).

The Folsom South Canal (FSC) is owned and maintained by the U.S. Bureau of Reclamation. The FSC was originally designed to convey industrial, municipal, and irrigation water from Lake Natoma to San Joaquin Valley counties and customers in the East Bay. However, the original plan for the canal was never completed. The existing FSC starts at the Nimbus dam and extends southward for approximately 27 miles past the community of Wilton. According to the SDCP/SRSP EIR (page 9.4), water from the upper branch of Morrison Creek is conveyed over the canal. The upper northern branch of Morrison Creek crosses the canal in a 14-foot x 9-foot overchute, which has a capacity of 720 cubic feet per second (cfs). This overchute ultimately flows to Mather Lake. The water from the lower branch of Morrison Creek is conveyed over the FSC via a 12-foot x 6-foot and 8-foot x 4.25-foot with capacities of 400 cfs and 175 cfs, respectively. The 100-year peak storm water flows exceed the current capacity of three overchutes and any excess spills into the FSC. The SDCP/SRSP EIR determined that the overchutes were of inadequate capacity to accommodate the growth proposed in the Community Plan area. However, the enlargement of the existing overchutes was considered infeasible and the ultimate drainage system for the SDCP area would need to be designed not to exceed the current capacity of these overchutes. The Laguna Creek flows are conveyed under the FSC via a 16-foot x 16-foot concrete siphon structure. The Upper Laguna Creek Drainage Master Plan (ULCDMP) is being developed by the Sacramento County Water Resources Department. The ULCDMP requires that post-development peak (100-year) flows not exceed existing peak (100-year) flows.

Cosumnes River Studies

The University of California, Davis has collaborated with the Cosumnes River Preserve, the United States Fish and Wildlife Service (USFWS), and other non-profit organizations to create a university/agency/foundation partnership with the purpose of advancing watershed science to support more effective and sustainable watershed restoration practices and addressing the information needs of adaptive management in the North Delta and the Cosumnes and Mokelumne River watersheds. A number of studies were conducted in a wide range of disciplines, including hydrology, geology, engineering, ecology, and wildlife biology. The focus of the studies was to identify the interaction between regional groundwater elevations and surface water flows in the Lower Cosumnes River.

According to the studies, declining flows on the Cosumnes River may be linked to decreasing base-flows and the overall decline of groundwater tables; however, unequivocal proof of this relationship is difficult due to the limited amount of historical records on ground- and surface-

water conditions in Sacramento County. The studies determined that groundwater levels around the river channel were possibly hydraulically connected with the river in the 1940's. However, the studies indicated that the Lower Cosumnes River (river miles 0-36) channel is largely hydraulically disconnected from the regional aquifer. The Cosumnes River may have been in contact with the aquifer system and received base-flow along its entire length before major groundwater development occurred in Sacramento County in the 1950's and 1960's. Under a no groundwater pumping scenario, the Cosumnes River, even under natural conditions, may have alternated between gaining (influent) and losing (effluent) in some stretches. Enormous amounts of water would be needed to locally recover groundwater tables and restore base-flows to the river.

When a river aquifer system is hydraulically disconnected, the only exchange between the two systems is seepage losses from the river to the aquifer. The simulations indicated that annual seepage losses ranged from 10,000 acre-feet per year (AF/yr) to 20,000 AF/yr in both the upper and lower reaches of the river. Reducing seepage losses by reconnecting the regional aquifer with the river channel would require enormous amounts of water. Annual reductions in pumping of approximately 166,000 AF/yr would be required to partially reconnect the river in the upper reaches. In the lower stretches of the river, annual reductions of approximately 250,000 AF/yr (or approximately 50 percent of the annual baseline groundwater pumping) is required to even partially reconnect the aquifer and river.

Based on projected land uses and water use conditions in Sacramento County, groundwater levels tend to decline for approximately 20 years due to groundwater pumping that exceeds the level of groundwater recharge. However, groundwater recharge (mainly from stream recharge and subsurface boundary inflows) responds to the lowering of groundwater levels and eventually reaches a quasi-equilibrium position, in which groundwater levels stabilize. Under the quasi-equilibrium condition, groundwater levels fluctuate in response to hydrologic conditions (i.e., wet and dry years), with the long-term average levels remaining the same. Excessive groundwater pumping beyond identified sustainable limits results in a continuous groundwater level decline. However, the results of the Baseline conditions indicated that this would not occur even under the projected level of groundwater pumping under cumulative 2030 conditions.

In the Comment and Responses for the SDCP/SRSP DEIR (November 2001) as well as identified in the CEQA Findings of Fact and Statement of Overriding Considerations for the SDCP/SRSP, Sacramento County, through the Sacramento County Department of Environmental Review (DERA) and the Board of Supervisors, concluded: Given the current condition of the groundwater aquifer underlying southern Sacramento County, the available data suggests groundwater extraction at the North Vineyard Well Field (NVWF) will not significantly impact flows in either Deer Creek or the Cosumnes River. The evidence supporting this assertion include the following: a limited volume of groundwater will be extracted at the NVWF prior to implementation of the Zone 40 conjunctive use program; groundwater modeling and expert testimony associated with the consideration of the SDCP/SRSP (CEQA Findings of Fact and Statement of Overriding Considerations for the SDCP/SRSP) and the Zone 40 Water Master Plan Update. Mitigation Measure WS-1 from the certified SDCP/SRSP EIR will ensure that development of the Community Plan area will not proceed unless agreements and financing for supplemental water supplies are in place, consistent with the Sacramento County General Plan Policy CO-20 development cap. Additionally, Mitigation Measure WS-2 from the SDCP/SRSP EIR limits the annual volume of groundwater extracted at the NVWF to 10,000 AF/yr or to an amount that would result in no more than a 10-foot decline in regional groundwater elevations from existing conditions in the vicinity of the well field, whichever occurs first.

Existing groundwater elevation and topographic data indicate Deer Creek and the Cosumnes River are not in direct hydraulic connection with the underlying or adjacent unconfined groundwater system for the majority of their reaches through the central portion of Sacramento County. In these reaches, depletions from Deer Creek and the Cosumnes River due to seepage occur under unsaturated flow conditions. Under unsaturated flow conditions, the seepage rate is different to the elevation of the unconfined regional groundwater surface. Consequently, although operation of the NVWF may have estimated impacts up to 5 feet on groundwater elevations underlying and adjacent to Deer Creek and the Cosumnes River, these impacts will not affect depletions due to seepage from either Deer Creek or the Cosumnes River for the majority of their reaches (UC Davis, Center for Watershed Sciences (2005). The estimated attendant impact on groundwater elevations adjacent to Deer Creek and the Cosumnes River as a result of pumping 10,000 AF/yr at the NVWF is less than 5 feet.

The SDCP/SRSP FEIR concluded that implementation of the Community Plan would not significantly impact flows in either Deer Creek or the Cosumnes River. Based upon the substantial evidence and data presented to the Board of Supervisors at the public hearings, the Board further concluded that implementation of the Community Plan would not adversely affect flows on the Cosumnes River, explaining that, consistent with Sacramento County General Plan policy CO-20, the groundwater levels in the vicinity of the SDCP area have been stabilized since 1993 and the total amount of groundwater projected to serve the project is a small fraction (approximately 3 percent) of the total production (roughly 360,000 AF/yr) currently being pumped for agricultural uses (CEQA Findings of Fact and Statement of Overriding Considerations for the SDCP/SRSP, p. 55). Because groundwater extraction from the NVWF would have very small or insignificant impacts on depletions from the Cosumnes River, there was no need to assess the associated biological impacts. Additionally, biological resource impacts resulting from the cumulative pumping proposed as part of the Water Forum Agreement (WFA) and the Zone 40 Water Supply Master Plan (WSMP) were addressed in the EIR for the Water Forum (State Clearinghouse Number 95082041), which was certified by the Sacramento County Board of Supervisors in 1999 and the certified 2002 Zone 40 WSMP FEIR, which is publicly available for review at the Sacramento County Department of Environmental Review and Assessment, located at 827 7th Street Room 220, Sacramento CA. 95814.

Based upon detailed groundwater modeling, the SDCP/SRSP EIR states that the aquifer is not in direct connection with the Cosumnes River except at two places, upstream of Dillard Road and downstream of Twin Cities Road. Where there is no hydraulic connection, groundwater pumping would not affect Cosumnes River flows or impact special-status species or habitat. The SDCP/SRSP indicated that at the two locations where there is a hydraulic connection, groundwater modeling evidence has shown that changes in groundwater elevations are less than 2 feet (and typically less than 1 foot); therefore, concluded that the resulting impacts of provision of the Community Plan's water supply on Deer Creek and the Cosumnes River would be very small and insignificant (Davert, 2002).

As indicated above, implementation of the Zone 40 conjunctive use program decrease the reliance on groundwater use throughout Zone 40. The proposed annual groundwater extraction of 10,000 AF/yr represents less than a 3% increase in the annual volume of groundwater extracted from the aquifers underlying and adjacent to Deer Creek and the Cosumnes River. Lastly, a large number of agricultural wells are located immediately adjacent to both Deer Creek and the Cosumnes River along the majority of their lengths in Sacramento County. Such wells are typically completed in the upper unconfined regional aquifer system (rather than the lower semi-confined aquifer from which the NVWF will extract groundwater). Because of their proximity to Deer Creek and the Cosumnes River, these shallow agricultural wells exert a much

greater influence on local groundwater elevations and gradients than the NVWF (SDCP/SRSP DEIR Comments and Responses p. 23.126).

After publication of the Draft EIR for the 2002 Zone 40 Water Supply Master Plan (WSMP), SCWA, the Nature Conservancy (TNC), and the Southeast County Agricultural Water Authority (SCAWA) began to negotiate an agreement regarding the management of Cosumnes River water resources. The Framework Agreement for the Management of Water and Environmental Resources Associated with the Cosumnes River Corridor (November 16, 2004) was a collective effort by the SCWA, TNC, and the SCAWA to sustain and/or restore the agricultural, fishery, riparian forest, and perennial marsh resources of the Cosumnes River corridor through the appropriate allocation and management of these resources. The Framework Agreement recognizes that elements of the 2002 Zone 40 WSMP provide a foundation for a broader, more integrated regional water management plan and also outlines seven elements of the water resources management program for the Cosumnes River Corridor (Zone 40 WSMP Final EIR, p. 3-1).

Additionally, in response to comments received in the Draft EIR for the Zone 40 WSMP, SCWA directed the preparation of the Cosumnes River Hydrologic Analysis (CHRA) to provide a more refined numerical approach simulation tool to evaluate the localized effects of regional groundwater operation and effect of potential Cosumnes River flow enhancement alternatives on local and regional groundwater. The CHRA includes several model refinements including, but not limited to, an update of the Sacramento County IGSM data files, an update of streambed and aquifer characteristics data, use of groundwater from an additional 25 wells adjacent to the Cosumnes River, and the simulation of nine additional ungaged watersheds and modification of four ungaged watersheds that were part of the original model. The CRHA was led by the SCWA and the Sacramento County Department of Environmental Review and Assessment (DERA), with participation: by the University of California at Davis (UCD), TNC, SCAWA, the Nature Heritage Institute, the California Department of Water Resources, and the City/County Office of Metropolitan Water Planning. Several meetings were held with the participants to ensure that the CHRA used the best and most recent available information the appropriate level of detail, and that the application of the Sacramento County IGSM adequately addressed the issues of concern (2002 Zone 40 WSMP FEIR, p. 3-8).

Precipitation

The temperatures and winds in the Central Valley and throughout Sacramento County are virtually isolated from the effects of the ocean in the cool season. In the absence of storm systems, the low-level wind field is generally dominated by downslope drainage flow off the colder Sierra Nevada mountain range. Under the influence of a strong inversion and with little mixing, shallow radiation fog forms readily overnight. The fog depth generally ranges from 200 feet in the lower portion of the valley, to only 10 or 20 feet in the Northern Sacramento Valley areas. An up-valley wind will usually develop and mix the fog out by late morning, but can persist through much of the daytime hours in the portions of the season (December through February) where daylight is very short and diffuse and upslope flow is never realized. Clearing becomes more difficult each day, as the fog layer itself reflects solar energy that might otherwise be heating the ground. The influence of a given Pacific shortwave on the populated areas of the Central Valley varies greatly and is a function of the magnitude of the high pressure that tends to exist over the Western U.S. coast relative to the pressure falls being produced by the shortwave.

In weaker storms, dry dense air near the surface can be left undisturbed by the south-southeast flow in areas like the northern and western portions of the valley, including the I-5 corridor north

of Redding. This can produce local wet bulb cooling and snow down to 100-200 foot elevations. Light rain begins in the Southern Sacramento Valley with moderate to heavy banded precipitation forms ahead of the upper cold front over the ridges of the coastal range and move east over the valley. Wind speeds increase to their maximum. Light rain begins in the Northern San Joaquin Valley as rainfall rates level off in the Northern Sacramento Valley. With the passage of the upper cold front, winds shift from south-southeast to west-southwest.

According to the National Weather Service, the annual average precipitation for Sacramento County and the project site ranges from 15 to 20 inches. There is very little snow that falls in the Sacramento Valley, so is not considered a climatic feature of the valley floor. More characteristic of the valley is the dense fog occurring in mid-winter. Fog usually occurs in the morning hours, and may continue for several days in a row if atmospheric conditions are stagnant.

Flooding

The Federal Emergency Management Agency (FEMA) oversees the Federal Insurance and Mitigation Administration's Hazard Mapping Division, which maintains and updates the National Flood Insurance Program maps. The Mitigation Division manages the National Flood Insurance Program and oversees FEMA's mitigation programs. The FEMA flood insurance maps designate areas in various flood zones depending on the topography, drainage characteristics and the potential flood related hazards associated with each area. The FEMA flood insurance map zones include areas potentially inundated by a 100-year flood event and 500-year flood event. Areas potentially inundated by 500-year floods are areas of 100-year floods with average depths of less than one foot or with drainage areas less than one square mile, and areas protected by levees. The proposed project is located in Zone X, as depicted in **Figure 4.7-1**, which is outside the 100-year floodplain of the Cosumnes and the American Rivers. Due to the site's topography and distance from the flood plain, the threat of floods on public safety and property damage on the site is considered to be very low.

Groundwater Resources

The Central Valley contains the largest basin-fill aquifer system in the state. The valley is in a structural trough about 400 miles long and from 20 to 70 miles wide and extends over more than 20,000 square miles. The trough is filled to great depths by marine and continental sediments, which are the result of millions of years of inundation by the ocean and erosion of the rocks that form the surrounding mountains. Sand and gravel beds in this great thickness of basin-fill material form an important aquifer system. From north to south, the aquifer system is divided into the Sacramento Valley, the Sacramento-San Joaquin Delta, and the San Joaquin Valley sub regions, on the basis of different characteristics of surface-water basins. The aquifer underlying the SDCP area is part of the Sacramento Valley sub-region.

The Sacramento Valley aquifer system is formed primarily of sand and gravel with significant amounts of silt and clay, all of which have been eroded mainly from older rocks at the boundaries of the valley. The environments in which the continental sediments were deposited varied, but most were deposited in fluvial environments; however, the deposits contain some lacustrine beds. Beds and lenses of fine-grained materials, such as silt and clay, constitute a significant percentage of the aquifer system. In most parts of the valley, fine-grained materials compose 50 percent or more of the aquifer system. The most extensive clay bed, which is informally named the "E-clay", consists primarily of the Corcoran Clay. Because beds of silt and clay do not readily transmit water under natural conditions, they act as barriers to vertical flow and cause differences in hydraulic head with depth.

Insert Figure 4.7-1

Sacramento County contains a single heterogeneous aquifer system that contains water under unconfined, or water-table, conditions in the upper few hundred feet; these conditions grade into confined conditions with depth. The confinement is the result of numerous overlapping lens-shaped clay beds. Geophysical well logs indicate that the "E-clay," although probably the largest single confining bed, constitutes only a small percentage of the total thickness of clay layers in the aquifer system. This indicates that the significance of the "E-clay" as a barrier to vertical flow may have been exaggerated. Further, the difference in hydraulic head directly above and below the "E-clay" is small when compared to head differences within intervals of the deep parts of the aquifer system.

Prior to urban development, the aquifer system was under steady-state conditions in which natural recharge balanced natural discharge. Groundwater in the shallow part of the aquifer system flowed from areas of high altitude at the valley margins, where most of the recharge took place, down gradient to discharge into rivers and marshes near the valley axis. Under predevelopment conditions, streams emanating from the Coast and Cascade Ranges and the Sierra Nevada primarily recharged the aquifer system. Most of the recharge was in the northern and eastern parts of the valley. Precipitation falling on the valley floor during the rainy season provided only a small part of the total recharge. Groundwater that was not evaporated or transpired by plants discharged either into the Sacramento and the San Joaquin Rivers that drained to San Francisco Bay or into the Tulare Basin from which it was eventually removed by evaporation or transpiration.

Additionally, under predevelopment conditions in Sacramento County, the hydraulic head in the shallow water-table aquifer where water entered the aquifer system at the valley margins was greater than the head in the deeper confined aquifer; thus, ground water moved downward. Conversely, the head gradient was reversed where water left the aquifer; typically by discharge to surface-water bodies, and the hydraulic head in the water table aquifer was less than that in the confined aquifer. The difference in hydraulic head created upward movement of the groundwater toward rivers and marshes. Precipitation that fell on the valley floor and was not lost to evapotranspiration recharged the water-table aquifer and moved down the head gradient toward the rivers and surrounding marshes. Upward vertical flow to discharge areas from the deep confined aquifer was impeded by confining clay beds, which caused a pressure head in the deep parts of the aquifer system. Because of the pressure head, wells that penetrated the deep aquifer in low-lying areas near the rivers and marshes flowed during the early years of development in the valley, and did not require additional groundwater extraction.

By the early 1960's, urban development and agricultural activities had lowered groundwater elevations and altered groundwater flow patterns in the aquifer system. Because the magnitude of the withdrawals caused hydraulic heads in the confined parts of the aquifer system to fall far below the altitude of the water table, the vertical hydraulic gradient was reversed over much of the Central Valley. As a result, much of the water in the upper unconfined zone of the aquifer system that flowed laterally toward the river under predevelopment conditions leaked downward through the confining beds into the lower confined aquifer. However, concurrent with an increase in surface-water imports in the early 1970's, groundwater withdrawals in the aquifer system decreased, which allowed groundwater levels in many areas to recover in the confined part of the aquifer system, in some cases to pre-1960 levels. With few exceptions, the groundwater flow patterns in the aquifer system today are similar to those in the mid 1970's (USGS, 1995).

Groundwater in the vicinity of the Preserve at Sunridge project occurs in both the upper shallow aquifer zone and in the underlying deeper aquifer zone. The deeper aquifer is composed

primarily of the Mehrten Formation and is separated from the shallow aquifer by a discontinuous clay layer. The thickness of the deep aquifer ranges from approximately 200 feet thick in the eastern portion of the county to over 2,000 feet in some of the western portions of the County. As mentioned above, a discontinuous clay layer that is not completely impermeable in some areas separates the shallow and deep aquifers. Therefore, there is a potential for vertical movement of groundwater between the two aquifers. Generally, the movement of groundwater between the aquifers occurs when a head differential exists between the aquifer systems. For instance, if heavy pumping in the deep aquifer reduces the pressure head in this system, then groundwater from the shallow aquifer will be induced to recharge the deeper aquifer. Conversely, if groundwater levels are decreased (by increased pumping) in the shallow aquifer, then the potential exists for the upward movement of groundwater to recharge the shallow aquifer. Recharge to the aquifer system area occurs from a combination of three main sources: stream recharge (primarily from the Cosumnes and American rivers); subsurface inflows from adjacent areas; and percolation of rainfall and applied water.

Groundwater Contamination

The project area is located in the eastern portion of Sacramento County south of white Rock Road. North and west of Grantline Road and east of Mather Field. Groundwater within the project area has been impacted by contamination resulting from past disposal practices of rocket fuel containing perchlorate and other organic carbon based solvents; i.e., trichloroethylene (TCE). There are two major superfund sites located north (upgradient) of the project area, one is the federal superfund site owned and operated by Aerojet General Corporation (Aerojet), the other is a State superfund site, owned and operated by the former McDonnell-Douglas Corporation (now the Boeing company). Of these two superfund sites, the State superfund site is located immediately north of the project area and thereby is of immediate concern to the project area. The State Superfund site is also called the "Inactive Rancho Cordova Test Site" or the "IRCTS". Both Aerojet and the Boeing have been named as the responsible parties and have been conducting investigation and remediation of the groundwater contamination, under the supervision of the U.S. EPA, the Central Valley Regional Control Board, and the Department of Toxic Substances Control.

Presently there are three groundwater plumes originated from IRCTS. These plumes in addition to their corresponding proposed groundwater extraction and treatment (GET) facilities are discussed below:

Alpha-Plume and Alpha GET Facility: The Alpha plume is associated with releases from the Alpha Complex located at the former Boeing facility. The Alpha Complex was used to perform complete missile system static firing, subsystem checks, and component tests. The plume contains TCE, cis1,2-DCE, and perchlorate and is migrating in the groundwater in the southern part of IRCTS to the southwest across Douglas Blvd. Boeing indicates that the Alpha-GET facility may start treating contaminated water by 2005 (NPDES Permit No. CA0085049. January 27, 2005)). The Alpha GET will be located on the north side of Douglas Road approximately 1 mile east of Sunrise Blvd and may have a treatment capacity up to 450 gallons per minute (GPM)

Administration Plume and Admin-GET Facility: This plume is associated with releases from operations conducted at the former Administration Area. The Administration Area consisted of an administration building, maintenance and plant protection building, paint booth, transportation building, data engineering laboratory, manufacturing building, and other functional buildings. The Plume contains VOCs including TCE and 1,2-DCE and is migrating in the south part of the IRCTS to the south across Douglas Blvd. Construction of Admin-GET was originated planned for June of 2005 (NPDES permit No. CA0085049. January 27, 2005). However,

construction has been delayed. The Admin GET has been proposed at the Security Park facility located in north of the Douglas road and east of the Alpha GET. The GET may have a treatment capacity up to 750 gpm.

Mather Plume and Mather GET Facility: The Mather plume has migrated approximately 2.5 miles west of the IRCTS into the aquifer underlying Mather Field. The plume contains both perchlorate and VOCs and has caused four drinking water wells owned and operated by the SCWA to be shut down. Boeing is currently operating a temporary treatment system at Mather Field to prevent further migration. VOCs (primarily TCE) has been detected at the location up gradient from the extraction wells but have not been detected in the groundwater pumped from the extraction well. Boeing plans to construct a permanent GET facility (Mather GET) at Mather Field by October 2005 (NPDES Permit No. CA0085049. January 27, 2005). The Mather GET will be located in Mather Field adjacent to Femoyer Street . The facility may have a design capacity up to 6000 gpm (NPDES Permit) but may only treat up to 3550 gpm of contaminated groundwater.

Water Supply

Conjunctive use is the planned management and use of both groundwater and surface water in order to improve the overall reliability of the region's total water supply. For instance, in wet years when ample supplies of surface water are available, groundwater pumping may be reduced or ceased, with only surface water used, which would result in the groundwater basin being replenished in wetter years. In dryer years when surface water is in shorter supply, the water that accumulated during wetter years would be pumped for use, with surface water diversions being reduced or eliminated entirely. It should be noted that additional surface water diversions are required to implement the conjunctive use program. Conjunctive use is also expressed in acre-feet per year (Af/yr), and according to Zone 40 WSMP estimates, a projected long-term average of 68,637 Af/yr of surface water is needed to sustain SCWA's conjunctive use program.

Surface Water Availability

The WSMP identifies an estimated long-term average use of surface water supply of 68,637 Af/yr through 2030. The long-term supply will consist of 45,000 af/yr of United States Bureau of Reclamation (USBR) Central Valley Project (CVP) contract water (known as "Fazio" and "SMUD" water), plus additional water supplies from various surface water sources including up to 9,300 af/yr from the City of Sacramento existing entitlements areas where the Zone 40 boundaries lies within the City's American River Place of Use. Under the terms of an existing agreement, the City of Sacramento diverts, treats, and conveys approximately 3,800 af/yr of SCWA's "Fazio" water through its system for domestic us in Zone 40 facilities. This amount is anticipated to increase by approximately 10 percent per year until the full contract volume is utilized. The Preserve at Sunridge's water demand is approximately 1,319 AF/yr, which could be supplied initially through groundwater supply from the North Vineyard Well Field and ultimately through a combination of surface and groundwater sources associated with SCWA's Zone 40 conjunctive use program. Since release of the project's original water supply assessment (SunRidge Village Water Supply Assessment), SCWA has subsequently identified that the project would now receive groundwater from the North Vineyard Well Field rather than from water supply wells to be placed in the proposed Sunrise Douglas 2 development area (now know as the Suncreek Specific Plan area) (CITE SCWA SOURCE ON THIS). This would consist of the development and dedication of a sixth well facility that would generate groundwater within the 10,000 AF/yr maximum set forth for the North Vineyard Well Field. This water would be conveyed through existing and planned pipeline facilities for the Sunridge Specific Plan and would utilize available

capacity in the Anatolia Water Treatment Plant in the Sunridge Specific Plan. No additional capacity expansion of the pipeline facilities or water treatment are currently anticipated. To reduce reliance on intermittent surface water, SCWA also intends to pursue upstream water transfers, which would be diverted at or near the mouth of the American River or from the Sacramento River. The Zone 40 conjunctive use program includes the delivery of surface water within the Zone 40 boundaries as part of a comprehensive program to maintain the long-term, regional water balance. As described in the SunRidge Village (now known as the Preserve at Sunridge) Water Supply Assessment SCWA has identified the four following sources of surface water supplies totaling up to 68,637 AF/yr that would be available to serve the project and other existing and planned growth in Zone 40.

- SCWA has entered into a contract with the U.S. Bureau of Reclamation (USBR) for 22,000 Af/yr of Central Valley Project (CVP) supplies diverted from the American River pursuant to public law (PL) 101-514 or "Fazio Water." Of the 22,000 Af/yr, 7,000 AF/yr has been subcontracted to the City of Folsom for diversions from Folsom Lake. The remaining 15,000 Af/yr will be diverted by SCWA from the Sacramento River. This contract assignment is complete.

- SCWA has entered into a three party agreement with the City of Sacramento and the Sacramento Municipal Utilities District (SMUD) for the assignment to SCWA of 15,000 Af/yr of SMUD's existing contract with USBR. The intent of this supply will be diverted by SCWA from the Sacramento River and is often referred to as "SMUD I" water. This contract assignment is complete.

- SCWA has negotiated with SMUD for the assignment of an additional 15,000 Af/yr pursuant to SMUD's existing contract with USBR to be diverted by SCWA from the Sacramento River, and is often referred to as "SMUD II" water. This contract assignment is complete.

- The SCWA has made an application to the State Water Resources Control Board (SWRCB) for excess flows on the American River and Sacramento River to be diverted by SCWA from the Sacramento River.

SCWA was formed in 1952 by a special legislative act of the State of California making water available for any beneficial use of lands and inhabitants, and for extraction, production, transmitting, and distribution of groundwater. Zone 40 was created by SCWA Resolution No. 663 in May 1985, which describes the exact boundaries of the zone and the projects to be undertaken within those boundaries. The contracts, documents, agreements, and applications discussed above are publicly available for review. This EIR incorporates the following two EIRs by reference in accordance with State CEQA Guidelines Section 15150. The 2002 Zone 40 WSMP EIR, which was certified by the Sacramento County Board of Supervisors in February 2005, evaluated the potential environmental effects of implementing Zone 40's WSMP conjunctive use program of groundwater, surface water, and recycled water supplies, as well as a financing program for the construction of new surface water diversion structure, surface water treatment plant, water conveyance pipelines, groundwater extraction, treatment, storage, and distribution facilities; and recycled water storage and distribution facilities, which will be used for the production, conservation, transmission, and distribution of wholesale and retail water supplies through 2030.

The Water Forum EIR addressed the environmental effects of implementing the Water Forum Agreement (WFA). The WFA identified the following two co-equal objectives: provide a reliable an safe water supply for the region's economic health and planned development through the

year 2030; and preserve the fishery, recreational, and aesthetic values of the Lower American River. The EIR evaluated the potential adverse environmental effects for each WFA Element, which include Increased Water Diversions, Actions to Meet Customers Needs while Reducing Diversion Impacts on the Lower American River in Dryer Years, Support for Improved Pattern of Fishery Flow Releases from Folsom Reservoir, Lower American River Habitat Management, Water Conservation, Groundwater Management, and the Water Forum Sucessor Effort. As previously indicated, the FEIR for the Water Forum was certified by the Sacramento County Board of Supervisors in 1999 and is publicly available at the Water Forum Main Office at 600 J Street Suite 260 Sacramento CA. 95814.

Groundwater Availability

The Water Forum began in 1993 and is comprised of representatives from business, environmental, public interest, and water purveyor communities (including the Cooperating Agencies). After a six-year, consensus based, stakeholder process, the Water Forum completed the Water Forum Action Plan (referred to after its adoption as the Water Forum Agreement), which prescribes a regional conjunctive use program for the lower American River and the connected groundwater basin. The WFA established a long-term average annual limit (sustainable yield) for each of three geographic sub-areas of the groundwater basin within the County: 131,000 AF/yr for the North Area (north of the American River); 273,000 AF/yr for the Central Area (between the American and Cosumnes Rivers); and 115,000 AF/yr for the Galt Area (south of the Cosumnes River). Any proposed water supply project must satisfy the groundwater conditions specified in the WFA for the 2030 projected levels of development.

California Water Code Section 10617 requires that every urban water supplier that provides water to more than 3,000 customers or supplies more that 3,000 AF/yr prepare and adopt an Urban Water Management Plan (UWMP). SCWA has undertaken an extensive planning effort for the supplies and facilities necessary to serve future growth and development within Zone 40 boundaries. SCWA recently prepared and adopted its Zone 40 Water Supply Master Plan (WSMP) in February 2005. While the UWMP addresses water demands and supplies for all of Sacramento County, the Zone 40 WSMP focuses on the central portion of the County and is the most recent and best information available addressing existing and future water demands, supplies and facilities within central Sacramento County. The UWMP describes the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. Additionally, the UWMP identifies and quantifies, to the extent practicable, the existing and planned sources of water available to the supplier and the reliability of the water supply and vulnerability to seasonal or climatic shortages. The Urban Water Management Planning Act also requires a water supplier to document water supplies available during normal, single-dry, and multiple-dry years during a 20-year production and the existing and projected future water demand during a 20-year projection. The Act requires that the projected water supplies and demands by presented in 5-year increments for the 20-year projection.

Because of fluctuations in water demands and hydrologic conditions, the normalization of land use unit water demand factors was included in preparation of the WSMP. The normalization of water demands is achieved by evaluating per capita demands on an annual basis based on 72 years of hydrologic data for Sacramento County, considering the high water use years as the years to design for. Normalizing to the average of the extreme years provides a design reliability to meet water demands in 90 percent of the years. Water supply in the remaining 10 percent of the peak demand years is achieved through water conservation and other demand reduction strategies, which can be implemented to meet water demands in those peak years.

Water demands are inherently higher in dry hotter years due to increased outdoor irrigation needs. However, water conservation awareness is also higher in dry years resulting in a lowering of water demands based on water conservation efforts. Historical data indicates that water use is typically highest in dry years after multiple wet years. The WSMP assumes that maximum water use occurs in normal years and that in both dry and wet years water demand would be as much as 15 percent lower than normal years (Zone 40 WSMP, p. C-6) The WSMP, through CEQA, has undergone significant scrutiny by analyzing the impacts resulting from implementation of the recommended facilities with emphasis on cumulative, indirect, and growth inducing effects that could occur with the regional development supported by the plan. This included evaluating the affect of groundwater pumping in Zone 40 on the Cosumnes River and neighboring wells (see Cosumnes River Studies discussion above). Projects identified in the WSMP and associated CIP will require project level review from other state, regional, and/or local agencies that have regulatory authority over those aspects of the WSMP. Other agency approval or permit authority over the Zone 40 WSMP CIP and any other proposed CIPs include but are not limited to US Army Corps of Engineers (Clean Water Act permit), US Fish and Wildlife Service (Federal ESA compliance), Regional Water Quality Control Board (Clean Water Act 401 certification), and California Air Resources Board (Permit to operate).

Since the projected water demands for the proposed project are included in the UWMP, data from the UWMP can be relied upon to evaluate SCWA's existing and planned water supplies to meet current and projected water demands. Additionally, the proposed project site is located within the Sunrise Douglas Community Plan (SDCP) area and falls entirely within Zone 40. The water demands associated with the proposed project were included and addressed in the development of the Zone 40 "conjunctive use" program, which is consistent with the WFA and the UWMP (SunRidge Village Water Supply Assessment). Specific demands beyond those considered in the UWMP are addressed in the Zone 40 Water Supply Master Plan and the Water Supply Infrastructure Plan Zone 40 (WSIP), which was prepared by Montgomery Watson Harza (MWH)

The California Water Code requires coordination between land use agencies and public water purveyors to ensure that water supplies are adequate to meet existing and planned future demands associated with a particular project. Water Code Sections 10910-10915 require that the City identify the public water system for any proposed development project subject to CEQA and request that the public water system prepare a water supply assessment that demonstrates that its water supplies are sufficient to meet the proposed project demands in addition to existing and previously identified future demands for a period of 20 years. The Sacramento County Water Agency (SCWA) Zone 40 is the water purveyor for the proposed project and approved the project's Water Supply Assessment (WSA) on December 7, 2004. The reader is also referred to the Water Supply Assessment for the Preserve at Sunridge (**Appendix 4.7**) for more details. To ensure compliance with SB 610, SunRidge Village project water demands will be met initially with groundwater to be supplied from the North Vineyard Well Field.

In August 2000, Montgomery Watson Harza (MWH), a water resources engineering firm, at the direction of the SDCP Owners Association, completed the "Sunrise Douglas Community Plan/SunRidge Specific Plan Supplement Water Supply Investigation (Water Supply Investigation). The Water Supply Investigation evaluated the potential water alternatives for the SDCP area and recommended development of groundwater production facilities in the North Vineyard area. The Capital Improvement Program (CIP) for the SunRidge Specific Plan (SRSP) outlines the infrastructure improvements and costs associated with the Initial and Second Phases of development of this off-site water system. The Water Supply Investigation describes the subsequent phases of development of this water delivery system including groundwater

extraction, treatment capacity, treated surface water, storage, and pumping and conveyance facilities on an as -needed basis. The off-site water delivery system provides a phased construction plan that responds to the increased water demand in the area, including the proposed project.

The Zone 40 WSMP defines a conjunctive use program of groundwater, surface water, and recycled water supplies, as well as a financing program for the construction of new surface water diversion structure, surface water treatment plant, water conveyance pipelines, groundwater extraction, treatment, storage, and distribution facilities; and recycled water storage and distribution facilities, which will be used for the production, conservation, transmission, and distribution of wholesale and retail water supplies through 2030. The Zone 40WSMP sets forth the provisions of the conjunctive uses program, which includes surface water, groundwater, and recycled water. The projected water demand (supplied) by SCWA would increase from approximately 25,000 AF/yr to an estimated 113,064 AF/yr by 2030. To meet new demands, SCWA has identified new and existing surface water entitlements, additional groundwater pumping, and recycled water.

The Water System Infrastructure Plan (WSIP) is a companion document to the Zone 40 Water Supply Master Plan. The WSIP was developed as a steering document to ensure reliable long-term water supplies and adequate water supply infrastructure for its present and future customers within Zone 40. The WSIP includes a description of existing and future water supplies, demand estimates for existing and future developments, demand projections, and design and modeling criteria. The SCWSIP identified various future water supply sources to serve the SDCP: these include the NVWF, the Groundwater Treatment Plant, and the Zone 40 Central (Surface) Water Treatment Plant. **Table 4.7-1** summarizes the new supply sources, in units of production capacity (maximum day demand in units of gpm) used for the WSIP. As indicated, approximately 44,000 gpm of new supply capacity is necessary to meet the projected demands in the area.

TABLE 4.7-1
NEW WATER SUPPLY SOURCES IN THE NORTH SERVICE AREA

Supply Capacity	Maximum Day Demand (gpm)
North Vineyard Well Field	8,000
Suncreek On-site Wells	4,000
Central WTP	31,675
Total	**43,675**

Source: WSIP, April 2004.

Zone 40 Central (Surface) Water Treatment Plant

SCWA and the East Bay Municipal Utility District as the Freeport Regional Water Authority (FRWA) are jointly constructing a diversion structure on the Sacramento River near the town of Freeport in conjunction with a raw water conveyance pipeline to bring additional surface water supplies into Zone 40. SCWA will also construct a surface water treatment facility with an ultimate capacity of 100 million-gallons per day (mgd) along with appurtenant water conveyance pipelines. The anticipated maximum day capacity available to the North Service Area (NSA) from this source is 31,675 gpm. **Table 4.7-2** provides a summary of water demands for the NSA.

Table 4.7-2 sums the proposed Suncreek villages, splits the Rio Del Oro demands into Cal-Am and Zone 41 retail service areas, and includes replacement supplies for adjacent purveyors that

may require water from Zone 40. As indicated, approximately 44,000 gpm in new demands are projected to occur within the NSA over the next 30 years.

TABLE 4.7-2
ANTICIPATED MAXIMUM DAY WATER DEMANDS IN THE NSA

Demand Areas	Maximum Day Demand (gpm)
Cal-Am Replacement Supply	2,500
American States Replacement Supply	3,400
Rio Del Oro (Cal-Am)	4,857
Rio Del Oro (Zone 41)	6,045
Anatolia	2,926
Montelena (includes DJ Enterprises)	849
The Preserve[1]	1,665
Sunridge Park	873
Suncreek[2]	4,471
East Side Properties[3]	2,232
North Douglas I and II	520
Sunrise Douglas Community Plan	5,357
Lot J[4]	321
Mather New Growth	6,667
American States (shut-off in future)	1,000
Total	43,683

1 *Sunridge Park*
2. *Sunrise Douglas 2*
3. *Douglas 104, Galaxidas Property, Grantline 208, and Pappas Property.*
4. *Cresleigh Homes*

DRAINAGE

The Preserve at Sunridge site consists of gently rolling topography with poorly defined grassy swales. The majority of the site is located in the Lower Morrison Creek South Branch Subbasin (main shed). From a drainage perspective, the site is divided into the main shed and the southeast shed. The main shed of the project site drains to the South Branch of Lower Morrison Creek. Channel improvements and realignment are proposed for the portion of the Creek that extends through and collects runoff from the site. The main shed eventually crosses the FSC immediately west of Sunrise Boulevard. The southeast shed of the site drains south to Laguna Creek. The main shed slopes towards the South Branch of Lower Morrison Creek, which extends from the northwest to the center of the western edge of the property. The remainder of the site is within the Laguna Creek Subbasin (southeast shed), which is a 50-acre subbasin located in the southeast corner of the site and drains south towards Laguna Creek.

The existing elevations of the site range from 170 to 200 feet above mean sea level. According to the Soil Survey of Sacramento County, the Morrison Creek watershed consists primarily of soils classified as types "C" and Type "D" Hydrologic Soil Groups. The south branch of Lower Morrison Creek (also known as Lower Morrison Creek – Central Branch SDCP area), which flows into Anatolia II from the east is mitigated in an on-line detention basin, then crosses under Sunrise Boulevard in two 42-inch culverts, to the northern FSC overcrossing, which is an 8-foot wide by 4.25-foot deep concrete overchute. This branch of Morrison Creek is currently being improved as part of the Anatolia I project.

Runoff and drainage are evaluated in three ways for differing site conditions: (1) total runoff volume; (2) time of runoff occurrence; and (3) peak discharge rate. Changes in runoff volumes typically result from changes in infiltration and basin storage. Changes in the time of occurrence of peak flow (time of concentration) result from changes in the flow velocities, as a result of the provision of a hydraulically efficient drainage system compared to the natural watershed or drainage system with less efficiency (i.e., a faster drainage system vs. a slower drainage system). Peak flow changes are the consequence of an increased runoff volume occurring in either a longer or shorter period of time. The existing, interim, and ultimate drainage conditions and improvements are discussed under Impact 4.7.5.

Previous Studies

Hydrological impacts associated with the development of the SDCP area were determined in the "Final Master Drainage Study, Sunrise Douglas Community Plan Area, Sacramento California," (1998), prepared by the Spink Corporation, (SDCPA study). The Sunrise Douglas Property Owners Association then contracted with MHM Engineering to develop UNET models of the proposed/detained conditions. The MHM UNET models were to be used to refine the detention and open channel requirements and were reviewed by the Sacramento County Department of Water Resources (DWR). Wood Rogers, Inc. developed a "Master Drainage Study for Anatolia I and II" dated December 4, 2003 (Anatolia I and II Study). This study was based on the regional drainage facilities required for the development of the Anatolia I and II projects. The Anatolia I and II Study was used as a basis for the Preserve at Sunridge Drainage Study in conjunction with other design constraints identified by the Sacramento County Department of Water Resources (DWR).

4.7.2 REGULATORY FRAMEWORK

FEDERAL

Clean Water Act (CWA)

The CWA, administered through the regulatory program of the U.S. Army Corps of Engineers (Corps), regulates the water quality of all discharges into waters of the United States including wetlands and perennial and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water-quality certification requirements for "any applicant applying for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." Section 404, Title 33, Section 1344 of the CWA in part authorizes the Corps to:

- Set requirements and standards pertaining to such discharges (subparagraph [e]);
- Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites" (subparagraph [a]);
- Specify the disposal sites for such permits (subparagraph [b]);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas" (subparagraph [c]);
- Specify type of and conditions for non-prohibited discharges (subparagraph [f]);

- Provide for individual state or interstate administration of general permit programs (subparagraphs [g], [h], and [j]);
- Withdraw approval of such state or interstate permit programs (subparagraph [i]);
- Ensure public availability of permits and permit applications (subparagraph [o]);
- Exempt certain Federal or State projects from regulation under this Section (subparagraph [r]); and
- Determine conditions and penalties for violation of permit conditions or limitations (subparagraph [s]).
- Section 401 certification is required prior to final issuance of Section 404 permits from the Corps.

Federal Emergency Management Agency (FEMA)

Sacramento County and the City of Rancho Cordova are participants in the National Flood Insurance Program (NFIP), a Federal program administered by FEMA, and retains current Flood Insurance Rate Maps (FIRMs) on file that are available for review within the Planning Department. Any development within the high risk Special Flood Hazard Area delineated on FIRMs for Sacramento County must comply with the NFIP floodplain management building requirements described in Sections 59 through 65 of Volume 44, Code of Federal Regulations (44 CFR).

STATE

California Porter-Cologne Act

The California Porter-Cologne Act of 1970 is largely responsible for creating the State's extensive regulatory program for water pollution control. Pursuant to the Porter-Cologne Act, the responsibility for protection of water quality in California rests with the State Water Resources Control Board (SWRCB), which has been divided into nine Regional Water Quality Control Boards (RWQCBs) to regulate the nine hydrologic basins in the state. The Porter-Cologne Act gives the SWRCB and RWQCBs broad powers to protect water quality by regulating waste discharges to water and land, and requiring cleanup of hazardous conditions.

As required by the Federal CWA and the California Porter-Cologne Act, water quality control plans have been prepared for each of the state's hydrologic basins. These water quality control plans have been prepared in order to regulate discharges that could affect the quality of State waters. Policies for water quality control adopted by the SWRCB serve as guidelines for the regional boards in the preparation of regional water quality control plans. Together, the policies of the SWRCB and the nine regional water quality control plans form the California Water Plan.

The City of Rancho Cordova and the Preserve at Sunridge project site is within the Sacramento River Basin and the jurisdiction of the Central Valley Region Water Quality Control Board (CVRWQCB). The CVRWQCB oversees the area between the Sierra Nevada on the east and the Coast Range and Klamath Mountains on the west, and from the California-Oregon border to the headwaters of the San Joaquin River. The water quality control plan for the Sacramento River is discussed below.

CVRWQCB Water Quality Control Plan, Sacramento River Basin and San Joaquin River Basin

The Water Quality Control Plan (Basin Plan) for the Sacramento and San Joaquin River basins was prepared by the CVRWQCB approved in 1998. The CVRWQCB recently adopted an updated version of the Basin Plan. The objective of the Basin Plan is to preserve and enhance water quality, protect the beneficial uses of all regional waters, and implement the CWA. Specifically, the plan designates beneficial uses for surface and groundwaters, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and to conform to the State's anti-degradation policy, and describes implementation programs to protect all waters in the Region. In order to be considered consistent with the Basin Plan, a project must be in compliance with water quality objectives and may not cause a deterioration of beneficial uses.

Discharges to both surface and ground waters are regulated by the National Pollutant Discharge Elimination System (NPDES). Any proposed action that would result in a direct discharge into waters must describe the quantity and nature of the proposed discharge in a Report of Waste Discharge (ROWD) or an NPDES application. As part of the NPDES permit, appropriate measures and limitations to protect public health and water quality will be incorporated into the project.

Notices of Intent filed with the State Water Resources Control Board for coverage under the state's NPDES General Construction Activity Storm Water Permit are required for all construction projects disturbing one or more acres, or smaller areas that are part of a larger common plan, including excavation, demolition, grading and clearing. In addition, the NPDES permit requirement applies to all discharges of pollutants to "navigable waters" from a "point source." A point source is defined broadly in the Clean Water Act as "any discernible, confined and discrete conveyance" such as a well, pipe, ditch, discrete fissure, container, or vessel. Navigable waters are defined broadly as "waters of the United States," and the U.S. EPA has effectively asserted that these comprise most surface waters, including waters that are tributary to navigable waters, interstate waters, and interstate waters having some impact or involvement in interstate commerce. The City of Rancho Cordova has a joint NPDES permit with Sacramento County, and the cities of Elk Grove, Galt, Citrus Heights, and Folsom.

California Water Code Section 10910-10915 (SB 610)

Public Resources Code (PRC) Section 21151.9, requires that any EIR, negative declaration, or mitigated negative declaration for a qualifying project include consultation with affected water supply agencies. Water Code section 10910 describes the water supply assessment that must be undertaken for projects referred to under PRC Section 21151.9, including an analysis of groundwater supplies. Water agencies are given 90 days from the start of consultation in which to provide a water supply assessment to the CEQA lead agency; Water Code Section 10910 also specifies the circumstances under which a project for which a water supply assessment was once prepared would be required to obtain another assessment. As noted above, a water supply assessment for the proposed project has been prepared and approved by SCWA.

California Government Code Section 66773.7 (SB 221)

Government Code Section 66455.3 requires that the local water agency be sent a copy of any proposed residential subdivision of more than 500 dwelling units within 5 days of the subdivision application being accepted as complete for processing by the city or county. Government Code Section 66473.7 provides detailed requirements for establishing whether a "sufficient water supply" exists to support any proposed residential subdivisions of more than 500 dwellings,

including any such subdivision involving a development agreement. When approving a qualifying subdivision tentative map, the city or county must include a condition requiring a sufficient water supply be available. Proof of availability must be requested from and provided by the applicable public water system. If there is no public water system, the city or county must undertake the analysis described in Section 66473.7. The analysis must include consideration of effects on other users of water and groundwater.

LOCAL

Water Quality and Flood Control Standards

Water quality and flood control standards and measures to alleviate potential problems are addressed within the Sacramento City/County Drainage Manual (Manual), dated 1996. The Manual indicates that the control of urban runoff from new development is a key Best Management Practice (BMP). Some of the most common BMPs utilized in the Sacramento area are dry-extended detention basins, wet-ponds, and natural processes. Dry-extended detention basins typically collect flows and drain out completely between storm events, while wet-ponds retain some or all of the storm runoff from a given event within a permanent pool until the next storm event. Both of these detention methods remove pollutants through the sedimentation of solids. Compliance with the Sacramento Stormwater Management Program's Guidance Manual for On-Site Stormwater Quality Control Measures, dated January 2000 is also a requirement.

The Manual also facilitates coordinated decision-making on flood control protection within the County. The Manual provides a methodology for estimating surface water runoff peak flows and volumes for the analysis and design of drainage facilities. The County uses three methods to estimate runoff flows for the design of drainage facilities including: Nolte; the Sacramento; and the Sato. Each method is used for a specific purpose.

Water Forum Agreement

The Sacramento-Area Water Forum (Water Forum), which began in 1993, is comprised of representatives from business, environmental, public interest, and water purveyor communities (including the Cooperating Agencies). The co-equal objectives of the group are: 1) to provide a reliable and safe water supply for the regions economic health and planned development through the year 2030, and 2) to preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River. After a six-year, consensus based, stakeholder process, the Water Forum completed the Water Forum Action Plan (referred to after its adoption as the Water Forum Agreement), which prescribes a regional conjunctive use program for the lower American River and the connected groundwater basin. Additionally, the Water Forum completed an EIR for the Water Forum (State Clearinghouse Number 95082041), which was certified by the Sacramento County Board of Supervisors in 1999.

Sacramento County General Plan

The existing Sacramento County General Plan was adopted in December of 1993. The County's General Plan is undergoing an update. The update addresses plans for growth in the next planning cycle (2004-2025) as well as addressing new emerging planning issues. Topics addressed in the Update Project include, but are not limited to, holding capacity, infrastructure financing, policy analysis, smart growth planning, and mature communities. As noted in Section 4.1 (Land Use), the City is currently operating under its Interim General Plan rather than the Sacramento County General Plan for transportation policy direction in the City. **Appendix 4.0**

provides a consistency analysis of relevant Sacramento County General Plan policies associated with environmental issues that the City's Interim General Plan is silent.

City of Rancho Cordova Interim General Plan

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to **Appendix 4.0** for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

Sunrise-Douglas Community Plan

As previously noted, the project site is located within the Sunrise-Douglas Community Plan. The Community Plan cites Sacramento County General Plan policies associated with drainage and water quality.

Erosion Control Ordinance

As discussed above, the City of Rancho Cordova adopted the existing Sacramento County General Plan to guide development in the city. The City also adopted the Sacramento County Department of Water Resources (DWR) Grading and Erosion Control Ordinance (Chapter 16.44 of the existing County code), which establishes administrative procedures, minimum standard of review, and implementation and enforcement procedures for controlling erosion, sedimentation and other pollutant runoff from new development projects. The ordinance also addresses grading, filling, land excavation, construction activities and drainage as they relate to a particular project. The ordinance applies to any development project resulting in the excavation of 350 cubic yards of soil or more. The ordinance also ensures compliance with the City's National Pollutant Discharge Elimination System (NPDES) Permit, which is issued by the California Regional Water Quality Control Board (CRWQCB). The City of Rancho Cordova is co-permittee on a NPDES Permit along with Sacramento County and the cities of Sacramento, Folsom, Galt, and Citrus Heights, and Elk Grove. The ordinance requires a separate permit for work on each site unless sites are contiguous, have the same ownership, and are included in the approved plan. The ordinance sets forth performance standards and a permit can be denied, based on the following findings:

a) The applicant has failed to provide sufficient or adequate plans, information or other data necessary to allow determinations respecting compliance with the provisions of Chapter 16.44 or Sacramento County Specifications;

b) The environmental review has not been completed, or other provisions of this code or of state law pertaining to environmental review have not been satisfied, or the activity will have significant adverse environmental impacts, which cannot be substantially mitigated. Where the activity will have significant adverse impacts, the Administrator may approve the permit in accordance with Chapter 16.44, Title 20, and CEQA (1970).

c) The proposed activity will violate provisions of Chapter 16.44, Sacramento County Specifications, or state or federal laws, and such violation cannot be resolved by the imposition of conditions pursuant to Section 16.44.170.

d) The proposed activity will adversely affect surrounding properties and public rights-of-way, the water quality of watercourses, and existing drainage (SCC 102 Section 3, 1995; SCC Section 2, 1993)

4.7.3 PROJECT IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The following significance thresholds are based on Appendix G from the State CEQA Guidelines (2005), which consider a project to have a significant impact on the environment when it would:

1. Violate any water quality standards or waste discharge requirements;

2. Otherwise substantially degrade water quality.

3. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;

5. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

6. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

7. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

8. Place within a 100-year flood hazard area structures which would impede or redirect flood flows;

9. Expose people or structures to a significant risk of loss, injury or death involving flooding, as a result of the failure of a levee or dam.

The following significance thresholds are based on Appendix G from the State CEQA Guidelines (2005) and apply to the proposed project's water supply. A project is considered to have a significant water supply impact on the environment when it would:

10. Result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

11. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed:

Based on the Notice of Preparation prepared for this project, the project would not result in significant impacts related to potential inundation by seiche, tsunami or mudflow. Additionally, the proposed project site is not located within the 100-year floodplain, according to the current Federal Emergency Management Agency (FEMA) maps or other relative flood hazard delineation maps. The project would not place housing within the 100-floodplain or expose people or structures to the threat of flooding. This impact was identified as less than significant in the NOP and will not be discussed further in this section. Additional discussion is provided in the Initial Study contained within **Appendix 1.0** of this EIR.

METHODOLOGY

This section is based on review of applicable General Plan policies, the SDCP/SRSP EIR, the Zone 40 WSMP EIR, the Water Forum EIR, The Preserve at Sunridge SB 610 Water Supply Assessment, the Sunridge Village Drainage Study for the proposed project prepared by Wood-Rogers, Inc. in April 2001 (see **Appendix 4.7**), and the review of previously prepared environmental documents for other projects in the SDCP area. Pursuant to State CEQA Guidelines Section 15150 the following documents:

- Sunrise Doulgas Community Plan/Sunridge Specific Plan Draft and Final EIR (State Clearinghouse No. 97022055)
- CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/Sunridge Specific Plan
- Zone 40 Water Supply Master Plan EIR (State Clearinghouse No. 95082041)
- 2002 Zone 40 Water Supply Master Plan
- Sacramento Area Water Forum EIR

These documents are available for review at the City of Rancho Cordova Planning Department at 3121 Gold Canal Drive, Rancho Cordova, CA 95670.

Previous Environmental Review in the SDCP/SRSP EIR

The SDCP/SRSP Final EIR identified a number of significant hydrology and water supply related impacts. The Sacramento County Board of Supervisors adopted CEQA Findings of Fact Statement of Overriding Considerations of the Board of Supervisors of Sacramento County for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project on July 17, 2002. The following are the hydrology, water quality, and water supply impacts addressed and identified as significant in the SDCP/SRSP Final EIR and Findings that are applicable to the proposed project.

"Impact *Potential impacts associated with drainage.*

HY-2 *Development within the Sunrise Douglas Plan area shall implement the improvements described in the "Final Master Drainage Study for the Sunrise Douglas Community Plan Area " (Final MDS) (Spink Corporation, October 16, 1998), as amended by the "Amendment to Final Master Drainage Study, Sunrise Douglas Community Plan Area" (Amendment) (MHM Engineers & Surveyors, October 19, 2001). Such improvements shall be designed to ensure that post-development peak (100-year) flows do not exceed existing peak*

flows and do not exceed the capacity of the two Folsom South Canal overchutes at Lower Morrison Creek, to the satisfaction of the County Water Resources Division (WRD). Construction of the improvements may be phased as described in the Final MDS and subject to the approval of the WRD, so long as the project proponent(s) provide hydrologic/hydraulic analysis which demonstrate that the phased improvements will reduce peak flows to at least pre-development levels and to the capacity of the two Folsom South Canal overchutes at Lower Morrison Creek to the satisfaction of the WRD.

Detailed plans for the design and construction of all proposed drainage, flood control and water quality improvements, consistent with the Final MDS and Amendment, shall be submitted to the County WRD for review and approval.

Plans for the design and construction of the realigned channel and detention basin with the Sares-Regis wetland preserve area shall also be subject to the approval of the US Army Corps of Engineers.

Plans for design and construction of any joint-use park/detention facilities shall also be subject to the approval of the Park District.

Impact *Potential impacts with surface water quality.*

HY-3 *Development within the Sunrise Douglas Plan area shall provide stormwater quality source and treatment measures consistent with Volume 5 of the City/County Drainage Manual. The final design of such source and treatment control measures shall be subject to the approval of Rancho Cordova Public Works Department and the Sacramento County WRD.*

Impact *Potential impacts to habitat.*

HY-4 *Implementation of the improvements described in the "Final Master Drainage Study for the Sunrise Douglas Community Plan Area " (Final MDS) (Spink Corporation, October 16, 1998), as amended by the "Amendment to Final Master Drainage Study, Sunrise Douglas Community Plan Area" (Amendment) (MHM Engineers & Surveyors, October 19, 2001), shall not occur until the following items have been submitted to the Sacramento County Board of Supervisors for review and approval:*

a) *A wetland delineation for the improvement area verified by the U.S. Army Corps of Engineers.*

b) *A detailed mitigation plan for wetlands to be impacted by the proposed improvements which specifically describes the measures which will be implemented to achieve no net loss in wetland habitat acreages and values.*

c) *Determinate surveys of the improvement area for potentially occurring special status species.*

d) *A detailed mitigation plan developed in cooperation with the regulatory resource agencies (US Army Corps of Engineers, US Fish and*

Wildlife Service, and the California Department of Fish and Game) which is designed to reduce impacts of the proposed improvements on any special status species identified in the determinate surveys to less than significant level.

e) A vegetation/tree survey for the improvement area, which identifies any existing marsh and riparian habitat.

f) A detailed vegetation/tree replacement planting plan which describes the planting/relocation measures to be implemented to provide in-kin replacement plantings on an inch-for-inch basis for any riparian and marsh habitat which will be impacted by the proposed improvements.

HY-5 *Implementation of the Final MDS and Amendment improvements shall not occur until all necessary permits and/or agreements for the proposed improvements have been obtained from the US Army Corps of Engineers, US Fish and Wildlife Service and California Department of Fish and Game.*

Impact *Changes in Groundwater Elevation around the Elk Grove Cone of Depression.*

WS-1 *Entitlements for urban development within the Sunrise Douglas Plan area (i.e., subdivision maps, parcel maps, use permits, building permits, etc.) shall not be granted unless agreements and financing for supplemental water supplies are in place, consistent with General Plan Policy CO-20, which creates a development cap within the General Plan Urban Growth Areas. The number of equivalent dwelling units (EDUs) available under the cap depends upon the number of entitlements approved within the Urban Growth Areas and the amount of supplemental water supplies acquired. Future entitlements for urban development within the Sunrise Douglas Plan area shall not be approved unless sufficient EDUs are available under the CO-20 development cap. (NOTE – This measure applies to the Sunrise Douglas Community Plan)*

WS-2 *No tentative map shall be approved unless either:*

(a) (1) the cumulative amount of groundwater production from the North Vineyard Well Field (NVWF) does not exceed 10,000 acre feet/year (AFA), does not result in more than a 10-foot decline in the local groundwater elevations from the baseline condition [that is, the groundwater elevations that would occur absent the NVWF project, as defined by the 70-year hydrologic trace of groundwater elevations determined by the IGSM Static Baseline Model 2000 and presented in the "Baseline Conditions for Groundwater Yield Analysis Final Report" (Montgomery Watson, May 1997) to account for fluctuations in groundwater elevation resulting from changing hydrologic conditions], and does not result in a significant effect on groundwater contaminant movement, unless the Sacramento County Water Agency (SCWA) Board of Directors determines that 1) the additional groundwater production (beyond the 10,000 AFA or 10-foot drop limit) is acceptable and consistent with the goals of the Zone 40 Conjunctive Use Program and the Water Forum Agreement; 2) the additional groundwater production (beyond the 10,000 AFA or 10-foot drop limit) will not substantially affect the migration of known contaminant

plumes; and 3) impacts to shallow domestic wells in the vicinity of the well field resulting from the additional groundwater extraction (beyond the 10,000 AFA or 10-foot drop limit) will be adequately mitigated; and

(2) the SCWA Board of Directors has determined that there is sufficient groundwater available from NVWF to serve the urban development within the Sunrise Douglas Community Plan area for which tentative map approval is being sought; and

(3) the SCWA Board of Directors allocates such groundwater from NVWF to said tentative map within the Sunrise Douglas Community Plan area;

OR

(b) the SCWA Board of Directors determines that there is sufficient water to serve the tentative map from another source.

Municipal wells in the NVWF shall not be constructed within 800 feet of any existing private domestic well.

Prior to operation of any NVWF facilities, developer/applicant shall construct groundwater monitoring wells to monitor the impacts of the NVWF operation on local groundwater elevations and groundwater contaminant movement. The number, location and design of said monitoring wells shall be subject to the approval of the Sacramento County Department of Water Resources. (NOTE – This measure applies to the Sunrise Douglas Community Plan)

Impact Change in Groundwater Elevations Adjacent to the Proposed Well Field Relative to Cumulative Without Project Baseline Conditions.

Implement WS-2 (It should be noted that the Sunridge Specific Plan Zoning Conditions 23 and 24 that require groundwater monitoring and the provision of a "well insurance program" for neighboring wells to the North Vineyard Well Field.)

Impact 3-3: Change in Groundwater Elevations In and Around Known Contaminant Plumes.

Implement WS-2. (It should be noted that the Sunridge Specific Plan Zoning Conditions 23 and 24 that require groundwater monitoring and the provision of a "well insurance program" for neighboring wells to the North Vineyard Well Field.)

Impact 3-4: Contaminant Plume Migration.

Implement WS-2. (It should be noted that the Sunridge Specific Plan Zoning Conditions 23 and 24 that require groundwater monitoring and the provision of a "well insurance program" for neighboring wells to the North Vineyard Well Field.)

Impact 3-7: Senate Bill 901 and County Policy CO-20 Consistency.

Implement WS-1.

Impact 3-8: *Changes in Groundwater Elevation Adjacent to the Proposed Well Field Relative to Existing Conditions.*

Implement WS-2. *(It should be noted that the Sunridge Specific Plan Zoning Conditions 23 and 24 that require groundwater monitoring and the provision of a "well insurance program" for neighboring wells to the North Vineyard Well Field.)*

Impact 3-9: *Construction Equipment Noise. Construction activities associated with development of water supply facilities could have potentially significant noise impacts on nearby noise-sensitive receptors. (NOTE – This impact is in reference to the development of the North Vineyard Well Field facilities)*

WS-3 *Project specific CEQA review shall be conducted prior to construction of proposed water supply facilities. As part of that review, any potential noise-sensitive receptors within 4000 feet of the proposed facilities shall be identified, and project specific mitigation measures shall be identified to reduce potential construction noise impacts to less than significant levels. Project specific mitigation measures for construction noise should include the following:*

a. Construction activities shall be limited to the following hours and days:

- *Between the hours of 6:00am and 8:00pm on any weekday;*
- *Between the hours of 7:00am and 8:00pm on Saturday; and*
- *Prohibited on Sundays and Holidays;*

b. Construction equipment shall be properly outfitted and maintained with noise reduction devices to minimize construction-generated noise.

c. Stationary construction equipment shall be centrally located on site at a greatest distance possible from nearby noise-sensitive receptors.

Impact 3-10: *Impacts to Biological Resources. Impacts to biological resources resulting from construction of the proposed water supply facilities could be potentially significant. (NOTE – This impact is in reference to the development of the North Vineyard Well Field facilities)*

WS-4 *Project specific CEQA reviews shall be conducted prior to construction of proposed water supply facilities. As part of that review, surveys shall be conducted by a qualified biologist to identify the potential presence of any special-status species or sensitive habitat. If special-status species or sensitive habitats are identified within the area of the proposed water facilities and have the potential to be impacted from project construction, project-specific mitigation measures shall be identified to reduce potential impacts to less than significant levels. Project-specific mitigation measures for burrowing owls, Swainson's hawk, raptors, and sensitive habitats should include the following:*

Burrowing Owl

- *Prior to construction activity, focused surveys shall be conducted for burrowing owls where suitable habitat is present in the project area. Suitable habitat includes agricultural field margins, drainage ditches, and*

fallow fields. Surveys shall be conducted no less than 14 days and no more than 30 days prior to commencement of construction activities. Surveys shall be conducted in accordance with CDFG protocol (CDFG 1995).

- *If no occupied burrows are found in the survey area, a letter report documenting survey methods and findings shall be submitted to the County and CDFG for review and approval, and no further mitigation is necessary.*

- *No occupied burrows shall be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist verifies through non-invasive methods that juveniles from the occupied burrows are foraging independently and are capable of independent survival.*

- *All occupied burrows shall be avoided until the owls inhabiting the burrows have been relocated using passive exclusion techniques approved by CDFG.*

Swainson's Hawk

- *Prior to project construction, it shall be determined whether any construction is proposed during the Swainson's hawk nesting season (March 1 to September 15).*

- *If no construction will occur during the Swainson's hawk nesting season, no further mitigation is necessary.*

- *Prior to project construction that will occur during the nesting season, surveys shall be conducted for active Swainson's hawk nest sites within 0.25 mile of the proposed construction area. Surveys shall be conducted at the beginning of the nesting season (April 15 - April 30). All identified nest sites shall be revisited during the post-hatching stage (June 1 - June 30) to determine if the nest is still active and to record the number of juveniles present. A final nest site visit shall occur during the fledgling period (July 1 - July 31) to determine the number of juveniles that have fledged.*

- *If construction is planned within 0.25 mile of an active nest, the nest site shall be identified with a marker and mapped on a USGS topographic quad map. A visible exclusion zone shall be established around the portion of the construction area that occurs within 0.25 mile of the nest tree. No project construction activity shall commence within the exclusion zone between March 1 and September 15.*

Raptors

- *Prior to project construction, it shall be determined whether any construction or tree removal is proposed during the raptor nesting season (February 1 to August 31).*

- *If no construction or tree removal shall occur during the raptor nesting season, no further mitigation shall be necessary.*

- *If construction or tree removal is proposed during the raptor nesting season, a focused survey for raptor nests shall be conducted by a qualified biologist during the nesting season to identify active nests within 500 feet of the project area. The survey shall be conducted no less than 14 days and no more than 30 days prior to the beginning of construction or tree removal.*

- *If nesting raptors are found during the focused survey, no construction or tree removal shall occur within 500 feet of an active nest until the young have fledged (as determined by a qualified biologist).*

Sensitive Habitats

Surveys shall be conducted by a qualified biologist to identify the potential presence of any sensitive habitats. These surveys may include the preparation of a formal delineation to determine the extent of jurisdiction Waters of the U.S. that would be filled under the proposed project. If sensitive habitats are identified within the project area and have the potential to be impacted from project construction, project-specific mitigation measures shall be identified to reduce the potential impacts to less than significant levels.

PROJECT IMPACTS AND MITIGATION MEASURES

Groundwater Quality

Impact 4.7.1 Construction and operation of the proposed project may adversely affect groundwater quality in the project's vicinity. This is considered a **less than significant** impact.

The urbanization of approximately 530 acres would generate urban pollutants that could be transported via storm water runoff into nearby sensitive water bodies. The project's storm water would be channeled to storm water detention and conveyance facilities that are subject to the joint NPDES permit associated with Sacramento County and the cities of Elk Grove, Folsom, Citrus Heights and Galt. In addition, coverage under the state's NPDES General Construction Activity Storm Water Permit requires that a Storm Water Pollutant Prevention Plan (SWPPP) be prepared specifying the use of BMPs to reduce erosion of disturbed soils and potential water quality impacts. Similar requirements are provided in the City's Grading and Erosion Control Ordinance. Implementation of the construction and operational BMPs and the construction of the on-site water quality basins for the filtration and removal, would minimize the project's pollutant runoff from reaching the groundwater resources. Due to the soils characteristics of the area, the project site is not considered an area of substantial groundwater recharge. The project's grading plan and SWPPP must also be consistent with the City's NPDES permit, which is jointly held with Sacramento County, and the cities of Elk Grove, Galt, Citrus Heights, and Folsom. The City's NPDES permit also requires sanitary sewage system maintenance, overflow, and spill prevention procedures to reduce operational groundwater quality impacts. Mandatory compliance with the NPDES permit would reduce the project's potential construction and operational groundwater quality related impacts. Additionally, the groundwater elevations underlying the project site are approximately 50 to 200 feet below the ground surface. Several technical studies have been conducted regarding water quality control feature impacts on groundwater (e.g., City of Fresno Nationwide Urban Runoff Project and California Storm Water

Best Management Practices Handbook prepared by the Stormwater Quality Task Force). These studies have identified that water quality control features such as infiltration basins have been successful in controlling water quality and avoiding groundwater quality impacts (metals and organic compounds associated with stormwater are typically lost within the first few feet of the soil of the basins). The project's potential groundwater quality related impacts are considered less than significant and no mitigation is necessary.

The SDCP/SRSP EIR addressed groundwater quality in terms of the change in groundwater elevations in and around known contaminant plumes and concluded that changes or alterations were required or incorporated into the SDCP/SRSP project that avoid the potentially significant environmental effects identified in the SDCP/SRSP areas. Additionally, the SDCP/SRSP FIER concluded that while it is likely that Zone 40 conjunctive use facilities will be planned and implemented in a timely manner, consistent with the Water Forum, such facilities cannot be guaranteed until they are approved. Therefore, implementation of WS-2 would reduce Community Plan development impacts to groundwater elevations in and around contaminant plumes to a less than significant level (SDCP/SRSP CEQA Findings of Fact and Statement of Overriding Considerations, page 64, 66-68). As indicated, the project-specific groundwater quality impacts are anticipated to be less than significant and previously adopted Mitigation Measure WS-2 from the SDCP/SRSP EIR would apply to this project.

Mitigation Measures

None required.

Surface Water Quality

Impact 4.7.2 Implementation of the project would substantially increase the amount of impervious surface on the project site, which may degrade long-term water quality from the deposition of urbanized pollutants (i.e., fuels, solvents, etc.) into surface watercourses. This is considered a **potentially significant** impact.

Storm water quality is generally affected by the length of time since the last rainfall, rainfall intensity, urban uses of the area, and quantity of transported pollutant sediments. Typical urban water quality pollutants include, but are not limited to: motor vehicle oil and grease residue; fertilizer/pesticide uses; human/animal littering; and improper material storage and handling techniques. The majority of these pollutants are generally washed away during the "first flush" or the first storm event that occurs after the dry-season period. Street- and parking lot-generated pollutants typically contain atmospheric pollution, tire-wear residues, petroleum products, oil and grease, fertilizer and pesticide washoffs, industrial chemical spills, as well as animal droppings and litter types of wastes. The pollutants are washed from street surfaces by a rainfall adequate enough to produce sufficient runoff. The amount of pollutants washed off the street surface is a function of the amount of pollutants on street surfaces and rainfall amount. The introduction of urban pollutants would have significant adverse impacts on surface water quality that could impact aquatic and biological resources along Morrison Creek (see Section 4.9 [Biological Resources] for a discussion of biological resource impacts) as well as downstream beneficial uses.

The SDCPA Study identified preliminary locations and volumes of detention basins and water quality basins throughout the SDCP area. Proposed on-site detention basin SMC18D consists of a water quality portion in the bottom and a stormwater retention region above. The water quality region was sized using the Sato Design Curve for Sizing of Water Quality Dry-Extended Detention Basins in the Sacramento County Hydrology Standards. Basin SMCC18D was designed as a dry-

extended basin with an orfice outlet sized to comply with 24-hour criteria for dry-extended detention basins in Sacramento County. Under ultimate conditions, this basin requires 10-acre feet of water quality volume. For Interim conditions, water quality basin LCSVD will be constructed on-site to provide water quality prior to discharging into an existing channel to the south. An approximately 23 cfs increase in flows would result during Interim conditions at the outfall location.

The City of Rancho Cordova is subject to the requirements of the NPDES Stormwater Permit, which is enforced by the CVRWQCB. This permit requires that discharges of pollutants from areas of new development be reduced to the maximum extent practicable. Compliance with this standard requires that control measures be incorporated into the design of new development to reduce pollution discharges in site runoff over the life of the project. The SWRCB and the CVRWQCB are responsible for enforcing the NPDES permit requirements and the use operational BMPs, to ensure that projects are in compliance with water quality standards as set forth in the CWA. The SWRCB through the creation of a Storm Water Quality Task Force has published the California Storm Water Best Management Practice Handbook, which identifies a listing of acceptable BMPs to be used in meeting water standards as outlined by the CWA. As previously identified, Morrison Creek is identified as an impaired waterway on California's Clean Water Act Section 303(d) list due to diazinon. A TMDL has been completed for to address this water quality issue that notes that urban runoff is a substantial source of diazinon contamination in urban creeks in Sacramento County. However, U.S. EPA placed bans on the use of diazinon for urban uses effective at the end of 2004, which is expected to result in a substantial reduction in urban runoff contributions of this pollutant. The TMDL implementation plan notes that joint NPDES permit contains the necessary provisions for implementing the TMDL, which includes receiving water limitations and water quality monitoring (RWQCB, 2004). Additionally, the California Department of Health Services and the U.S. Environmental Protection Agency requires all domestic water agencies to identify primary and secondary standards for surface water and groundwater supplies within its service area. The agency must demonstrate compliance with these standards to meet the objectives of the Central Groundwater Basin Plan. The 2004 Consumer Confidence Report (CCR) for the Mather/Sunrise area indicates that this area meets all standards for surface and groundwater with the exception of coliform bacteria, which is naturally present in the environment and zinc concentrations, which occur from runoff and the leaching of natural deposits. High zinc concentrations may also be the result of industrial wastes and runoff (SCWA, July 2005). The proposed on-site water quality basins and implementation of the BMPs and compliance with the City's NPDES permit would reduce increases in runoff and pollutants generated by the project. Additionally, Mitigation Measure MM 4.7.4 identified below requires the project applicant to prepare a Storm Water Pollution Prevention Plan (SWPPP) to be administered throughout all phases of grading and project construction. The SWPPP is required to be included with all subsequent project improvement and grading plans and requires the incorporation of BMPs to ensure that potential water quality impacts during construction phases are minimized.

The SDCP/SRSP EIR addressed drainage, surface water quality, and potential water habitats related impacts in terms of stormwater runoff, erosion, flooding, and surface and groundwater quality degradation. The SDCP/SRSP FEIR concluded that development in the SDCP area has the potential to impact surface water quality due to entrained sediments and urban pollutants in project runoff. However, compliance with State and Sacramento County grading, erosion and stormwater quality control requirements, mandatory compliance with the City's NPDES permit, and implementation of the proposed water quality improvements described in the Final MDS would reduce the project's surface water quality impacts to a less than significant level.

Mitigation Measures

The following mitigation measures are based on the previously adopted Mitigation Measure HY-3 from the SDCP/SRSP FEIR EIR (p. 9.12) and are applicable to the Preserve at Sunridge project.

MM 4.7.2a The proposed project shall provide stormwater quality source and treatment measures consistent with the requirements of Volume 5 of the City/County Drainage Manual and the City's joint NPDES Permit (NPDES No. CAS082597). Specifically, details regarding Best Management Practices (BMPs) to be utilized shall be provided that demonstrate that storm water discharges would not result in pollutant levels or concentrations that would violate the provisions of the City's NPDES Permit and would not have a detrimental effect on aquatic/biological resources associated with Morrison Creek. The final design of such source and treatment control measures shall be subject to the approval of Rancho Cordova Public Works Department.

Timing/Implementation: Prior to approval of improvement plans.

Enforcement/Monitoring: City of Rancho Cordova Public Works Department.

MM4.7.2b The project engineer shall consult with the City when designing the proposed water quality/detention basins, and the developer shall submit detailed water quality/detention basin designs and proposed plantings in and around the basins for review and approval prior to approval of the improvement plans.

Timing/Implementation: Prior to approval of improvement plans.

Enforcement/Monitoring: City of Rancho Cordova Public Works and Planning Departments.

MM4.7.2c Biofilter swales and vegetated strips shall be placed in the bottom of channel areas and be designed to provide biofiltration of pollutants in project runoff. The project engineer shall consult with the City when designing these areas as part of review and approval prior of the project grading and improvement plans. All required swales and strips shall be shown on relevant plans.

Timing/Implementation: Prior to approval of improvement plans for each water quality facility.

Enforcement/Monitoring: City of Rancho Cordova Public Works Department.

MM4.7.2d All project storm drains shall provide a permanent storm drain message "No Dumping – Flows to Creek" or other approved message at each storm drain inlet. This may be accomplished with a stamped concrete impression (for curbs) or manufactured colored tiles, which are epoxied in place, adjacent to the inlet (for parking lots and areas without curbs). This measure shall be included in relevant project plans.

Timing/Implementation: A condition shall be included on improvement plans and the installation shall occur at the time the improvements are accepted for maintenance by the City.

Enforcement/Monitoring: City of Rancho Cordova Public Works Department.

Implementation of mitigation measures MM 4.7.2a (based on HY-3 from the SDCP/SRSP FEIR) through 4.7.2d would reduce the project's storm water quality impacts to **less than significant**. Several technical studies have been conducted regarding water quality control feature impacts on groundwater (e.g., City of Fresno Nationwide Urban Runoff Project and California Storm Water Best Management Practices Handbook prepared by the Stormwater Quality Task Force) and surface water (e.g., Cumulative Water Quality Analysis Report for the Lahontan Development 1996-2002 [Huffman and Carpenter, 2003]). Theses studies have identified that water quality control features such as revegetation, erosion control measures, detention and infiltration basins have been successful in controlling water quality and avoiding water quality impacts (metals and organic compounds associated with stormwater are typically lost within the first few feet of the soil of the retention basins associated with groundwater). Technical studies associated with the Lahontan Development (residential and golf course development) demonstrated that the use of a variety BMPs (e.g., source control, detention basins, revegetation and erosion control) have been able to maintain surface water quality conditions in adjacent receiving waters (Martis Creek).

Water Supply

Impact 4.7.3 Implementation of the project would require the use of groundwater and surface water to meet the anticipated demands. This is considered a **less than significant** impact.

The water demands associated with the Sunrise Douglas Community Plan (SDCP) area were included and addressed in the comprehensive water supply and infrastructure planning for Zone 40. More specifically, the water demands associated with the Preserve at Sunridge project were included and addressed in the development of the Zone 40 "conjunctive use" program as described in the Zone 40 WSMP (SCWA, 2005). The projected annual water demand for the Preserve at Sunridge is approximately 1,319 acre-feet per year Af/yr, including an additional 7.5 percent to account for system losses. The proposed land uses and water demand summary is provided in **Table 4.7-3**.

As the responsible water purveyor for the proposed project, SCWA must provide the City of Rancho Cordova with an SB 610 Water Supply Assessment (WSA). As previously discussed, the California Water Code requires that the WSA verify that planned water supplies are sufficient to meet the demands of the proposed project in addition to the existing and projected water supply obligations of SCWA. The WSA for the Preserve at Sunridge, which was approved by the SCWA Board of Directors on December 7, 2004, meets the requirements based on Zone 40's conjunctive use program as described in the Zone 40 WSMP, the Water Forum Agreement, SCWA's 2000 Urban Water Management Plan, and other relevant documents. Since completion of the WSA, SCWA has subsequently identified that the project would now receive groundwater from the North Vineyard Well Field rather than from water supply wells to be placed in the proposed Sunrise Douglas 2 development area (now know as the Suncreek Specific Plan area). (Cole, September 2005). This would consist of the development and dedication of a sixth well facility that would generate groundwater within the 10,000 AF/yr maximum set forth for the North Vineyard Well Field. This water would be conveyed through existing and planned pipeline facilities for the Sunridge Specific Plan and would utilize available capacity in the Anatolia Water Treatment Plant in the Sunridge Specific Plan. The Final Environmental Impact Report for the Anatolia Water Treatment Plant was approved in December 2003. This facility was designed to meet the estimated build-out demands of the SRSP, with treatment capacity for approximately 7,300 AF/yr of groundwater from the NVWF. No additional capacity of the pipeline facilities or

water treatment is anticipated due to the fact that there has been some significant changes in designated land uses in the SRSP area, notably in the amount of dedicated wetland areas. As a result, the total build-out water demand for the SRSP area has been reduced and when fully completed, there will sufficient capacity in the Anatolia treatment facility and the NVWF to meet the estimated water demands for the proposed project in addition to build-demands of the SRSP (Cole, Sept 29, 2005).

TABLE 4.7-3
THE PRESERVE AT SUNRIDGE'S ANTICIPATED WATER DEMANDS

Land Use	Acreage	Unit Water Demand Factor1 (af/acre/yr)	Water Demand (af/yr)
Rural Estates	-	1.33	-
Single-Family	332.9	2.89	962.1
Multi-Family (Low Density)	-	3.7	-
Multi-Family (High Density)	5.4	4.12	22.3
Commercial	18.9	2.75	52.0
Industrial	-	2.71	-
Public	34.9	1.04	36.3
Public Recreation	44.6	3.46	154.3
Mixed Land Use	-	2.51	-
Right-of-Way	-	0.21	-
Vacant	87.2	-	-
Urban Reserve2	-	2.75	-
Total			1,227.0
SCWA System Losses (7.5%)			92.0
Total Water Demand			**1,319.0**

Source: SCWA WSA for the "Preserve at Sunridge" (December, 2004)
Notes: 1. The unit water demands are consistent with the Water Supply Master Plan and the WFA.
2. Urban Reserve is a special planning designation for project areas not having an assigned land use.

Section 10910(d)(2)(A) of the California Water Code requires written contracts or other proof of entitlement to the water supplies identified for the proposed project. Water demand in the Preserve at Sunridge will initially be met entirely with groundwater. In the long-term, the project's water demands will be met accordance with SCWA's conjunctive use program. The Zone 40 Development Fee and User Fee Program, which is implemented through SCWA Ordinance 18 and Title 3 of the Sacramento County Water Agency Code, provides revenue to finance all aspects of the Zone 40 conjunctive use program. Both fee programs are evaluated annually and adjusted, if necessary, to accommodate changes in the service area, water demands, capital improvement needs, and required debt financing. Most of the proposed water transmission pipeline facilities will be located in the County or City of Rancho Cordova public right-of-way to lessen environmental impacts. The potential environmental effects of implementing SCWA's WSMP, as well as the potential environmental impacts associated with SCWA's infrastructure system required to the serve the project (i.e., NVWF, and associated

transmission facilities and treatment facilities) were addressed in the certified 2002 Zone 40 WSMP FEIR as well as the certified SDCP/SRSP EIR. As previously discussed, the WSIP is a companion document to the Zone 40 WSMP. The WSIP was developed as a steering document to ensure reliable long-term water supplies and adequate water supply infrastructure for its present and future customers. The WSIP includes a description of the existing and future water supplies, projected pipe sizing and alignments, infrastructure phasing based on the modeling results. The WSIP included various scenarios (2005, 2006 to 2010, 2011 to 2015, and 2016 to Buildout) to determine the facilities required to serve the Corridor. Buildout in the area will require substantial upgrades to existing facilities. SCWA will need to construct several new facilities to accommodate the anticipated demand. However, the environmental effects of providing groundwater service (associated with the utilization of the North Vineyard Well Field) to the project has been fully addressed in the certified SDCP/SRSP EIR with no additional environmental review required (SDCP/SRSP CEQA Findings of Fact and Statement of Overriding Considerations page 57).

Since the project is now expected to receive groundwater from the North Vineyard Well Field, the project is subject to the following adopted mitigation measures associated with the original approval of the Sunrise Douglas Community Plan:

WS-1 *Entitlements for urban development within the Sunrise Douglas Plan area (i.e., subdivision maps, parcel maps, use permits, building permits, etc.) shall not be granted unless agreements and financing for supplemental water supplies are in place, consistent with General Plan Policy CO-20, which creates a development cap within the General Plan Urban Growth Areas. The number of equivalent dwelling units (EDUs) available under the cap depends upon the number of entitlements approved within the Urban Growth Areas and the amount of supplemental water supplies acquired. Future entitlements for urban development within the Sunrise Douglas Plan area shall not be approved unless sufficient EDUs are available under the CO-20 development cap.*

WS-2 *No tentative map shall be approved unless either:*

(a)(1) the cumulative amount of groundwater production from the North Vineyard Well Field (NVWF) does not exceed 10,000 acre feet/year (AFA), does not result in more than a 10-foot decline in the local groundwater elevations from the baseline condition [that is, the groundwater elevations that would occur absent the NVWF project, as defined by the 70-year hydrologic trace of groundwater elevations determined by the IGSM Static Baseline Model 2000 and presented in the "Baseline Conditions for Groundwater Yield Analysis Final Report" (Montgomery Watson, May 1997) to account for fluctuations in groundwater elevation resulting from changing hydrologic conditions], and does not result in a significant effect on groundwater contaminant movement, unless the Sacramento County Water Agency (SCWA) Board of Directors determines that 1) the additional groundwater production (beyond the 10,000 AFA or 10-foot drop limit) is acceptable and consistent with the goals of the Zone 40 Conjunctive Use Program and the Water Forum Agreement; 2) the additional groundwater production (beyond the 10,000 AFA or 10-foot drop limit) will not substantially affect the migration of known contaminant plumes; and 3) impacts to shallow domestic wells in the vicinity of the well field resulting from the additional groundwater extraction (beyond the 10,000 AFA or 10-foot drop limit) will be adequately mitigated; and

(2) the SCWA Board of Directors has determined that there is sufficient groundwater available from NVWF to serve the urban development within the Sunrise Douglas Community Plan area for which tentative map approval is being sought; and

(3) the SCWA Board of Directors allocates such groundwater from NVWF to said tentative map within the Sunrise Douglas Community Plan area;

OR

(b) the SCWA Board of Directors determines that there is sufficient water to serve the tentative map from another source.

Municipal wells in the NVWF shall not be constructed within 800 feet of any existing private domestic well.

Prior to operation of any NVWF facilities, developer/applicant shall construct groundwater monitoring wells to monitor the impacts of the NVWF operation on local groundwater elevations and groundwater contaminant movement. The number, location and design of said monitoring wells shall be subject to the approval of the Sacramento County Department of Water Resources.

As previously described, SCWA (through the approval of the project's WSA) has identified that there is sufficient water supply to serve the project in compliance with adopted Mitigation Measure WS-1. In addition, SCWA will issue an allotment of groundwater to the project from the North Vineyard Well Field consistent with the requirements of SB 221. Thus, the project's water supply impacts are considered less than significant.

Mitigation Measure

While this impact is identified as less than significant, the following mitigation measure is intended to replace previously adopted mitigation measure WS-1 given that the Sacramento County General Plan and Policy CO-20 no longer apply to the City.

MM 4.7.3 Prior to the approval of each final map, written commitment from Sacramento County Water Agency shall be provided that sufficient water supply capacity is available to serve the specific amount of development to be mapped. This written commitment shall include identification of any necessary improvements to convey and treat the water supply. In addition, all required financing associated with water supply facilities shall be in place.

Timing/Implementation: Prior to approval of each final map.

Enforcement/Monitoring: City of Rancho Cordova Public Works Department.

Implementation of mitigation measure MM 4.7.3, which it intended to replace previously adopted mitigation measure WS-1 from the SDCP/SRSP EIR would ensure that the Preserve at Sunridge water supply impacts are **less than significant**.

Construction Impacts

Impact 4.7.4 Implementation of the proposed project would require extensive grading for site preparation for building pads and trenching for the placement of infrastructure. These construction activities may result in short-term water quality degradation and result in **potentially significant** impacts.

Project construction and grading activities would involve the operation of heavy equipment and excavations for the placement of infrastructure and site preparation. The elevations of the project site range from 170 to 200 feet above mean sea level and the soils are comprised of Red Bluff-Redding Complex and Redding gravelly loam which have slight to moderate erosion potential and very slow to medium runoff rates. Although the project site is relatively flat, peak storm water runoff could result in short-term sheet erosion within areas of exposed or stockpiled soils. Site preparation activities would include the compaction of soils by heavy equipment, which would reduce the infiltration capacity of soils and increase runoff and erosion potential. If uncontrolled, these soil materials could result in engineering problems including the blockage of storm drainage channels and downstream sedimentation. Off-site improvements associated with the proposed project may also contribute to water quality degradation.

Implementation of the project would disturb an area greater than five acres during construction; therefore, a NPDES General Construction Activity Storm Water Permit is required. The project construction contractor would be required to file a Notice of Intent under the State's NPDES General Construction Permit (CAS00002). This permit requires that a Storm Water Pollutant Prevention Plan (SWPPP) be prepared specifying BMPs to reduce erosion of disturbed soils. In addition, the SWPPP would require that if any spills of materials known to be water pollutants or hazardous materials do occur, the proper agencies would be contacted immediately (if necessary) and appropriate clean-up of the spill would take place as soon as possible. Best Management Practices (BMPs) during site grading and construction could include use of straw hay bales, straw bale inlet filters, filter barriers, silt fences, or other site-specific BMPs. Additionally, the project is subject to the City of Rancho Cordova's Land Grading and Erosion Control Ordinance, which established administrative procedures, minimum standards for review, and implementation and enforcement procedures for controlling erosion and sedimentation. The Ordinance also addresses the disruption of existing drainage and related environmental damage caused by land clearing activities, grading, filling, and land excavation. The ordinance applies to all projects that would disturb 350 cubic yards or more of soil.

Mitigation Measure

MM 4.7.4 The project applicant shall prepare a Storm Water Pollution Prevention Plan (SWPPP) to be administered throughout all phases of grading and project construction. The SWPPP shall be included with all subsequent project improvement and grading plans and shall incorporate Best Management Practices (BMPs) which describes the site, erosion and sediment controls, means of waste disposal, control of post-construction sediment and erosion control measures and maintenance responsibilities, water quality monitoring and reporting during storm events (which will be responsibility of the project applicant), corrective actions for identified water quality problems and non-storm water management controls. These measures included in the SWPPP shall ensure compliance with applicable regional, state and federal water quality standards. The SWPPP shall also be submitted to the City Public Works Department. The applicant shall require all construction contractors to retain a copy of the approved SWPPP on each construction site. Additionally, the

SWPPP shall ensure that all storm water discharges are in compliance with all current requirements of the RWQCB. All applicable BMPs shall be shown on project plans.

Timing/Implementation: *Prior to site disturbance and approval of preliminary grading plans.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This mitigation measure MM 4.7.4 would reduce potential construction impacts to water quality to **less than significant**.

Drainage

Impact 4.7.5 Development of the Preserve at Sunridge project and the proposed realignment of the existing Morrison Creek corridor would increase drainage rates on the project site and may result in on-site and off-site drainage and flooding related impacts. This is considered a **potentially significant** impact.

Implementation of the proposed project and proposed realignment of Morrison Creek would require interim and ultimate drainage facilities to accommodate the anticipated increased flows generated by the project. As proposed, the project would include the realignment of the central branch of Lower Morrison Creek. The creek channel realignment would begin at the proposed detention/water quality basin at the northern corner of the project site (SMCC7D) in a westerly direction and into and the existing electrical transmission corridor easement that bisects the site. The channel would continue down the corridor and finally into the proposed detention water quality basin at the western edge of the site. This would allow the on-site detention basin to connect to the drainage facilities in the Anatolia development, which is adjacent to the project's western boundary.

The SDCP/SRSP FEIR included a discussion of the realignment of the creek channel between Jaeger Road and Sunrise Boulevard which followed the northern boundary of the Sares-Regis wetland preserve area (SDCP/SRSP FEIR p. 9.6). The route discussed in the FEIR was consistent with the US Army Corps of Engineers Section 404 (Section 404) permit issued for that project. The proposed realignment may result in environmental impacts to special status species and other sensitive habitat. The proposed realignment's potential biological impacts are addressed in Section 4.8 (Biological Resources) in this DEIR. The proposed channel realignment is subject to agency review and must receive a Section 404 in consultation prior to approval.

The proposed project related drainage facilities were developed using SACPRE and HEC-1 100-year (12 hour) and the 100-year (10 day) hydrographs consistent with Sacramento County Hydrology Standards. HEC-1 is a very flexible program for modeling the rainfall-runoff response of a watershed. This program was developed by the Hydrologic Engineering Center of the Corps of Engineers at Davis, California. SACPRE is a data preprocessor to aid the drainage system designer in compliance with HEC-1 modeling. The HEC-1 input and output data, SACPRE data, and land use summaries are included in the Preserve at Sunridge Drainage Study, which is included in **Appendix 4.7**. The HEC-1 and SACPRE modeling included the following design scenario criteria:

Existing Conditions – No other development in the watershed other than the approved Anatolia developments. An Existing Conditions analysis was performed for the southeast shed and used as a basis for the Interim Conditions design. The Anatolia I and II Study

was used as the basis for proposed features in the Lower Morrison Creek South Branch Subbasin; therefore, existing conditions were not examined in the main shed.

Interim Conditions – Considers buildout of the proposed project in both the main and southeast shed. An interim condition assumes that the outflow from SMC18D (located south of the proposed Town Center). Runoff from the southeast shed is treated in the interim water quality basin LCSVD under the Interim Conditions.

Ultimate Conditions – Entire SDCP area developed – Focuses on the buildout condition of the Lower Morrison Creek South Branch Subbasin. Runoff from the southeast shed will be routed to future detention basin SLCC7D, which will be located within the Suncreek Specific Plan to the south of the proposed project site.

EXISTING CONDITIONS

The existing peak flows of the proposed project site were used, using of the HEC-1 model in the southeast shed of the site, to determine what regional facilities would be required. The proposed on-site drainage system was designed consistent with DWR standards, with the trunks sizes determined by using the Nolte Design Flows in the pipes and 10-year peak water surfaces at the trunk outfalls into the basins. The existing flows are illustrated in **Table 4.7-4**.

TABLE 4.7-4
EXISTING PEAK FLOW CONDITIONS

Subbasin	Outfall Location	Area (acreage)	100-year (12 hour) Flow (cfs)
Laguna Creek (LC)	Southeast corner of project site	50	97

Source: Wood Rodgers, 2004.

The watershed on the proposed project site consists of a major and minor subbasin. The Lower Morrison Creek South Branch (LMS) Subbasin drains approximately 480 acres and the Laguna Creek Subbasin drains the remaining 50 acres and is located in the southeast corner of the site.

INTERIM CONDITIONS

The proposed project can be developed under Interim Conditions; however, the interim facilities must be consistent with the required ultimate facilities. As indicated in Section 3.0 Project Description (see **Figure 3.0-4**), the project would include an improved and realigned open channel replacing the south branch of Lower Morrison Creek from SMCC7D extending through the proposed project site to basin SMC18D; and construction of an interim water quality basin (LCSVD) for the southeast shed and associated off-site channel improvements. The drainage channel would be naturally lined and consist of an active drainage channel, banks with 3:1 slopes, floodplains, three water quality basins, and roadway crossings (2) with arch open bottom culverts. The construction of the drainage channel and the permanent detention and water quality basin SMC18D, with an interim outfall, would attenuate flows to a pre-development condition for the main shed.

The construction of SMC18D with a modified outfall would mitigate flows to 662 cfs. Water quality basin LCSVD would provide on-site water quality to discharging into an existing channel to the south. An approximately 23 cfs increase in flows would result. The required detention storage volumes, peak stages in detention basins, and peak flows were developed using HEC-1 models for the southeast shed. The basin configuration for the main shed is identical to that for

Ultimate Conditions with the exception that the outfall would be modified to allow for the increased flow resulting from the absence of upstream detention basins SMCC7D and SMCC8D. **Table 4.7-5** illustrates the HEC-1 model results for Interim Conditions.

TABLE 4.7-5
INTERIM CONDITIONS RESULTS

Subbasin	Outfall Location	Area (acreage)	100-year (12 hour) Flow (cfs)
Laguna Creek (LC)	Southeast corner of project site	50	97

Source: Wood Rodgers, 2004.

As previously discussed, the Preserve at Sunridge project can be developed under Interim Conditions with the construction of the ultimate detention and water quality basin SMC18D, including the associated channel improvements and a modified outfall. Water quality basin LCSVD and the associated channel improvements are also required at the south property line of the project site for Interim Conditions. This Interim system can be constructed to serve the site whether or not development outside of the project site is to occur. For ultimate conditions, detention and water quality for the project's main shed will be handled via the on-site SMC18D and the southeast shed, under Ultimate conditions, will be routed to regional detention and water quality basin SLCC7D.

ULTIMATE CONDITIONS

As previously mentioned, "Ultimate" conditions refers to the full development of the entire SDCP area only. The required Ultimate facilities include the following: An on-line detention basin SMC18D on the south Branch of Lower Morrison Creek to serve as stormwater detention and water quality detention for the main shed of the proposed project; an improved and realigned open channel replacing the south branch of Lower Morrison Creek form the western boundary of Anatolia II, extending from the proposed project site detention basin SMCC7D downstream through the proposed project site and detention basin SMC18D; and an on-line detention basin SLCC7D on Laguna Creek, east of Anatolia III, to serve as stormwater detention and water quality detention for the southeast shed of the proposed project.

Table 4.7-6 displays the Ultimate peak flow conditions in the main shed and the southeast shed with implementation of the proposed improvements.

TABLE 4.7-6
ULTIMATE PEAK FLOW CONDITIONS

Subbasin	Outfall	Area (acreage)	100-year (12 hour) Flow (cfs)	100-year (10 day) Flow (cfs)
Main Shed				
LMSU20	SMC18D	28	63	18
LMSU22	SMC18D	28	69	19
LMSU24	LMSU22	28	48	18
LMSU26	SMC18D	50	87	33
LMSU30	The Preserve Channel	28	53	18
LMSU32	The Preserve Channel	29	40	18
LMSU34	The Preserve Channel	111	155	68
Southeast Shed				
LCU60	Southern Property Line	80	12	N/A

Source: Wood Rodgers, 2004.

The detention basin SMC18D will be a dry extended basin to detain and treat runoff from the Lower Morrison Creek Subbasin. The required basin improvements required for Ultimate Conditions are displayed in **Table 4.7-7**.

TABLE 4.7-7
BASIN IMPROVEMENTS FOR ULTIMATE PEAK FLOW CONDITIONS

Basin	Location	Description	100-year (12 hour) Flow (cfs)	100-year (10-day) Flow (cfs)
SMC18D	Eastern property line of Preserve project site	Maximum stage (ft)	174	170
		Storage (acre-feet)	53.9	53.9
		Flow (cfs)	280	272

Source: Wood Rodgers, 2004.

As indicated in **Table 4.7-5**, the basin improvements would result in similar conditions during both 100-year 12-hour and 100-year 10-day scenarios. As indicated above, ultimate conditions would require the construction of detention basin SMC18D, which is located in the southeastern portion of the project site.

The SDCP/SRSP EIR addressed drainage and surface water quality impacts in terms of stormwater runoff, erosion, flooding potential, and surface and groundwater quality degradation. The SDCP/SRSP FEIR concluded that development in the Community Plan area has the potential to impact surface water quality due to entrained sediments and urban pollutants in project runoff. However, compliance with State and Sacramento County grading, erosion and stormwater quality control requirements, and implementation of the proposed water quality improvements described in the Final MDS is expected to reduce surface water quality impacts to a less than significant level.

The SDCP/SRSP FEIR concluded that development of the Community Plan area would increase the rate and volume of drainage runoff from the site. Implementation of drainage and detention improvements would ensure that the post-development flows are reduced to at least pre-development levels. However, as indicated above, the SDCP/SRSP FEIR did not fully address the potential impacts associated with the Morrison Creek realignment, which may result in substantial regional and localized drainage and other hydrologic related impacts.

Mitigation Measure

The following mitigation measure is based on the previously adopted Mitigation Measure HY-2 from the SDCP/SRSP FEIR EIR (p. 9.12) and is applicable to the Preserve at Sunridge project.

MM 4.7.5 The project shall implement the improvements described in the "Final Master Drainage Study for the Sunrise Douglas Community Plan Area " (Final MDS) (Spink Corporation, October 16, 1998), as amended by the "Amendment to Final Master Drainage Study, Sunrise Douglas Community Plan Area" (Amendment) (MHM Engineers & Surveyors, October 19, 2001). Such improvements shall be designed to ensure that post-development peak (100-year) flows do not exceed existing peak flows and do not exceed the capacity of the two Folsom South Canal overchutes at Lower Morrison Creek, to the satisfaction of the City Department of Public Works and the Sacramento County Water Resources Division (WRD). Construction of the

improvements may be phased as described in the Final MDS and subject to the approval of the WRD, so long as the project proponent(s) provide hydrologic/hydraulic analysis which demonstrates that the phased improvements will reduce peak flows to at least pre-development levels and to the capacity of the two Folsom South Canal overchutes at Lower Morrison Creek to the satisfaction of the WRD.

- Detailed plans for the design and construction of all proposed drainage, flood control and water quality improvements, consistent with the Final MDS and Amendment, shall be submitted to the County WRD for review and approval.

- Plans for the design and construction of the realigned channel and associated detention basins shall be subject to the approval of the US Army Corps of Engineers.

- Plans for design and construction of any joint-use park/detention facilities shall also be subject to the approval of the Park District.

- The project applicant shall demonstrate that the Interim and Ultimate Conditions drainage facilities described in the Final Storm Drainage Master Plan (Wood-Rogers, 2001), are consistent with the improvements described in the "Final Master Drainage Study for the Sunrise Douglas Community Plan Area " (Final MDS) (Spink Corporation, October 16, 1998), as amended by the "Amendment to Final Master Drainage Study, Sunrise Douglas Community Plan Area" (Amendment) (MHM Engineers & Surveyors, October 19, 2001). Demonstration can be illustrated on plans and/or reports, which shall be reviewed and approved by the City.

Timing/Implementation: Prior to the approval of improvement plans.

Enforcement/Monitoring: City of Rancho Cordova Planning and Public Works Department.

Implementation of Mitigation Measure MM 4.7.5 would reduce potential drainage impacts to **less than significant**. Reader is referred to Section 4.9 Biological Resources (Impact 4.9.5) for a discussion on the loss of jurisdictional waters and hydrological interruption impacts.

4.7.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for drainage, storm water quality, and water supply includes proposed and future development within the Morrison Creek and Laguna Creek watersheds, which would include projects identified in Section 4.0 as well as anticipated development of City of Folsom Sphere of Influence, development in Sacramento County and the City of Sacramento, City of Elk Grove General Plan, and the City of Rancho Cordova Interim General Plan. The SDCP is located within the headwaters of both watersheds. These two waterways drain the southeastern portion of Sacramento County and the City of Sacramento and convey the stormwater to the Beach-Stone Lakes area west of Elk Grove. The extreme upper portions of the two watersheds are located in dredge tailings. From the headwaters, Morrison Creek conveys stormwater southwest through the SDCP area towards Matherfield. The existing channels and

tributaries of Morrison Creek are poorly defined grassy swales. Laguna Creek conveys stormwater southwest towards the junction of Sunrise Boulevard and Jackson Highway in generally more defined swales than that of Morrison Creek. The cumulative setting for water supply includes SCWA's Zone 40 service area boundaries and anticipated development within the service boundaries.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Water Quality

Impact 4.7.6 The project would contribute to water quality degradation in the watershed in combination with regional development. The project's contribution would be **cumulatively considerable**.

As identified in Section 4.0, there are several approved and planned development within the watersheds of Morrison Creek and Laguna Creek. As indicated, the project would result in construction, drainage, and surface water quality impacts and contribute to cumulative impacts on these watersheds. Given the location (along Morrison Creek), size and intensity of the project, the project's contribution to cumulative water quality impacts could be considerable.

Mitigation Measures

Implementation of mitigation measures MM 4.7.2a through d and MM 4.7.4 would require the project to meet performance standards that would avoid project adverse water quality impacts to Morrison Creek in compliance with the federal, state, regional and local requirements as well as in compliance with the City's joint NPDES permit. Thus, implementation of these mitigation measures would reduce the project's contribution to **less than cumulatively considerable**.

Cumulative Water Supply Impacts

Impact 4.7.7 The project, when considered with other development projects, would increase the demand for surface and groundwater supplies and would contribute to regional water supply impacts. The project's contribution to cumulative water supply impacts would be **less than cumulatively considerable**.

The water demands associated with the Sunrise Douglas Community Plan (SDCP) and the remainder of Zone 40's service area were included and addressed in the comprehensive water supply and infrastructure planning for Zone 40 and the development of the Zone 40 "conjunctive use" program as described in the Zone 40 WSMP (SCWA, 2005). As previously indicated, the WFA established a long-term average annual limit (sustainable yield) for each of three geographic sub-areas of the groundwater basin within the County: 131,000 acre-feet year Af/yr for the North Area (north of the American River); 273,000 af/yr for the Central Area (between the American and Cosumnes Rivers); and 115,000 Af/yr for the Galt Area (south of the Cosumnes River). Any proposed water supply project must satisfy the groundwater conditions specified in the WFA for the 2030 projected levels of development. The WSMP identifies an estimated long-term average use of surface water supply of 68,637 Af/yr through 2030. The long-term supply will consist of 45,000 af/yr of United States Bureau of Reclamation (USBR) Central Valley Project (CVP) contract water (known as "Fazio" and "SMUD" water), plus additional water supplies from various surface water sources including up to 9,300 af/yr from the City of Sacramento existing entitlements areas where the Zone 40 boundaries lies within the City's American River Place of Use. SCWA has determined that it has sufficient water supplies to meet the demands of Zone 40

through its conjunctive use program, which is a sustainable water supply program providing 100 percent reliable water supplies through 2030. Additionally, the adopted SDCP included mitigation measures (WS-1 and WS-2 [see modifications to Mitigation Measure WS-1 associated with this project only under Impact 4.7.3), which were developed through the SDCP/SRSP EIR requiring a determination by the SCWA of adequate and sufficient water supplies prior to the approval of any tentative maps within the SDCP area (SDCP, p. 8-3).

SCWA is a signatory to the Water Forum Agreement (WFA); thus, its cumulative water supplies are subject to the provisions of that agreement. In January 1999, the joint Sacramento City-County Office of Metropolitan Water Planning published the Draft EIR of the WFA. The Final EIR for the WFA was certified on November 23, 1999 and has not been challenged. The certified FEIR constitutes a legally satisfactory analysis of all the issues addressed therein, including cumulative water supply impacts. (see Pub. Resources Code, Section 21167.2) The findings of the FEIR, and the accompanied Water Forum Action Plan, outlined a program whereby water delivery could be supplied to WFA stakeholders through 2030, provided that the permanent pumping diversion facilities on the Sacramento River and at Auburn are constructed. Potential impacts to water supplies resulting from implementation of the WFA were identified and evaluated relative to the Base Condition (i.e., current levels of demand). Impacts focused on changes to annual water deliveries to contractors with the Central Valley Project (CVP) and State Water Project (SWP).

American River deliveries would be increased by the WFA (in this instance, American River deliveries include all deliveries to purveyors receiving water from the American River and water delivered from the Sacramento River in lieu of the American River. **Table 4.7-8** displays the projected American River surface water deliveries.

TABLE 4.7-8
AMERICAN RIVER DELIVERIES

Contract Year (Mar-Feb)	Base Conditions (TAF*)	1998 with WFA (TAF*)
Maximum	230.8	469.9
Minimum	222.4	350.2
69-Year Average	229.1	462.7

Source: WFA DEIR 1999.
*Notes: *TAF = Thousand Acre Feet*

The American River Deliveries include a component of water that is delivered to CVP customers. **Table 4.7-9** displays the American River deliveries to CVP customers.

TABLE 4.7-9
AMERICAN RIVER DELIVERIES TO CVP CUSTOMERS

Contract Year (Mar-Feb)	Base Conditions (TAF*)	1998 with WFA (TAF*)
Maximum	16.2	178.0
Minimum	8.1	59.7
69-Year Average	14.5	145.4

Source: WFA DEIR 1999.
*Notes: *TAF = Thousand Acre Feet*

As indicated in **Table 4.7-6** and **Table 4.7-7**, the water deliveries made under the WFA could increase substantially if all agreements are negotiated as planned, and all of the water districts seeking diversions obtain all of the necessary federal and state approvals and all of the necessary facilities are constructed. Notably, the water demand created by the Preserve at Sunridge, which is estimated to need approximately 1,319 AF/yr, would represent less than 1% of the total WFA delivery agreements, and thus would cause only a very small fraction of the cumulative impacts assessed in the WFA EIR. The full WFA EIR is available for public review at the Water Forum Main Office at 600 J Street Suite 260 Sacramento CA. 95814 and addresses the impacts and mitigation measures that the area stakeholders would need to comply with in order to implement the water supply program outlined in the WFA.

The WFA EIR listed the environmental impacts that could occur when implementing the WFA and concluded that there was the possibility for environmental impacts in the following areas: groundwater resources, water supply, water quality, fisheries resources and aquatic habitat, flood control, hydropower supply, vegetation and wildlife, recreation, land use and growth inducement, aesthetics, cultural resources and geology and soils. Mitigation measures and programs were applied to these issue areas with the resulting impacts after mitigation falling into three categories: less than significant, potentially significant, and significant. Various forms of mitigation were successful at reducing the identified impacts to less than significant after the following summarizes the impacts identified in the WFA EIR and their respective level of significance finding.

WFA EIR Less than Significant Impacts (After Mitigation)

Groundwater Resources:

- Continued lowering of groundwater;
- Movement of groundwater contaminants; and
- Land Subsidence from aquifer drawdown.

Water Quality:

- Seasonal changes to water quality in Folsom Reservoir, Lake Natoma, and the Lower American River.

Fisheries Resources and Aquatic Habitat:

- Impacts to Folsom Reservoir's coldwater Fisheries;
- Impacts to Lake Natoma's coldwater and warmwater fisheries;
- Temperature impacts to Nimbus fish hatchery operations and fish production
- Lower American River Steelhead
- Flow- and temperature-related impact to the American River shad (May and June)
- Flow- and temperature-related impact to the Striped Bass Sport Fishery (May - June)
- Impacts to Shasta Reservoir's coldwater and warmwater fisheries;
- Impacts to Trinity Reservoir's coldwater and warmwater fisheries;
- Impacts to Keswick Reservoir's Fisheries;
- Flow-related impacts to Sacramento River fisheries;
- Temperature-related impacts to Sacramento River fisheries resources; and
- Delta fish population.

Flood Control:

- Ability to meet flood control diagrams of the Central Valley Project (CVP)/State Water Project (SWP) Reservoirs;
- Increased stress on Lower American River flood control structures;
- Increased exposure to flood hazards;
- Substantial change in floodplain characteristics; and
- Changes in river channel geometry or gradients leading to change in bank erosion, aggradation, segradation, or meander processes.

Hydropower Supply:

- CVP hydropower capacity and generation; and
- Increased energy requirements for diverters pumping from Folsom Reservoir. (This impact was found to have an economically significant impact after mitigation.)

Vegetation and Wildlife:

- Lower American River riparian vegetation and backwater ponds;
- Vegetation associated with reservoirs;
- Vegetation associated with the Upper Sacramento River;
- Vegetation associated with the Lower Sacramento River and the Delta;
- Special-status species dependent on Lower American River backwater pond/marsh habitats;
- Elderberry shrubs and Valley Elderberry Longhorn Beetle; and
- Sacramento-San Joaquin Delta habitats of special-status species (non-fish).

Recreation:

- Lake Natoma recreation opportunities;
- Shasta Lake recreational opportunities
- Trinity River recreation opportunities
- Recreation opportunities on the Upper Sacramento River;
- Impacts on the Upper Sacramento River;
- Lower Sacramento River recreation opportunities;
- Delta recreation opportunities;
- Consistency with the American River Parkway plan; and
- Consistency with the American River's recreational river designations.

Land Use and Growth-Inducing Impacts:

- Land use impacts on direct and indirect effect study areas:
- Consistency with General Plan; and
- Consistency with General Plan water supply and conservation policies.

Aesthetics

- Aesthetic value of the Lower American River
- Aesthetic value of the Upper and Lower Sacramento River and Sacramento-San Joaquin Delta;
- Aesthetic value of Lake Natoma, Whiskeytown, and Keswick Reservoirs; and
- Aesthetic value of Folsom, Trinity, and Shasta Reservoirs.

Cultural Resources

- Effect of varying flows/river stage on cultural resources along the Lower American River bank near Nimbus Dam;
- Effect of varying flows/river stage on cultural resources along the Lower American River bank near the mouth; and
- Effect of varying flows/river stage on cultural resources along the Lower American River near Freeport.

Soils and Geology

- Changes in geologic substructures;
- Exposure to major geologic hazards;
- Increased soil erosion by wind or water; and
- Loss of soil cover

Various forms of mitigation were implemented, which reduced these impacts to less than significant. As indicated, the proposed project would receive its water supply from the SCWA, which would supply water in accordance with the provisions set forth in the WFA. As a result, the Preserve at Sunridge would not result in any new water supply impacts beyond those addressed and mitigated in the WFA EIR. As previously indicated, the proposed project's water supply represents a very small fraction (less than 1%) of the cumulative water supply related impacts identified in the WFA EIR.

WFA EIR Potentially Significant Impacts

Water Quality:

- Sacramento River and Delta Water Quality.

Fisheries Resources and Aquatic Habitat

- Impacts to Folsom Reservoirs warmwater fisheries;
- Fall-run Chinook salmon; and Flow- and temperature impacts to splittail (Feb – May).

The mitigation measures applied to these impact areas would reduce the impacts to some degree; however, there is a chance the mitigation may not be as successful as planned. Therefore, the potential exists for some impacts to remain above standards set the WFA, resulting in a determination of potentially significant. Again, however, it is important to note that the proposed project's contribution to the to potentially significant impacts identified in the WFA would be very small. As previously indicated, the Preserve at Sunridge's share of water deliveries from the American River, under the WFA, is considerably less than 1 percent.

WFA Significant Impacts

Water Supply:

- Decrease in deliveries to State Water Project (SWP) customers; and
- Decrease in deliveries to Central Valley Project (CVP) customers.

Recreation:

- Reduced rafting and boating opportunities on the Lower American River;
- Reduced Folsom Reservoir boating opportunities; and

- Reduced availability of Folsom Reservoir swimming beaches.

Land Use and Growth-Inducing Impacts:

- Land Use and growth-inducing impact in the water service study area.

Cultural Resources:

- Effect of varying water levels on cultural resources in Folsom Reservoir.

The WFA EIR determined that even after mitigation is applied to these topical areas, the level of significance after mitigation would remain significant and unavoidable. Since the Preserve at Sunridge project would not contribute new impacts to these impacts to these topical areas beyond those previously addressed in the WFA, the recommended mitigation measures and CEQA findings in the WFA EIR would remain unaffected. As previously noted, the environmental effects of obtaining groundwater from the North Vineyard Well Field were fully addressed in the SDCP/SRSP EIR (see impacts and mitigation measures above the impact analysis associated with the construction of the well field). Therefore, the project's water supply impacts are considered less than cumulatively considerable.

Mitigation Measures

None required.

Cumulative Drainage Impacts

Impact 4.7.8 Implementation of the proposed project may adversely affect local and regional drainage. The project's contribution to regional drainage impacts is considered **cumulatively considerable**.

Implementation of the Preserve at Sunridge project in combination with existing, approved and proposed development in the area would substantially increase drainage rates in the southeastern portion of County. The Final Master Drainage Study for the Sunrise Douglas Community Plan Area completed by the Spink Corporation (October 1998) and the Amendment to the Final Master Drainage Study for the Sunrise Douglas Community Plan Area prepared by MHM Engineering (October 2001) included detailed improvements required for the ultimate development of the SDCP area. As indicated above, a regional detention basin (SMC18D) would be constructed as part of the Preserve at Sunridge project and accommodate some of the ultimate drainage flows in the SDCP area. The reader is referred to Impact 4.7.5 regarding ultimate (i.e., currently projected cumulative) drainage conditions.

Mitigation Measures

Implementation of Mitigation Measure MM 4.7.5 would require that the project's drainage flows not exceed peak flows, which would fully mitigate the project's contribution to cumulative drainage impacts. Thus, implementation of Mitigation Measure MM 4.7.5 would reduce the project's contribution to **less than cumulatively considerable**.

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The Spink Corporation. *Final Master Drainage Study Sunrise Douglas Community Plan Area, Sacramento, California*. October 16, 1998.

http://watershed.ucdavis.edu/

This section discusses the current geologic and soil conditions of the Preserve at Sunridge project site and identifies the potential geologic and soil impacts associated with the project. Appropriate mitigation measures are also identified to lessen any impacts that exceed the established standards of significance. This analysis is based on review of the Sunrise Douglas Community Plan/Sunridge Specific Plan (SDCP/SRSP) EIR, which was certified by the Sacramento County Board of Supervisors in July 2002, staff site visits, and the Soil Survey of Sacramento County, which was prepared by the United States Department of Agriculture Soil Conservation Service.

4.8.1 ENVIRONMENTAL SETTING

GEOLOGIC SETTING

The City of Rancho Cordova is located within the Great Valley geomorphic province of California. The geology of the Great Valley is typified by thick sequences of sedimentary deposits of Jurassic through Holocene age. The California Division of Mines of Geology (CDMG) and the United States Geologic Survey (USGS) have mapped a large portion of the site as being underlain by the lower member of the Quaternary-aged Riverbank formation. The Riverbank formation represents dissected alluvial fans and is generally composed of alluvial gravel, sand and silt derived from the western slopes of the Sierra Nevada Range. The Great Valley province is bounded on the north by the Klamath and Cascade mountain ranges, on the east by the Sierra Nevada Mountains, and on the west by the California Coast Mountain Range.

GEOLOGICAL STRUCTURE

The geological formations underlying the SDCP, north of Douglas Road, consist mostly of Cenozoic Quaternary gravelly alluvial and glacial deposits for the ancestral channel of the American River. These deposits show evidence from the mid Pleistocene age and are approximately 600,000 years old. East of the Preserve at Sunridge (proposed project) project site and Grant Line Road, the geologic structure consists of Cenozoic Tertiary Mehrten formations of andesitic conglomerate, sandstone, and breccia. The "main valley floor" is the most extensive geologic feature of the Central Valley and is located approximately two miles southwest of the Preserve at Sunridge site. This feature was formed in the late Pleistocene and consists of varying layers of alluvial deposits. The proposed project site is characterized by sloping topography, ranging in elevations from 100 to 300 feet above mean sea level and slopes ranging from 0 to 8 percent. The site consists mainly of Cenozoic Tertiary Laguna and Mehrten Formation consolidated alluvial deposits. The Sacramento Metropolitan Air Quality Management District (SMAQMD) has been made aware of the presence of naturally-occurring asbestos (NOA) in the Empire Ranch area of Folsom. The NOA was found in the Copper Hills Volcanic unit, a geologic unit mapped in the Geologic Map of the Sacramento Quadrangle, published by the California Department of Conservation (CDC). CDC staff also informed SMAQMD that there is also potential for NOA to be discovered in the Gopher Ridge Volcanic unit. Both of these geologic units are found in portions of eastern Sacramento County. As indicated above, the project site contains primarily Cenozoic and Mehrten formation alluvial deposits, which are not associated with NOA; therefore, the potential discovery of NOA on the project site is considered very low.

SOIL CONDITIONS

The United States Department of Agriculture Soil Conservation Service (SCS) produces maps classifying soil groups based on physical, hydrologic, and chemical properties for a particular geographical area. The SCS produced the Soil Survey of Sacramento County (Survey), which

provides detailed information on the soil conditions and characteristics for all of Sacramento County. The Survey is used to determine soil behavior for land-planning purposes and highlights the limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

According to the Survey (Sheet 7, Buffalo Creek Quadrangle), the project site is composed of Fiddyment fine sandy loam, Hicksville gravelly loam, Red Bluff-Redding complex, Redding loam and Redding gravelly loam. The erosion potential, runoff, subsoil permeability, slopes, water holding capacity, and shrink-swell potential of each unit is presented in **Table 4.8-1**. As indicated in the table, the Red Bluff-Redding complex has slopes ranging from 0 to 5 percent. Permeability for this unit is slow to moderately slow with water perched above the clay for a period of time after rainfall, resulting in low water holding capacity. This unit is characterized by high shrink-swell properties, very slow to slow runoff rates, and slight to moderate water erosion potential. This unit is best suited for rangeland and may provide wetland functions, which should be considered in the conversion to urbanized land uses. The Redding gravelly loam soils have slopes ranging from 0 to 8 percent. Permeability of the unit is also very slow due to the clay/hardpan conditions. This unit is characterized by high shrink-swell properties, very slow to medium runoff rates, and slight to moderate water erosion potential. Urban development constraints on this soil unit include shrink-swell potential, low strength, the depth to the subsurface hardpan.

TABLE 4.8-1
SOIL CHARACTERISTICS OF THE PROJECT SITE

Map Unit Name	Erosion Potential	Runoff	Subsoil Permeability (inches)	Slopes	Water Holding Capacity	Shrink-Swell Potential
(145) Fiddyment fine sandy loam	Slight	Slow to medium	20 to 40	1 to 5%	Low	Moderate
(159) Hicksville gravelly loam	Slight	Slow	60 to 72	0 to 2%	High	Moderate
(193) Red Bluff-Redding Complex	Slight to moderate	Very slow to medium	20 to 60	0 to 5%	Low	High
(197) Redding loam	Slight to moderate	Slow to medium	23 to 40	2 to 8%	Low	High
(198) Redding gravelly loam	Slight to moderate	Very slow to medium	20 to 40	0 to 8%	Low	High

Source: SCS of Sacramento County, 1993.

Faults

Earthquakes are generally expressed in terms of "intensity" and "magnitude". Intensity is based on the observed effects of ground shaking on people, buildings, and natural features. An earthquake's intensity varies from region to region, depending on the location of the observer with respect to the earthquake epicenter. **Table 4.8-2** provides a description and a comparison of intensity and magnitude. The intensity scale consists of a series of certain key responses such as people awakening, movement of furniture, damage to chimneys, and finally--total destruction. Numerous intensity scales have been developed over the last several hundred years to evaluate the effects of earthquakes; however the Modified Mercalli (MM) Intensity Scale is the one currently used in the US. The scale is composed of 12 increasing levels of intensity (designated by Roman numerals) that range from imperceptible shaking to

catastrophic destruction. The lower numbers of the intensity scale generally deal with the manner in which the earthquake is felt by people. The higher numbers of the scale are based on observed structural damage. By comparison, an earthquake's Magnitude is related to the amount of seismic energy released at the hypocenter of the earthquake. Magnitude is based on the amplitude of the earthquake waves recorded on instruments, which have a common calibration. The magnitude or strength of earth movement associated with seismic activity is typically quantified using the Richter scale. This scale is a measure of the strength of an earthquake or strain energy released by it, as determined by seismographic observations.

TABLE 4.8-2
MAGNITUDE AND INTENSITY OF FAULTS

Magnitude	Intensity	Description
1.0 - 3.0	I	Not felt except by a very few under especially favorable conditions.
3.0 - 3.9	II – III	II. Felt only by a few persons at rest, especially on upper floors of buildings. III. Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
4.0 - 4.9	IV - V	IV. Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably. V. Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
5.0 - 5.9	VI - VII	VI. Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight. VII. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
6.0 - 6.9	VIII - IX	VIII. Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. IX. Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
7.0 and higher	VIII or higher	X. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent. XI. Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.XII. Damage total. Lines of sight and level are distorted. Objects thrown into the

Source: USGS.

According to the California Department of Conservation California Geologic Survey, there are no known active faults or Alquist-Priolo earthquake hazard zones (formerly known as special study zones) occurring in Sacramento County, although several inactive subsurface faults are identified in the Delta. The two faults most influential to Sacramento County include: the Midland fault zone and the Bear Mountains fault zone; these faults are mapped as pre-Quaternary (older than 1.6 million years) and late-Quaternary (activity within the last 700,000 years). The Seismic Safety Element of the Sacramento County General Plan also shows two short

traces of a "Linda Creek fault" at the north edge of Sacramento County; however, these traces are not depicted on any current California Department of Conservation, Division of Mines and Geology or USGS references.

Groundshaking

As discussed above, there are no active or potentially active faults known to underlie the project site and the site is not located within an Alquist-Priolo Fault Study Zone. Additionally, the project site is not located within 15 kilometers of a Type A or Type B fault as indicated in the "Maps of Known Active Fault Near Source Zones in California and Adjacent Portions of Nevada". Therefore, group rupture at the site resulting from seismic activity is considered unlikely.

Liquefaction Potential

Liquefaction is the process in which water is combined with unconsolidated soils, generally from ground motions and pressure, which causes the soils to behave like quicksand. Liquefaction potential is determined from a variety of factors including soil type, soil density, depth to the groundwater table, and the duration and intensity of groundshaking. Liquefaction is most likely to occur in deposits of water saturated alluvium or areas of considerable artificial fill. Based on the soil characteristics, subsurface conditions, and groundwater levels in the vicinity of the project site, the potential for liquefaction is considered low. No site-specific subsurface data was collected in preparation of the EIR; however, site-specific geotechnical engineering studies are required prior to individual site development, which determines liquefaction potential and associated development hazards. As indicated in **Table 4.8-1**, the soil characteristics and the subsurface conditions of the project site would result in low liquefaction potential. In addition, the potential for ground lurching, differential settlement, or lateral spreading occurring during or after seismic events on the project site and in the immediate vicinity is considered to be low.

4.9.2 REGULATORY FRAMEWORK

LOCAL

Sacramento County General Plan

The existing Sacramento County General Plan was adopted in December of 1993. The County's General Plan is undergoing an update. The update addresses plans for growth in the next planning cycle (2004-2025) as well as addressing new emerging planning issues. Topics addressed in the Update Project include, but are not limited to, holding capacity, infrastructure financing, policy analysis, smart growth planning, and mature communities. As noted in Section 4.1 (Land Use), the City is currently operating under its Interim General Plan rather than the Sacramento County General Plan for transportation policy direction in the City. **Appendix 4.0** provides a consistency analysis of relevant Sacramento County General Plan policies associated with environmental issues that the City's Interim General Plan is silent.

City of Rancho Cordova Interim General Plan

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to **Appendix 4.0** for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

Rancho Cordova Grading and Erosion Control Ordinance

As discussed above, the City of Rancho Cordova adopted the existing Sacramento County General Plan to guide development in the city. The City also adopted the Sacramento County Department of Water Resources (DWR) Grading and Erosion Control Ordinance (Chapter 16.44 of the existing County code), which establishes administrative procedures, minimum standard of review, and implementation and enforcement procedures for controlling erosion, sedimentation and other pollutant runoff from new development projects. The ordinance also addresses grading, filing, land excavation, construction activities and drainage as they relate to a particular project. The ordinance applies to any development project, resulting in the excavation of 350 cubic yards of soil or more. The ordinance also ensures compliance with the City's National Pollutant Discharge Elimination System (NPDES) Permit, which is issued by the California Regional Water Quality Control Board (CRWQCB). The City of Rancho Cordova is co-permittee on a NPDES Permit along with Sacramento County and the cities of Sacramento, Folsom, Galt, and Citrus Heights. Grading and erosion control permits, and amendments thereto, are subject to the requirements of CEQA (if they have not been addressed in a previous environmental document). Individual project applicants are required to furnish a copy of the permit application to the City for review and approval. The City reviews all grading and erosion control permits and geotechnical studies and reports in accordance with the Ordinance to ensure geologic and soil stability have been properly addressed.

4.8.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

This analysis evaluates the project's impacts on geology and soils. These standards are based on State CEQA Guidelines (2005) Appendix G. A geology and soils impact is considered significant if implementation of the project would do any of the following:

1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:

    a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence or other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42;

    b. Strong seismic ground shaking;

    c. Seismic-related ground failure, including liquefaction;

    d. Landslides;

2. Result in substantial soil erosion or the loss of topsoil;

3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;

4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or

5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

It should be noted that this analysis does not address significance standard "e" because the project will be connecting to the County Sanitation District-1 (CSD-1) sanitary sewer system. The reader is referred to Section 4.12 (Public Services and Utilities) for a discussion of impacts associated with wastewater conveyance and treatment.

METHODOLOGY

Evaluation of potential geologic and soil impacts of the proposed project was based on review of the Soil Survey of Sacramento County, produced by the USDA National Resources and Conservation Service, the Sacramento County General Plan (1993), the City of Rancho Cordova Code, Geology and Soils analysis in the SDCP/SRSP EIR, and field review of the project site and surrounding vicinity. The SDCP/SRSP EIR identified geology and soil related impacts as less than significant for the SDCP area and the Initial Study scoped out this issue area based on the previous environmental review. This section addresses the project-specific site conditions and potential geologic and soil related impacts resulting from implementation of the proposed project.

Previous Environmental Review in the SDCP/SRSP EIR

The SDCP/SRSP Final EIR did not identify any significant and potentially significant geology and soils impacts. The following are the less than significant impacts addressed and identified in the SDCP/SRSP EIR (pp. 13.1 through 13.19).

"Impacts *Adverse effects associated with topography and/or unique features.*

Although implementation of the Specific Plan would result in changes to the topography of the site, this is considered a less than significant impact. The existing topography is essentially flat and development in the area will require little surface alteration. There are no unique geologic features on the site so there is no potential for loss of significant physical features.

Mitigation Measures:

None required."

"Impacts *Adverse effects associated with geology with or exposure to seismic groundshaking.*

The potential for anything more than minimal problems due to structural failure of the underlying material is considered less than significant, because the potential for liquefaction is low due to the cohesive nature of the soils.

Mitigation Measures:

None required."

"Impacts *Adverse impact associated with soils.*

Because the project is already subject to the County's Land Grading and Erosion Control Ordinance, erosion control measures and sediment control measures will be required of each subsequent development as a matter or course. No further mitigation is necessary.

Mitigation Measures:

None required."

"Impacts *Adverse impacts associated with mineral resources.*

Planned growth and development in the area will preclude the mining and recovery of potential mineral resources (such as aggregates) in the Plan area. This impact is considered less than significant because the California Division of Mines and Geology, and the County General Plan, do not identify the site as a high quality resource area.

Mitigation Measures:

None required."

The following discussion addresses the proposed project's project-specific geology and soil related impacts.

PROJECT IMPACTS AND MITIGATION MEASURES

Seismic Activity

Impact 4.8.1 Implementation of the proposed project may expose people and structures to groundshaking as a result of fault activity. This is considered a **less than significant** impact.

As discussed above, there are no active faults located in Sacramento County. No active or potentially active faults pass through the project site based on published geologic maps. The nearest faults to the proposed project are the Midland and Bear Mountain faults, which are both in excess of 20 miles west and east of the project site respectively. The proposed project site is not located in an Alquist-Priolo Earthquake Hazard Zone or Fault Study Zone. As such, ground rupture due to faulting is considered to be unlikely. As with most the majority of eastern and central Sacramento County, the project site is in the area of seismic zone 3, which is considered an area of relatively low groundshaking potential, as defined by the California Department of Mines and Geology on the Preliminary Map of Maximum Expectable Earthquake Intensity in California and the Sacramento County General Plan Safety Element. A seismic zone 3 is an area that can expect to experience ground motion of low severity. The UBC was adopted by the City upon incorporation and requires structures to be built to withstand groundshaking in areas of high earthquake hazards and the placement of strong motion instruments in larger buildings to monitor and record the response of the structure and the site of seismic activity.

Based upon the seismologic and geologic conditions discussed above, the maximum level of ground motion potentially experienced in the project's vicinity would occur as the result of a 6.5 magnitude earthquake on the Foothills Fault zone or Great Valley fault. Proper design of the proposed structures in conformance with the latest edition of the UBC would be sufficient to prevent significant damage from ground shaking during seismic events resulting from movement

on any of the faults or fault systems. UBC standards address foundation design, shear wall strength, and other structural related conditions. As a result, the effects from earthquakes and subsequent ground shaking would be reduced to a minimum by application of the UBC; therefore, seismic activity impacts are anticipated to be less than significant.

Mitigation Measure

None required.

Geologic Stability

Impact 4.8.2 Implementation of the project may place structures and future residents within areas of geologic instability. This is considered a **less than significant** impact.

The soil characteristics of the project site are characterized with slow to moderate permeability, low water holding capacity subsurface conditions, indicating that the potential for liquefaction is low. The potential for ground lurching, differential settlement, or lateral spreading occurring during or after seismic events on the project site and in the immediate vicinity is also considered to be low. The soils underlying the proposed project site are characterized with high shrink/swell potential. Soils with moderate to high shrink/swell potential tend to expand during wet seasons and shrink during dry seasons. In addition, soils with moderate to high shrink/swell potential, generally, have low plasticity levels, which affects a soils expansion potential. Such soils can pose development constraints. Structures or improvements constructed on expansive soils could suffer severe damage from the expansion. Upon incorporation, the City adopted the Uniform Building Code (UBC), which includes commonly accepted engineering practices and special design and construction methods for dealing with expansive soil and other geologic stability issues. UBC standards and commonly accepted engineering practices would be applied to all proposed structures of the Preserve at Sunridge project.

The SDCP/SRSP FEIR concluded that the soils underlying the Community Plan area had high percentages of clays that expand and contract with wetting and drying of the soils and that any development in the area could expose people and property to mild geologic hazards due to the high shrink-swell of the soils. The soil groups in the Community Plan area also have low water holding capacity and may increase erosion and runoff rates. The SDCP/SRSP FEIR concluded that seismic activity, ground-shaking, and liquefaction impacts were less than significant because standard construction practices and compliance with UBC requirements mitigate potential impacts to less than significant (SDCP/SRSP FEIR p. 13.18) and no mitigation is necessary. Due to site-specific soil conditions and mandatory compliance with UBC standards; this impact is considered less than significant.

Mitigation Measure

None required.

4.8.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The geology and soils cumulative setting includes the Great Valley geomorphic province of California, which is bounded on the north by the Klamath and Cascade mountain ranges, on the east by the Sierra Nevada Mountains, and on the west by the California Coast Mountain

Range. However, geotechnical and soil related impacts tend to be site specific rather than cumulative in nature and each development site would be subject to, at a minimum, uniform site development and construction standards relative to seismic and other geologic conditions that are prevalent within the region. Cumulative surficial deposits, erosion sediment deposition and water quality impacts are addressed in Section 4.7 (Hydrology and Water Quality).

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Geologic and Soil Impacts

Impact 4.8.3 Implementation of the proposed project in combination with reasonably foreseeable development would not contribute to cumulative geologic and soil impacts, as the impacts would be site-specific and not additive in character. Thus, the project's contribution would be **less than cumulatively considerable**.

Impacts associated with geology and soils are based on existing site-specific conditions that are situated within the subsurface materials that underlay the project site. These inherent conditions are an end-result of natural historical events that have played out through vast periods of geologic time. Geology and soil related impacts are generally site specific and are determined by a particular site's soil characteristics, topography, and proposed land uses. Development projects are analyzed on an individual basis and must comply with established requirements of the City and the UBC as they pertain to protection against known geologic hazards and potential geologic and soil related impacts. Given that there are no active faults in Sacramento County, and low incidence of historical geologic activity in the project's contribution to cumulative geology and soil related impacts is considered less than cumulatively considerable.

Mitigation Measure

None required.

REFERENCES

County of Sacramento. *Sacramento County General Plan*. 1993

County of Sacramento. *Department of Environmental Review and Assessment – Sunrise Douglas Community Plan/Sunridge Specific Plan Environmental Impact Report*. November 2001.

http://www.usgs.gov/

http://www.consrv.ca.gov/cgs

United States Department of Agriculture. Soil Survey of Sacramento County. 1984

The following discussion of biological resources is based on site-specific surveys, visits and relevant database searches for the proposed Preserve at Sunridge project. The proposed development includes single- and multi-family residential, commercial/mixed use, schools, parks, open space, pedestrian passes, landscape corridors, and wetlands preserve on an approximately 530-acre site in the southeastern portion of Rancho Cordova. This section presents an analysis of the impacts that could occur to biological resources due to project implementation, and appropriate mitigation measures to reduce these impacts to a less than significant level.

4.9.1 SETTING

PROJECT SETTING

The Preserve at Sunridge project site (proposed project) is located in eastern Sacramento County, within the city limits of Rancho Cordova and the Sunrise Douglas Community Plan (SDCP) area. The approximately 530-acre project site is generally located five-miles south of US-50, east of the Folsom South Canal (FSC), south of Douglas Road, north of Jackson Road/State Route 16 (SR-16), and west of Grant Line Road. Sunrise Boulevard is approximately one-mile west of the project site. The proposed project site is primarily used for the seasonal grazing of livestock. The site is characterized by flat to moderately sloping topography with elevations ranging from approximately 170 feet to approximately 200 feet above mean sea level. The primary land cover is water features and annual grassland. The site is void of any trees. The site is bisected by an intermittent drainage (tributary to Morrison Creek) that enters in the northeast corner and flows southwest to the point were it enters a culvert under Jaeger Road. There are two 230 kV electrical transmission lines that cross diagonally from a westerly to an easterly direction, throughout the entire project site. These transmission lines are owned and maintained by SMUD and PG&E. There is a 350-foot utility easement associated with this corridor.

Regional Environment

The proposed project is located within the Laguna Formation Geological Formation in the Southeastern Sacramento Valley Vernal Pool Region (Dittes and Guardino, 2004). The Laguna Formation is the largest geological formation in the Southeastern Sacramento Valley Vernal Pool Region.

The gently rolling terrain of the eastern Great Central Valley dominates the topography within the region; with elevations ranging from 36 feet to 358 feet above mean sea level. Several creeks and streams, including Morrison, Laguna, Deer, Buffalo, and Carson Creeks, bisect the rolling terrain. These creeks are ephemeral and intermittent, experiencing dry periods during the summer. Ephemeral and intermittent streams are typical of the Mediterranean-type climate of the area, which is characterized by the predictable cool wet winters and warm, extremely dry summers.

Vernal pool ecosystems within the region developed as a result of the complex interactions between the area's climate, geology, soils, hydrologic cycle, and biological, chemical and evolutionary processes, (Keeley and Zedler, 1998; Stone, 1990; Holland and Dains, 1990). The regional vernal pools are classified as North Hardpan Vernal Pools (CDFG, 2004; Holland 1986). These pools provide a range of conditions that vary along gradients of inundation and dry-down severity. They range from "flashy, shallow, small" pools with shallow soils to "stable, deep, large" pools with deep soils. These two ends of the vernal pool spectrum integrate with different cover-types. At the higher and drier side of the "flashy/small" pools the vernal pool species integrate

with less specialized non-native wetland and grassland species. The more stable vernal pools integrate with the seasonal freshwater marsh covertype vegetation (Dittes and Guardino, 2004).

The major vegetation types located within the region are vernal pools and associated annual grasslands (vernal pool grasslands). The vernal pool grasslands and associated vernal pools dominate the south and east portions of the region. These two vegetation types harbor an abundance of plant and animal species, of which a number are special status. The vernal pools in the region support several species endemic to vernal pools including vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), Boggs lake hedge-hyssop (*Gratiola heterosepala*), western spadefoot toad (*Scaphiopus hammondii*) , Sacramento Orcutt grass (*Orcuttia viscida*), and slender Orcutt grass (*Orcuttia tenuis*). The surrounding annual grasslands support a variety of species including Cooper's hawk (*Accipiter cooperii*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), tricolored blackbird (*Agelalus tricolor*), and burrowing owl (*Athene cunnicularia*).

Common wildlife typically found in the region include coyote (*Canis latrans*), American badger (Taxidea taxus), California vole (*Microtis californicus*), western harvest mouse (*Reithrodontomys magalotis*), Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*), black-tailed jackrabbit (*Lepus californicus*), horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), western rattlesnake (*Crotalis viridis*), common garter snake (*Thamnophis sirtalis*), and western fence lizard (*Sceloporus occidentalis*).

Local Environment

Vegetation Communities and Aquatic Features

The primary vegetation of the project site is associated with the California annual grassland series (Sawyer et. al, 1995). Aquatic features including northern hard pan vernal pools are interspersed within throughout the annual grassland landscape.

Annual Grassland

The annual grasslands in the project area are comprised primarily of non-native grasses and forbs from the Mediterranean region in Europe and North Africa. The dominant species of annual grasslands consist of soft chess (Bromus hordeaceous), ripgut brome (Bromus diandrus), Italian ryegrass (Lolium multiflorum), annual fescue (Vulpia spp.), hawkbit (Leontodon taraxocoides), and clover (Trifolium spp.) In addition to the grass species, a number of native monocot species (bulb bearing) occur on the site, including white brodiaea (Triteleia hyancinthina), harvest brodiaea (Brodiaea elegans), and very low brodiaea (Brodiaea minor) (Moore Biological Consultants, 2002). The annual grassland habitat on the site is common throughout Sacramento County.

Annual grassland provides important food plants for many wildlife species, although many animals also require additional habitat features such as cliffs, ponds, or woody plants for breeding, resting, and escape cover. Mammals typically found in grassland habitat include coyote, badger, Swainson's hawk, California vole, western harvest mouse, Botta's pocket gopher, California ground squirrel, and black-tailed jackrabbit. Burrowing owl use grassland as breeding grounds as do the horned lark and western meadowlark. Grassland is important foraging habitat for the prairie falcon (*Falco mexicanus*), white-tailed kite, turkey vulture (*Cathartes aura*), northern harrier (*Circus cyaneus*), and American kestrel (*Falco sparverius*). Reptiles that rely upon grassland for breeding include western rattlesnake, common garter snake, and western fence lizard (Basey and Sinclear, 1980).

Jurisdictional Waters of the US

The project site contains wetlands and other water bodies that fall under the jurisdiction of the United States Army Corps of Engineers (Corps). Under Section 404 of the Clean Water Act (CWA, 1972), the Corps has the authority to regulate activity that could discharge fill or dredge material or otherwise adversely modify "waters of the United States."

The term "waters of the United States" as defined in Code of Federal Regulations (33 CFR 328.3[a]; 40 CFR 230.3[s]) includes:

1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2) All interstate waters including interstate wetlands. (Wetlands are defined by the Federal government [CFR, Section 328.3(b), 1991] as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions);
3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:
    - which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    - from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    - which are used or could be used for industrial purposes by industries in interstate commerce;
4) All impoundments of waters otherwise defined as waters of the United States under the definition;
5) Tributaries of waters identified in items 1 through 4;
6) Territorial seas;
7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in items one through six; and
8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the U.S. Environmental Protection Agency (EPA [328.3(a)(8) added 58 FR 45035, Aug. 25, 1993].

In 1987, the Corps published a manual that standardized the manner in which waters, including wetlands, were to be delineated nationwide. To determine whether areas appearing to be wetlands are subject to Corps jurisdiction (i.e., are "jurisdictional" wetlands), a wetland delineation must be performed. Under normal circumstances, three positive indicators: (1) wetland hydrology (2) hydrophytic vegetation, and (3) hydric soils must be present to be classified as a jurisdictional wetland. For the purposes of this document, wetlands and other waters that may fall within the Corps' jurisdiction are referred to as jurisdictional waters of the US.

Foothill Associates conducted a wetland delineation of the project site in September 2004 to update the Wetland Delineation for Peery/Arrillaga, Sacramento County, California prepared by KB international in October 1996. The 2004 wetland delineation was verified as accurate (with modifications) by the Corps in August 2005. The following discussion concerning waters of the US on the project site is derived from the verified delineation.

Waters of the US within the project site include linear flowing features with a defined ordinary high water mark and a defined bed (creeks, streams and drainages), and features are inundated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation adapted for life in saturated soils conditions (vernal pools, depressional seasonal wetlands and riverine seasonal wetlands) (see **Figure 4.9-1**). Each of these types of aquatic features provides a unique function within the landscape. **Table 4.9-1** provides acreage of type of waters of the US within the project site.

TABLE 4.9-1
WATERS OF THE US IN THE PRESERVE AT SUNRIDGE PROJECT AREA

Type	Acreage
Vernal Pool	15.39
Depressional Seasonal Wetland	2.64
Riverine Seasonal Wetland	1.68
Ephemeral Drainage	1.55
TOTAL	**21.26**

Source; Foothill and Associates, 2005.

Vernal Pools

The term vernal pool has been used to describe a variety of features. For the purposes of this document, the term vernal pool refers to seasonally inundated shallow depressions underlain by an impermeable layer of soil, generally hardpan or bedrock, and provide a specialized habitat for plant species adapted to this environment. Native annual herbs and grasses are the dominant species in vernal pool communities (**Table 4.9-2**). The pools are inundated with water for various periods of times depending on the depression depth, extent and duration of rainfall, and ambient temperatures. Surface flow from the surrounding upland habitat (annual grassland) provides a primary source of hydrology of these systems. The combined vegetation of annual grasslands with vernal pool and vernal swale inclusions is denoted as vernal pool grassland (Ecosystem Sciences, 2005).

The vernal pools on the site are classified as northern hardpan vernal pools (CNDDB, 2005). Vernal pools support a variety of invertebrate species that are adapted to seasonal inundation and climatic regime associated with this habitat but may also occur in other seasonal features. The vernal pool fairy shrimp, Midvalley fairy shrimp (Branchinects mesovallensis), vernal pool tadpole shrimp, California linderiella (Linderiella occidentalis), and western spadefoot toad live in seasonal freshwater wetlands such as vernal pools and swales.

Holland (1998) estimated that between 60 and 85 percent of the habitat that once supported vernal pools had been destroyed by 1973. In the ensuing years, a substantial amount of the remaining habitat has been converted for human uses. The rate of loss of vernal pool habitat in the state has been estimated at two to three percent per year (Holland, 1998). Rapid urbanization of the Central Valley of California currently poses the most severe threat to the continued existence of the listed vernal pool crustaceans.

Insert Figure 4.9-1 Vegetation and Aquatic Features

During the wet season, amphibians and reptiles are likely to use seasonal freshwater wetlands, such as vernal pools, for breeding and/or foraging. Some species likely to use this type of habitat are Pacific chorus frogs (*Hyla regilla*), western toads (*Bufo boreous*), and common garter snake. Several species of birds that also forage in this habitat type are common snipe (*Gallinago gallinago*), greater yellowlegs (*Tringa melanoleuca*), and killdeer (*Charadrius vociferous*). Wildlife usage of seasonal wetland habitat during dry periods is only marginally different from adjacent annual grasslands throughout the majority of the year. The term vernal pool has been used to describe a variety of features.

TABLE 4.9-2
OBSERVED VERNAL POOL PLANT SPECIES IN THE PRESERVE AT THE PROPOSED PROJECT SITE

Common Name	Scientific Name	Wetland Indicator Status*
Pacific foxtail	Alopecurus saccatus	OBL
Northern water-starwort	Callitriche hermaphroditica	OBL
Winged water-starwort	Callitriche marginata	OBL
Owls-clover	Castilleja camprestis subsp, campestris	OBL
Water pygmy-weed	Crassula aquatica	OBL
Annual hairgrass	Deschampsia danthonioides	FACW
Double-horned downingia	Downingia bicornuta var. bicornuta	
Solano downingia	Downingia ornatissima var. ornatissima	OBL
Least spikerush	Eleocharis acicularis var, acicularis	OBL
Creeping spikerush	Eleocharus macrostachya	OBL
Coyote-thistle	Eryngium castrense	FACW
Northwestern mannagrass	Glyceria occidentalis	OBL
Bractless hedge-hyssop	Gratiola ebracteata	OBL
Nuttall's quillwort	Isoetes nuttallii	OBL
Orcutt's quillwort	Isoetes orcuttii	OBL
Toad rush	Juncus bufonius	OBL
Capped rush	Juncus capitatus	FACW+
Fremont's goldfield	Lasthenia fremontii	FACU
Smooth goldfields	Lasthenia glaberrima	OBL
Flowering quillwort	Lilaea scilloides	OBL
White meadowfoam	Limnanthes alba subsp. Alba	OBL
Loosestrife	Lythrum portula	OBL
Tricolored monkeflower	Mimulus tricolor	FACW
White-flowered navarretia	Navarretia leucocephala subsp. leucocephala	*
American pillwort	Pilularia Americana	OBL
Greene's popcornflower	Plagiobothrys greenei	OBL
Stipitate popcornflower	Plagiogothrys stipitatus var. micranthus	OBL
Douglas' mesamint	Pogogyne douglasii	FACW

Common Name	Scientific Name	Wetland Indicator Status*
Sacramento mesamint	Pogogyne zizphororides	OBL
Diverse-leaved pondweed	Potamogeton diversifolius	OBL
Dwarf-wooly heads	Psilocarphus brevissimus var. brevissimus	OBL
Slender wooly-marbles	Psilocarphus tenellus var. tenellus	OBL
Aquatic buttercup	Ranunculus aquatilus	OBL
Carter's buttercup	Ranunculus bonariensis var. trisepalus	OBL
Spiny-fruit buttercup	Ranunuculus murucatus	FACW+

Source: Moore Biological Consultants, April 2002;North Fork Associates, 2002; Foothill Associates, 2005.
**Wetland Indicator Status Key: OBL - Obligate occurs almost always under natural conditions in Wetlands (99%), FACW(+) - Facultative Wetland; usually occurs in wetlands (67% to 99%) but occasionally found in nonwetlands; FACU – Facultative Upland; usually occurs in nonwetlands (67% - 99%) but occasionally found in wetlands; and *Depending on species, may be any of the above categories.*

Depressional Seasonal Wetlands

Depressional seasonal wetlands are seasonally wetlands where saturation rather than inundation is the dominant hydrologic regime. These wetlands support vegetation that is adapted to long-term saturation rather than inundation (non vernal pool vegetation). Annual grasses and herbs dominate the seasonal wetland communities. These wetlands, though not supporting a dominance of vernal pool associated plants, are habitat for federally listed vernal pool fairy shrimp, vernal pool tadpole shrimp, and western spadefoot toad as described above. Depressional seasonal wetlands may also support common wildlife species similar to those that inhabit vernal pools.

Riverine Seasonal Wetlands (Seasonal Swales)

Riverine seasonal wetlands are represented on the site as seasonal swales. These linear features collect and carry seasonal surface flow to receiving aquatic water bodies. The flows in these features do not achieve the energy necessary to create a defined bed and ordinary high water mark and therefore are not considered drainages. These features remain saturated or inundated for prolonged periods of time sufficient to support wetland vegetation.

These swale systems are important in a vernal pool ecosystem. On the project site, swales connect vernal pools into large complexes. Swales are integral to the health and sustainability of vernal pools and seasonal wetlands. Swales provide important hydrology to the pool and wetland basins and also provide linkages between plant and invertebrate populations for genetic exchange.

Ephemeral Drainages

The project site contains a reach of a larger unnamed ephemeral drainage. As seen in **Figure 4.9-2**, the larger unnamed ephemeral drainage is a headwater tributary to Morrison Creek (EcoAnalysts, Inc. 2005). This drainage typically functions in the collection and transport of stormwater and convey flows during and immediately after storm events. This majority of the reach of the drainage that occurs within the project site exhibits a defined bed and bank. Wetland vegetation occurs intermittently in this drainage where slower flows and seasonal water availability is present. Depressional areas occur within the reach of the drainage where water pools and remains after the primary channel is dried. These depressional areas support vernal pool and seasonal wetland vegetation in the spring (Foothill Associates, 2004).

Insert **Figure 4.9-2** Morrison Creek and Regional Tributaries

Studies indicate the reach of the ephemeral drainage on the project site provides primary habitats for a variety of invertebrate species (EcoAnalysts, Inc. 2005). In 2003 and again in 2005, vernal pool tadpole shrimp were observed in multiple spots along the ephemeral drainage within the project site. Waterfowl and shorebirds also utilize this habitat for resting and foraging including great blue heron (*Ardea herodias*), snowy egret (*Egretta hula*), mallard (*Anas platyrhynchos*), killdeer (*Charadrius vociferus*), American avocet (*Recurvirostra americana*), and black-necked stilt (*Himantopus mexicanus*). Other common wildlife species that may utilize the ephemeral drainages include: Wilson's warbler (*Wilsonia canadensis*), black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), spotted towhee (*Pipilo maculatus*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginianus*), European starling (*Sturnus vulgaris*), American crow (Corvus brachyrhynchos), western scrub jay (*Aphelocoma californica*), house finch (*Carpodacus mexicanus*), house mouse (*Mus musculus*), and Norway rat (*Ratus norvegicus*).

Special-Status Species

Special-status plant and animal species are those that are afforded special recognition by federal, state, or local resource agencies or organizations. Listed and special-status species are of relatively limited distribution and generally require specialized habitat conditions. Listed and special-status species are defined as:

1. Species listed or proposed for listing as threatened or endangered under federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA).

2. Species considered as candidates for listing as threatened or endangered under ESA or CESA.

3. Plants listed as Endangered or Rare under the California Native Plant Protection Act.

4. Plants on the California Native Plant Society (CNPS) List 1B (plants, rare, threatened, or endangered in California and elsewhere) or List 2 (plants rare, threatened or endangered in California but more common elsewhere.

5. Species identified by the California Department of Fish and Game (CDFG) as California Species of Special Concern or by the United States Fish and Wildlife Service (USFWS) as federal Species of Concern.

6. Animals fully protected in California under the California Fish and Game Code.

Table 4.9-3 is a description of the special-status species plants and animals that could potentially occur on the project site and the probability of occurrence based upon cited studies and technical expertise.

TABLE 4.9-3
SPECIAL-STATUS SPECIES PLANTS AND ANIMALS POTENTIALLY OCCURRING
IN THE PRESERVE AT SUNRIDGE PROJECT SITE

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential Occurrence in Project Site
Plants						
Sanford's arrowhead	Sagittaria sanfordii	None	None	1B	Freshwater marshes, sloughs and ditches with summer water.	None. No features supporting summer water.
Dwarf downingia	Downingia pusilla	None	None	2	Valley and foothill grassland (mesic); vernal pools	None. Though suitable habitat occurs on site, not found during 2002 surveys.
Legenere	Legenere limosa	SC	None	1B	Vernal pools.	None. Though suitable habitat occurs on site, not found during 2002 surveys.
Ahart's dwarf rush	Juncus lelospermus var. ahartii	None	None	1B	Vernal pools.	None. Though suitable habitat occurs on site, not found during 2002 surveys.
Slender orcutt grass	Orcuttia tenuis	T	E	1B	Vernal pools.	None. Though suitable habitat occurs on site, not found during 2002 surveys.
Sacramento orcutt grass	Orcuttia viscida	E	E	1B	Vernal pools.	None. Though suitable habitat occurs on site, not found during 2002 surveys..
Pincushion navarretia	Navarretia myersii subsp. Myersii	None	None	1B	Vernal pools	None. Though suitable habitat occurs on site, not found during 2002 surveys.
Bogg's Lake hedge hyssop	Gratiola heterosepala	None	E	1B	Freshwater marshes, swamps, and vernal pools	None. Though suitable habitat occurs on site, not found during 2002 surveys..
Wildlife[4]						
Swainson's hawk	Buteo swainsoni	None	T	N/A	Breeds in stands of trees in open space areas. Requires adjacent suitable foraging habitat such as grasslands or alfalfa fields supporting rodent populations	Moderate for foraging habitat. No nesting habitat. 25 known nest sites within 10 miles of project site (CNDDB, 2005)
Cooper's hawk	Accipiter cooperii	None	CSC	N/A	Nests within open riparian stands of deciduous trees	Moderate for foraging habitat. No nesting habitat.
White-tailed kite	Elanus leucurus	None	CFP	N/A	Rolling foothills and valley margins with scattered dense topped trees for perching and nesting	Moderate for foraging habitat. No nesting habitat.
Burrowing owl	Athene cunnicularia	SC	CSC	N/A	Found in open, dry annual or perennial grasslands, deserts, and scrublands. Subterranean nester, dependent upon burrowing mammals.	Very low. Site lacks ground squirrels and ground squirrel burrows.
Loggerhead Shrike	Lanius ludovicianus	None	CSC	N/A	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	High. Has been observed on site.
Tricolored blackbird	Agelalus tricolor	SC	CSC	N/A	Requires open water and protected nesting substrate, usually cattails, and surrounding foraging habitat of annual grassland	Moderate for foraging habitat. No nesting habitat.
Western spadefoot toad	Scaphiopus hammondii	None	CSC	N/A	Vernal pools for breeding and egg-laying	High. The vernal pools at the project site serve as suitable habitat for this species. There are five occurrences located approximately within 4 miles of the site (CNDDB (2005).
California tiger salamander	Ambystoma californiense	T	CSC	N/A	Seasonal water bodies (i.e., vernal pools and stock ponds) with surrounding grassland / woodland habitats containing summer refugia (i.e., burrows)	Very low. Closest known occurrence in 11 miles southeast of site (CNDDB, 2005).

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat	Potential Occurrence in Project Site
Vernal Pool fairy and tadpole shrimp	Branchinecta lynchi Lepidurus packardi	T and E	None	N/A	Vernal pools	Present. The vernal pools at the project site provide suitable habitat for both of these species. Vernal pool tadpole shrimp were observed in some of the deeper on-site pools during the 2002 and 2005 surveys. Vernal pool fairy shrimp have been documented in the within vernal pools in the immediate project vicinity (CNDDB (2005).
Northwestern pond turtle	Clemmys marmorata marmorata	None	CSC	N/A	Ponds, marshes, streams, and ditches with emergent aquatic vegetation and basking areas	None. No habitat present
Valley elderberry longhorn beetle	Desmocerus californicus dimorphus	T	None	N/A	Elderberry shrubs, usually in Central Valley riparian habitats	None. No elderberry shrubs on site.
Giant garter snake	Thamnophis gigas	T	T	N/A	Freshwater marsh and low gradient streams. Has adopted to drainage canals and irrigation ditches	Very low to none. The tributary drainage within the project site conveys only intermittent flows.

Source: Moore Biological Consultants, April 2002; North Fork Associates, 2002; EcoAnalysts, Inc., 2005; CNDDB, 2005

Notes: [1] T = Threatened; E = Endangered; C = Candidate for listing; SC = Species of Concern

[2] T = Threatened; CSC = State of California Species of Special Concern; CFP = California Fully Protected

[3] CNPS List 1B includes species that are rare, threatened, or endangered in California and elsewhere; List 2 includes species that are rare, threatened, or endangered in California, but more common elsewhere.

[4] The proposed project site is void of any trees (Foothill and Associates, 2004).

The following provides a brief discussion of each of the special status species that have a moderate to high potential to utilize the habitat on the project site and therefore could be affected by implementation of the project.

Swainson's Hawk

The Swainson's hawk is State-listed as threatened. Decline of this species has been caused primarily by the loss of nesting habitat and associated foraging habitat. A medium-size migratory bird, this hawk formerly had a wide breeding range in California that included the northeastern portion of the state (e.g., Modoc and Lassen counties), the Sacramento and San Joaquin valleys, and the coast range from Monterey County south through San Diego County. The Swainson's hawk nests primarily within riparian corridors in the San Joaquin Valley; however, the Swainson's hawk also nests in stands with few trees in grasslands and croplands if they are located adjacent to or within close proximity to suitable foraging habitat. Swainson's hawks forage in grasslands, livestock pastures, and low-growing cropland for insects and small rodents. Therefore, there is moderate potential for this species to occur within the project area since the agricultural and grassland habitats on-site provide suitable foraging habitat and the species has been documented as within approximately five miles of the project area.

Coopers Hawk

The Cooper's hawk is a medium-sized accipiter with short, rounded wings and is listed as a species of special concern by CDFG. Cooper's hawk inhabits deciduous, coniferous, and mixed woodlands, typically near open areas; open woodlands; wooded edges of rivers, and occasionally in urban areas. Deforestation, hunting, and pesticides currently threaten Cooper's hawks in the west. Due to their preference for streamside forests, populations of Cooper's Hawks are especially sensitive to agricultural expansion along river bottoms. Their predilection for birds as their main prey makes them valuable indicators of pesticide levels and the overall health of ecosystems.

No nesting habitat for the Cooper's hawk occurs within the proposed project site; however, ample foraging habitat does exist throughout the site.

White Tailed Kite

The white-tailed kite (Elanus leucurus) occurs year-round in coastal and valley lowlands of California. The species can be found in association with the herbaceous and open stages of a variety of habitat types, including open grasslands, meadows, emergent wetlands, and farmlands. Nests are constructed near the top of dense oaks, willows, or other tree stands that are located adjacent to foraging areas. Home range sizes in the winter may reach 1.9 square miles; however, white-tailed kites are seldom observed more than 0.5 mile from the nest during the breeding season.

The white-tailed kite was threatened with extinction in the early part of the twentieth century but has since recovered and is now found in virtually all California lowlands west of the Sierra Nevada. Although California currently holds the largest population of white-tailed kites in North America, the species is still considered rare and is listed as a federal species of concern during breeding season and afforded fully protected status by the Department of Fish and Game (CNDDB, 2005).

White-tailed kites forage in grasslands, livestock pastures, and low-growing cropland for insects and small rodents. Therefore, there is moderate potential for this species to occur within the project area since the agricultural and grassland habitats on-site provide suitable foraging habitat and the species has been documented as within approximately five miles of the project area. No nesting habitat occurs within the project site.

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is a predatory songbird that is resident in the project area. It is a species of concern for both USFWS and a species of special concern by CDFG. As opportunistic predators, loggerhead shrikes feed on a wide variety of prey, including insects, small mammals and birds, reptiles, amphibians, and occasionally carrion.

Loggerhead shrikes prefer open habitat characterized by forbs and grasses interspersed with low shrubs, widely-spaced trees, and bare ground (Yosef, 1996). Prairies, grasslands, pastures, fencerows or shelterbelts, mowed road rights-of-way, abandoned railroad rights-of-way, cemeteries, golf courses, open woodlands, farmsteads, and old orchards are examples of the types of habitats where loggerhead shrikes most commonly occur. Scattered shrubs or trees, particularly dense, thorny species, are typically used for nesting and hunting perches (Yosef, 1996; Dechant et al., 2001). The project site contains abundant foraging habitat for the loggerhead shrike.

Tricolored Blackbird

Tricolored blackbird (*Agelalus tricolor*) is designated as a species of special concern by the CDFG, and as a species of concern by the USFWS. Tricolored blackbird occurs in suitable habitat throughout much of the Central Valley of California, and along the coast from approximately Mendocino County to northern Baja California, Mexico. This colonial species is a year round resident in marshes, wet meadows, rice fields, and rangelands. Tricolored blackbirds require large tracts of tules, cattails, or blackberries for their nesting colonies. Much of the historic habitat for this species has been eliminated due to conversion of marshes to agriculture and urban development.

No nesting habitat for the tricolored blackbird occurs within the proposed project site; however, ample foraging habitat does exist throughout the site.

Western Spadefoot Toad

The USFWS and the CDFG have designated the western spadefoot toad (Scaphiopus hammondii) as a species of concern and a species of special concern, respectively. The species is terrestrial, entering water only to breed (Dimmitt and Ruibal, 1980). Western spadefoot become surface-active following relatively warm rains in late winter-spring and fall, emerging from burrows in loose soil to a depth of at least 1 meter (Stebbins, 1972; Jennings and Hayes, 1994). The species distribution range is known from the vicinity of Redding, Shasta County, southward into northwestern Baja California, Mexico (Stebbins, 1985). Its known elevation range extends from near sea level to 1363 m. (Zeiner et al., 1988).

Habitat loss and destruction are the primary factors in the species' decline. In northern and central California, over 30% of habitat once known to be occupied by western spadefoot toads has been developed or converted to uses incompatible with the survival of this taxon (Jennings and Hayes, 1994). The continued placement of mosquito fish by mosquito abatement programs in vernal pools and the emigration of juvenile and adult bullfrogs into rain pool breeding sites are also threatening populations (Jennings and Hayes, 1994).

Vernal pools within the project site exhibit suitable habitat for the spadefoot toad. There are five occurrences of the species within four miles of the project site (CNDDB, 2005).

Vernal Pool Fairy Shrimp, Vernal Pool Tadpole Shrimp

Four vernal pool crustaceans known to inhabit vernal wetlands in the Central Valley were listed by the USFWS on September 19, 1994. Of these four species, two species are known to occur or have the potential to occur in the project area. These two species are the vernal pool fairy shrimp, and vernal pool tadpole shrimp. These crustaceans live in vernal pools and seasonal wetlands. They hatch from hard-shelled eggs after winter rains fill the pools, and are present as adults for only one to four months. As the pools dry, the shrimp reproduce and die, leaving eggs for the following year. Widespread agricultural and urban development has reduced the number of vernal pools in the valley, and is the primary cause of these species' endangerment.

Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies and those identified by CDFG as sensitive natural communities. Northern hardpan vernal pools are a sensitive natural community.

4.9.2 REGULATORY FRAMEWORK

The following describes federal, state, and local environmental laws and policies that are relevant to the CEQA review process.

FEDERAL

Federal Endangered Species Act of 1973

Section 3 of the Federal Endangered Species Act (FESA) defines an endangered species as any species or subspecies "in danger of extinction throughout all or a significant portion of its range."

A threatened species is defined as any species or subspecies of fish, wildlife, or plants "likely to become an endangered species within the unforeseeable future throughout all or a significant portion of its range." Threatened or endangered species and their critical habitat are designated through publication of a final rule in the Federal Register. Designated endangered and threatened animal species are fully protected from "take" unless an applicant has an incidental take permit issued by the USFWS under Section 10 or incidental take statement issued under Section 7 of the FESA. A take is defined as the killing, capturing, harming, or harassing of a species. Proposed endangered or threatened species or proposed critical habitats are those for which a proposed regulation, but not final rule, has been published in the Federal Register.

Section 7 of the FESA requires that federal agencies ensure that their actions are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify the associated designated critical habitat. This obligation requires federal agencies to consult (formally or informally) with the USFWS on any actions that may affect listed species (including approving or authorizing Federal projects, allocating federal funding for federal or private projects, or issuing permits for private projects). If it is determined that the federal action will adversely affect federally listed species or associated critical habitat, the USFWS will issue a Biological Opinion (either a "no jeopardy" or a "jeopardy" opinion) indicating whether the proposed agency action will likely jeopardize the continued existence of a listed species or result in the destruction of modification of its critical habitat. A non jeopardy Biological Opinion also provides an incidental take statement that identifies the anticipated amount or extent of incidental take that will occur as a result of the proposed action or an action modified by reasonable and prudent measures.

Section 10 incidental take permits provide incidental take coverage for non-federal projects or actions. Issuance of a Section 10 incidental take permit may require the applicant to prepare a Habitat Conservation Plan (HCP) that specifies the measures that will be implemented to minimize and mitigate impacts from incidental take. Federally-listed plants occurring on private land with no other federal jurisdiction are not subject to the Section 9 take provisions. Section 10 (a)(1)(B), however, ensures that the actions of an approved HCP will not lead to jeopardy of any federally listed species.

Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act makes it unlawful to "take" (kill, harm, harass, etc.) any migratory bird listed in 50 CFR 10, including their nests, eggs, or products. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, and many other species.

Section 404 of the Clean Water Act of 1977

The U. S. Army Corps of Engineers (Corps) regulates discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act (CWA). "Discharges of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows.

Section 401 of the Clean Water Act of 1977

Sections 401 of the Clean Water Act requires any applicant for a federal license or permit to obtain a certification that any discharge into waters of the US will comply with the applicable effluent limitations and water quality standards if the permit or license action may result in a discharge of a pollutant into waters of the United States. The appropriate Regional Water Quality Control Board (in California) regulates section 401 requirements.

STATE

California Endangered Species Act

The California Endangered Species Act (CESA) establishes that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats. Plant and animal species may be formally designated as rare, threatened, or endangered through official listing by the California Fish and Game Commission.

Incidental Take Permits are required from the CDFG for projects that may result in the incidental take of species listed by the State of California as endangered, threatened, or candidate species. The permits require that impacts to protected species be minimized to the extent possible and fully.

California Fish and Game Code Sections 1600-1607

State and local public agencies are subject to Section 1602 of the California Fish and Game Code, which governs construction activities that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the CDFG. Under Section 1602, a discretionary Stream Alteration Agreement permit from the CDFG (Region 2 for the proposed Project) must be issued by the CDFG to the project developer prior to the initiation of construction activities within lands under CDFG jurisdiction.

California Fish and Game Code Sections 3503, 3503.5, 3800

- These sections of the Fish and Game Code prohibit the take, possession, or destruction of birds, including their nests and eggs. Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a "take."

California Native Plant Society

The California Native Plant Society (CNPS), a nongovernmental organization, maintains a list of plant species native to California that has low population numbers, limited distributions, or are otherwise threatened with depletion or extinction. The list is published in the Inventory of Rare and Endangered Vascular Plants of California. The following are definitions of CNPS listings:

- List 1A: Plants presumed Extinct in California
- List 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- List 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere

- List 3: Plants about which more information is needed – A Review List
- List 4: Plants of limited distribution – A Watch List

LOCAL

Sacramento County General Plan

The existing Sacramento County General Plan was adopted in December of 1993. The County's General Plan is undergoing an update. The update addresses plans for growth in the next planning cycle (2004-2025) as well as addressing new emerging planning issues. Topics addressed in the Update Project include, but are not limited to, holding capacity, infrastructure financing, policy analysis, smart growth planning, and mature communities. As noted in Section 4.1 (Land Use), the City is currently operating under its Interim General Plan rather than the Sacramento County General Plan for transportation policy direction in the City. Appendix 4.0 provides a consistency analysis of relevant Sacramento County General Plan policies associated with environmental issues that the City's Interim General Plan is silent.

City of Rancho Cordova Interim General Plan

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to **Appendix 4.0** for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

Sunrise-Douglas Community Plan

The Natural Resource Management and Conservation section of the Sunrise-Douglas Community Plan provides guidance for development in order to conserve natural resources and avoid or mitigate, to the extent possible, the impacts resulting from urbanization. The Community Plan provides policies to govern development of the Community Plan area in order to meet this goal. The reader is referred to **Appendix 4.0** for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's consistency, rests with the City of Rancho Cordova City Council.

4.9.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant impact on biological resources, based on the standards identified *in State CEQA Guidelines Appendix G and Section 15065(a)*, if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by CDFG or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFG or USFWS.

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, rivers, etc.) through direct removal, filling, hydrological interruption, or other means.

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

- Although listed species are protected by specific federal and state statutes, the California Environmental Quality Act (CEQA) Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria.

Additionally, the project would result in a significant impact identified in the Mandatory Finding s of Significance [CEQA Guidelines Section 15065(a)] if it would:

- Substantially degrade the quality of the environment, substantially reduce the habitat of a fish and wildlife species, cause a fish or wildlife species to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare or threatened species.

METHODOLOGY

Available information pertaining to the natural resources of the region was reviewed including biological resource literature on the region, available resource databases, and site-specific survey reports. These studies inform the setting and impact assessment.

Literature and database review included:

- California Department of Fish and Game (CDFG) California Natural Diversity Data Base (CNDDB, 2005: Sacramento East, Carmichael, Florin, Elk Grove, Buffalo Creek, and Sloughouse Quadrangles);

- California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California, 2001;

- Dittes and Guardino Consulting, Draft Vernal Pool Habitat Account and Conservation Goals for the South Sacramento Habitat Conservation Plan, 2004.

- Ecosystems Sciences, City of Rancho Cordova Biological Resources Report. 2005.

- U.S. Department of Agriculture (USDA), Natural Resource Conservation Service's (NRCS) Soil Survey of Sacramento County.

- U.S. Fish and Wildlife Service, Special-Status Species List for Buffalo Creek Quadrangle.

- U.S. Fish and Wildlife Service, Draft Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon, 2004.

Several biological studies have been conducted on the project site. A wetland delineation was conducted by KB International in 1996. A focused special status species survey was conducted by Moore Biological Consultants 1n 2002. North Fork Associates conducted a special status plant survey in 2002. To ensure surveys were conducted during periods when the plants were most likely to be identified (in bloom), North Fork Associates performed botanical surveys of the site on several dates: April 25, April 30; May 10 and 24; June 13, and July 2, 2002. Foothill Associates biologists prepared a preliminary wetland delineation utilizing the Corps 1987 three-parameter methodology to delineate jurisdictional Waters of the U.S in 2004. This methodology requires collection of hydric soils, hydrophytic vegetation, and hydrologic data at several locations to establish the jurisdictional edge of Waters of the U.S. Data points are surveyed to determine the percent dominance by hydrophytic vegetation, as determined by the *U.S. Fish and Wildlife Service National List of Plant Species that Occur in Wetlands: 1988 California (Region 0)*. Waters of the U.S. were mapped through a combination of the aerial photography and field survey. In addition, the City of Rancho Cordova undertook an independent biological evaluation of the project site to confirm the information provided in the above referenced studies. As a result of this site visit, the City determined that vernal pool tadpole shrimp were present in the ephemeral drainage. The City contracted with an independent vernal pool tadpole shrimp specialist to conduct a site evaluation and determine the function of the drainage in the life cycle and population biology of the vernal pool tadpole shrimp on the project site and in the region. Christopher Rogers of EcoAnalysts conducted a field investigation and provided written analyses (EcoAnalysts, 2005). Mr. Rogers is a foremost researcher of tadpole shrimp and has published several scientific studies on the genus.

The above referenced studies including Mr. Rogers work area are documented in the following reports:

- EcoAnalysts, Letter to Joyce Hunting, 2005.
- Foothill Associates, Jaeger + 530-Acre Site Wetland Delineation Report, 2004.
- KB International, Wetland Delineation for Peery Arrillaga, Sacramento County, California. October 22, 1996.
- Moore Biological Consultants, Focused Sensitive Species Surveys at the + 530-Acre Peery Arrillaga Sunrise Douglas Project Site, Sacramento County, California, 2002.
- North Fork Associates, Special Status Plant Report + 530-Acre Peery Arrillaga Sunrise Douglas Site, 2002.

PREVIOUS ENVIRONMENTAL REVIEW IN THE SDCP/SRSP EIR

The SDCP/SRSP Final EIR identified a number of significant and potentially significant biological resource impacts. The Sacramento County Board of Supervisors determined the significant and unavoidable impacts resulting from the project were outweighed by overriding economic, social, and other considerations. The Board adopted *CEQA Findings of Fact Statement of Overriding Considerations of the Board of Supervisors of Sacramento County for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project on July 17, 2002*. The following are the potentially significant and significant impacts identified in the SDCP/SRSP Final EIR that are applicable to the proposed project.

"Impact *Future urban development within the project area could result in impacts to wetlands that would be considered significant and unavoidable.(FEIR, pp. 1.49, 14.22)*

BR-1 *Consideration shall be given to revising the proposed project to reflect a comprehensive wetland avoidance/mitigation strategy that maximizes the avoidance of additional on-site wetlands and the provision of on-site, in-kind mitigation for any unavoidable impacts to wetlands.*

BR-2 *In conjunction with the filing and processing of applications for future development entitlements (such as tentative subdivision maps or development plans) within any future Specific Plan area, such project proponents shall submit a wetland delineation for the proposed development area, and a detailed plan which describes the specific methods to be implemented to avoid and/or mitigate any project impacts upon wetlands such that no net loss in wetland habitat acreage and values in achieved. This detailed Wetland Avoidance/Mitigation Plan shall be prepared in consultation with the US Army Corps of Engineers, the USFWS, the CDFG, and the US Environmental Protection Agency and shall incorporate the following components:*

a) *A wetland delineation of the project site and any proposed off-site wetland preservation/creation sites(s), verified by the US Army Corps of Engineers;*

b) *The location of proposed wetland preservation, acquisition, and creation site(s);*

c) *A detailed map of proposed wetland creation site(s) showing the acreage, distribution, and type of wetlands to be created to ensure no net loss in wetland habitat acreage, values, and functions. Compensation wetlands shall be designed to:*

- Meet or exceed the hydrophytic conditions and operating functions of the existing wetlands proposed for impact;

- Mitigate the loss of special status species habitat, including fairy/tadpole shrimp, as required by the USFWS and the CDFG;

d) *A monitoring plan designed to assess whether the compensation wetlands are functioning as intended. Specific performance standards for hydrologic, floral, and faunal parameters shall be proposed to determine success of the created wetlands. The monitoring plan shall specify the corrective measures/modifications to be implemented in the event that monitoring indicates that the performance standards are not being met. Monitoring shall occur for at least five years and until success criteria are met, and as required by the US Army Corps of Engineers and the USFWS; and*

e) *A maintenance plan for the wetland preservation/mitigation areas describing the measures to be implemented to assure that they*

are maintained as wetland habitat in perpetuity. The maintenance plan shall address buffering from adjacent uses, fencing, access, erosion control, and weed eradication.

BR-3 *At the time applicants obtain permit(s) for future development projects which impact wetlands, alternative strategies may have been adopted to mitigate for wetland impacts. Mitigation Measure BR-2 does not preclude the implementation of these new alternatives so long as they achieve no net loss in wetland habitat acreage and values, and are determined to be acceptable to the US Army Corps of Engineers, USFWS, CDFG, and EPA.*

BR-4 *Prior to approval of any future development projects (such as tentative subdivision maps, development plans, improvement plans) within a Future Specific Plan area, the applicants shall obtain all necessary US Army Corps of Engineers permits pursuant to Section 404 of the Clean Water Act, and all necessary California Endangered Species Act permits and Streambed Alteration Agreements from the CDFG, pursuant to the Fish and Game Code.*

BR-5 *Wetland impact within the Sares-Regis property (Parcels B-1 through B-27, as shown on Plate LA-15) shall be mitigated through compliance with all provisions of the US Army Corps of Engineers Section 404 Permit (#190110021) dated May, 8, 1996, including implementation of the USFWS Biological Opinion (#1-1-96-F-0062) dated April 3, 1996 as amended by the Sares-Regis Project Wetland Monitoring Plan prepared by Sugnet and Associates dated April 24, 1996. Owner of the former Sares-Regis (now AKT/Anatolia) wetland preserve property to the satisfaction of the County Infrastructure Finance Section, prior to the approval of improvement plans on the AKT/Anatolia property.*

Impact *Impacts to Special Status Species are considered to be significant and unavoidable. (FEIR, pp. 1.52-.53, 14.30.)*

BR-6 *In conjunction with the filing and processing of applications for future development entitlements (such as tentative subdivision maps or development plans) within future Specific Plans, such project proponents shall conduct (or update) determinate surveys for potentially occurring special status species or their habitat using protocol acceptable to the regulatory agencies with authority over these species.*

If any of the special status species or their habitat are indicated, a detailed plan which describes the specific methods to be implemented to avoid and/or mitigate any project impacts upon special status species to a less than significant level will be required. This detailed Special Status Species Avoidance/Mitigation Plan shall be prepared in consultation with the USFWS and CDFG, and shall emphasize a multi-species approach to the maximum extent possible.

Where project impacts include taking of a federally listed species, a Section 10 Incidental Take Permit or a Biological Opinion resulting from Section 7 Consultation with another federal agency shall be obtained

from the USFWS and permit conditions implemented, pursuant to the federal Endangered Species Act.

Where project impacts include taking of a state listed species, an Incidental Take Permit shall be obtained from the CDFG and permit conditions implemented, pursuant to the California Endangered Species Act.

BR-7 *Applicants for future development projects (e.g., tentative maps) within future Specific Plans which result in a loss of Swainson's hawk foraging habitat shall mitigate for such loss by implementing one of the following alternatives:*

a) For projects within a one mile radius of an active nest site, the project proponent shall preserve 1.0 acre of similar habitat for each acre lost within a ten mile radius of the project site. For projects within a one to five mile radius of an active nest site, the project proponent shall preserve 0.75 acre of similar habitat for each acre lost within a ten mile radius of the project site. For projects within a five to ten mile radius of an active nest site, the project proponent shall preserve 0.5 acre of similar habitat for each acre lost within a ten-mile radius of the project site. This land shall be protected through fee title or conservation easement (acceptable to the Department of Fish and Game).

b) The project proponent shall, to the satisfaction of the CDFG, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat.

c) The project proponent shall submit payment of a Swainson's hawk impact mitigation fee per acre impacted to the Department of Planning and Community Development in the amount as set forth in Chapter 16.130 of the Sacramento County Code as such may be amended from time to time and to the extent that said Chapter remains in effect.

d) Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee) prior to implementation of one of the measures above, the project proponent may be subject to that program instead.

BR-8 *Prior to each phase of grading and construction, a pre-construction survey shall be performed between April 1 and July 31 to determine if active raptor nesting is taking place in the area. If nesting is observed, consultation with the Department of Fish and Game shall occur in order to determine the protective measures which must be implemented for the nesting birds of prey. If nesting is not observed, further action is not required.*

BR-9 *In conjunction with the filing and processing of applications for future development entitlements (such as tentative subdivision maps or development plans) within a future Specific Plan area, such project*

proponents shall submit a survey identifying the specific type, size, and location of all existing on-site trees. Existing on-site trees shall be protected and preserved to the maximum extent feasible. Consistent with General Plan policies, the removal of any native oak tree measuring six inches or greater in diameter at breast height (dbh) and the removal of any non-oak native tree (excluding cottonwoods and willows) measuring 19 inches or greater dbh necessary to accommodate future development shall be mitigated by planting replacement trees (in-kind species on an inch-for-inch basis) within the project area. In addition, other non-native landmark size trees (19" or greater) may require mitigation as determined on a project-by-project basis. "

4.9.4 IMPACTS AND MITIGATION MEASURES

Direct Effects to Endangered, Threatened, Rare Species

Impact 4.9.1 Implementation of the proposed project will result in a direct loss of habitat and individuals of endangered, threatened, and rare animal species. This would be a **significant** impact.

Implementation of the project will result in adverse effects to many species considered endangered, threatened or rare. Species meeting of the following criteria are considered endangered, threatened, and rare:

- Species listed or proposed for listing as Threatened or Endangered under ESA or CESA.
- Species considered as candidates for listing as Threatened or Endangered under ESA or CESA.
- Plants listed as Endangered or Rare under the California Native Plant Protection Act.
- Plants on the California Native Plant Society (CNPS) List 1B (plants, rare, threatened, or endangered in California and elsewhere) or List 2 (plants rare, threatened or endangered in California but more common elsewhere.

Table 4.9-4 identifies endangered, threatened, and rare animal species that could be adversely affected by the implementation of the proposed project. Based upon survey results, no endangered, threatened, and rare plant species occur on the project site. All of the species listed derive their primary habitat from the habitat of the aquatic features or annual grassland on the site. Estimated loss of these habitats is provided in **Table 4.9-5** and illustrated in **Figure 4.9-3**.

Swainson's Hawk

The project will result in the loss of 454.90 acres of foraging habitat for Swainson's hawk and the preservation of 74.37 acres of foraging habitat. Swainson's hawk is known to forage up to 10 miles from nest sites during the nesting season. There are six recorded nest sites within five miles of the project site, and 18 recorded between five and 10 miles of the project site (CNDDB, 2005). There is approximately 7,300 acres of annual grasslands within 10 miles of the project site (including the project site) that is currently available for Swainson's hawk foraging. Loss of 454.90 acres is a 6.2 percent loss of available foraging lands within 10 miles of the project site. This could result in a decreased nesting success for nesting birds within 10 miles of the project site. The impact is **significant**.

TABLE 4.9-4
ENDANGERED, THREATENED OR RARE PLANTS AND ANIMALS POTENTIALLY OCCURRING
IN THE PRESERVE AT SUNRIDGE PROJECT SITE

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	Habitat on Site	Potential Occurrence in Project Site
Plants						
Animals						
Swainson's hawk	Buteo swainsoni	None	T	N/A	Annual grassland as grasslands or alfalfa fields supporting rodent populations	Moderate for foraging habitat.
Vernal pool fairy shrimp	Branchinecta lynchi	T	None	N/A	Vernal pools, depressional seasonal wetlands, riverine seasonal wetlands (swales), ephemeral drainage	High. The aquatic features at the project site provide suitable habitat. Vernal pool fairy shrimp have been documented within vernal pools in the immediate project vicinity (CNDDB, 2005).
Vernal pool tadpole shrimp	Lepidurus packardi	T and E	None	N/A	Vernal pools, depressional seasonal wetlands, riverine seasonal wetlands (swales), ephemeral drainage	Present. Vernal pool tadpole shrimp were observed in some of the deeper on-site pools during the 2002 and 2005 surveys.

Source: Moore Biological Consultants, April 2002; North Fork Associates, 2002; EcoAnalysts, Inc., 2005; CNDDB, 2005
Notes: [1] T = Threatened; E = Endangered
[2] T = Threatened
[3] CNPS List 1B includes species that are rare, threatened, or endangered in California and elsewhere

TABLE 4.9-5
HABITAT TYPES IN THE PRESERVE AT SUNRIDGE PROJECT AREA

Type	Total Acreage	Removed Acreage	Preserved Acreage
Aquatic Habitats			
Vernal Pool	15.39	10.46	4.93
Depressional Seasonal Wetland	2.64	2.42	.22
Riverine Seasonal Wetland	1.68	1.22	0.46
Ephemeral Drainage	1.55	1.55	0
Total	21.26	15.65	5.61
Upland Habitats			
Annual Grassland	529.27	454.90	74.37

Source; Foothill and Associates, 2005; Rancho Cordova, 2005.

Vernal Pool Fairy Shrimp

Vernal pool fairy shrimp potentially occur on the project site, utilizing numerous aquatic features as habitat including vernal pools, seasonal depressional wetlands, and riverine seasonal wetland. It is unlikely that vernal pool fairy shrimp utilize the ephemeral drainages as habitat due to the velocity of the flows (EcoAnalysts, 2005). The vernal pools and seasonal depressional wetlands provide all habitat components for a successful life cycle of vernal pool fairy shrimp. The riverine seasonal wetland is an important component to vernal pool fairy shrimp ecology. These swale systems not only provide a hydrology source for vernal pools and seasonal depressional wetlands, which is essential during breeding season, but flows through the swale systems and move shrimp between pools and pool complexes, allowing genetic mixing which is an important component of healthy populations.

The project will result in the direct loss of 14.1 acres of vernal pool fairy shrimp habitat and the long-term preservation of 5.61 acres of vernal pool fairy shrimp habitat. This is a 72 percent loss of on-site resources and a 5 percent loss to the Laguna Formation within the city limits. (**Figure 4.9-4**). The impact is **significant**.

Insert Figure 4.9-3 Vegetation and Aquatic Features with Proposed Land Use

Insert Figure 4.9-4 Existing, Approved, and Proposed Projects within the Laguna Formation

Vernal Pool Tadpole Shrimp

Vernal pool tadpole shrimp are known to occur on the project site throughout the seasonal wetland complexes (including vernal pools) similar to the vernal pool fairy shrimp. Unlike vernal pool fairy shrimp, though, the vernal pool tadpole shrimp are also known to utilize the ephemeral drainage (tributary to Morrison Creek) as habitat (EcoAnalysts, 2005).

The project will result in the direct loss of 15.65 acres of vernal pool tadpole shrimp habitat and the long-term preservation of 5.61 acres of vernal pool fairy tadpole habitat. This is a 74 percent loss of on-site resources and a 5 percent loss to the Laguna Formation in the region (**Figures 4.9-4**). The impact is **significant**.

Mitigation Measures

The following mitigation measures are based upon the previously adopted mitigation measures BR-2, BR-4, BR-6 and BR-7 of the SDCP/SRSP EIR and are applied to this project.

MM 4.9.1a The project applicant shall preserve 0.75 acre of similar Swainson's hawk foraging habitat for each acre lost, within a ten-mile radius of the subsequent project site. The current design therefore would require the permanent preservation of 341.18 acres of similar habitat within 10 miles of the project site. This land shall be protected through a fee title or conservation easement acceptable to the City after consultation with the California Department of Fish and Game. Additionally, the project applicant is responsible for the cost of the conservation easement or fee title. The preserved 74.37 acres on-site can be assumed to partially fulfill this requirement when the conservation easement for this area is established.

or

The project applicant may participate in a future City Swainson's Hawk Foraging Habitat Ordinance (once adopted) as an alternative to the measure above.

Timing/Implementation: *Prior to approval of improvement and construction plans.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department*

MM 4.9.1b The project applicant shall mitigate the impacts to vernal pools and other seasonal habitats that supports vernal pool fairy shrimp and vernal pool tadpole shrimp in such a manner that there will be no net loss of habitat (acreage and function) for these species in the Laguna Formation following implementation of the project.

The applicant shall complete and implement a habitat mitigation and monitoring plan that will compensate for the loss of acreage, function and value of the impacted resources. The habitat mitigation and monitoring plan shall be consistent with guidance provided in "*Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California*" or provide an

alternative approach that is acceptable to the City and accomplishes no net loss of habitat. **Table 4.9-6** identifies the standards of the "*Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California*" and the potential resultant mitigation responsibility.

TABLE 4.9-6
VERNAL POOL MITIGATION RESPONSIBILITY PRESERVE AT SUNRIDGE PROJECT AREA

Mitigation Action	Compensatory Rates	Actual Impact Acreage	Actual Mitigation Acreage
Preservation of existing habitat	2 "wetted" acres to each "wetted" acre impacted	15.65 "wetted" zacres	31.30 "wetted" acres
Creation of new or restoration of non functioning habitat	1 "wetted" acres to each "wetted" acre impacted	15.65 "wetted" acres	15.65 "wetted" acres

The mitigation and monitoring plan shall include a schedule, be prepared in an annual report format and provide the following information:

- Target areas for creation, restoration and preservation.
- A complete biological assessment of the existing resources on the target areas.
- Specific creation and restoration plans for each target area.
- Performance standards for success that will illustrate that the compensation ratios are met.

The applicant shall submit the proposed mitigation and monitoring plan to the City for endorsement prior to grading plan approval or any groundbreaking activity and engaging in mitigation activities (including mitigation land acquisition). The applicant shall ensure that sufficient upland habitat is present within the target areas for vernal pools and vernal pool complexes creation and restoration to provide ecosystem health. The land utilized to satisfy this mitigation measure shall be protected through a fee title or conservation easement acceptable to the City after consultation with the United States Fish and Wildlife Service. Additionally, the project applicant is responsible for the cost of the conservation easement or fee title and establishment of maintenance plan for mitigation areas. Resources within the on-site preserve can be assumed to partially fulfill this requirement when the conservation easement for this area is established. Mitigation monitoring will be continuous until the performance standards identified in the mitigation and monitoring plan are consistently met for five consecutive years.

The applicant will not be required to complete mitigation measure 4.9.1b for features that are directly or indirectly affected by approved and permitted projects identified in the SDCP for which mitigation requirements have been completed.

Timing/Implementation: *Prior to approval of grading plans or any groundbreaking activity, whichever comes first and ongoing until performance standards are consistently for five years.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

Implementation of mitigation measures MM 4.9.1a and MM4.9.1b, and would reduce direct impacts to endangered, threatened, and rare species within the project area to **less than significant**.

Indirect Effects to Endangered, Threatened, Rare Species

Impact 4.9.2 Implementation of the proposed project will result in indirect adverse effects to the habitat and individuals of endangered, threatened, and rare animal species. This would be a **significant** impact.

Off-site vernal pool branchiopod habitat and on-site preserved vernal pool branchiopod habitat could be adversely affected by project implementation. The proposed project will result in grading, paving (creation of impervious surfaces), and redirection of stormwater flows in the sub watersheds that support vernal pool branchiopod habitat. Vernal pool communities survive along a rigid set of soil, water, and climatic conditions. Alteration of current inundation and desiccation regimes due to altered hydrology could substantially alter the characteristics of vernal pool habitat, resulting in loss or degradation of vernal pool habitat in the on-site preserve and adjacent off-site habitat areas.

Though most of the surrounding habitat is currently intact, much of it will be lost through implementation of the Sunrise Douglas Community Plan and the Sunridge Specific Plan. Thus, indirect impacts associated with this project are likely temporal in nature in that the much of this habitat will be a mitigated loss associated with subsequent development.

Discussion of the cumulative impact of development of the Sunrise Douglas Community Plan is discussed under Impact 4.9.10. Other project-induced indirect effects to adjacent habitats are discussed under Impact 4.9.9.

Utilizing a standard provided in the "*Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California*" all vernal pool branchiopod habitat within 250 feet of any ground disturbing activity associated with the project may be considered indirectly affected. This would be a significant impact.

No indirect effects to Swainson's hawk have been identified or are expected.

Mitigation Measures

The following mitigation measures are based upon the previously adopted mitigation measures BR-2, BR-4, and BR-6 of the SDCP/SRSP EIR and are applied to this project.

MM 4.9.2a The project applicant shall mitigate indirect impacts to vernal pools and other seasonal habitats that support vernal pool fairy shrimp and vernal pool tadpole shrimp in such a manner that there will be no net loss of habitat

(acreage and function) for these species in the Laguna Formation following implementation of the project.

The applicant shall identify all vernal pool and seasonal wetland habitat within 250 feet of the construction activities of the project, or provide an alternative technical evaluation, in support of a less indirect impact distance, of the extent of indirectly affected vernal pool and seasonal wetland habitat that is acceptable to the City. The applicant shall preserve two "wetted" acres for each acre of indirectly affected habitat. The mitigation and monitoring plan identified with mitigation measure MM 4.9.1b shall address, in all elements, the required preservation acreage that will satisfy this mitigation measure. The applicant will not be required to complete this mitigation measure features that are directly or indirectly affected by approved and permitted projects identified in the SDCP for which mitigation requirements have been completed.

Timing/Implementation — *Prior the approval of grading plans or any groundbreaking activity, whichever comes first.*

Enforcement/Monitoring — *City of Rancho Cordova Planning Department.*

MM 4.9.2b A standard set of best management practices shall be employed when working in areas within 250 feet of off–site vernal pool habitat and on-site preserved vernal pool habitat.

A Stormwater Pollution Prevention Plan (SWPPP) shall be developed and implemented during construction. The plan shall include the following measures to avoid and minimize impacts to all wetlands. These measures, and all other permit requirements, will be included in contract specifications and will be implemented by the contractor.

- Implement erosion control measures during construction. Installation of temporary erosion control devices will be an integral part of construction. Sedimentation fences, as detailed in the drawings, will be used to contain polluted or turbid runoff from the site of work. Other methods of temporary erosion control, including but not limited to hay bale check dams, shall be employed to protect riparian areas, streams and water courses, and all other areas susceptible to damage from runoff. Hay bale check dams will be installed as specified and as detailed in the drawings or as directed by the contractor. Erosion control devices will be installed concurrently with construction earthwork.

- Remove cover vegetation as close to the time of construction as practicable.

- Confine construction equipment and associated activities to the construction corridor.

- Reestablish streambank contours following construction and install permanent erosion control as needed.

- Prohibit refueling of construction related equipment within 100-feet of the aquatic environment.
- Maintain hazardous materials spill kits in proximity to aquatic crossings.
- Comply with state and federal permits.
- Perform proper sediment control.
- Implement the spill prevention and response plan.
- Monitor construction activities near specified drainage and riparian areas.
- Remove all construction spoils, remaining construction materials and miscellaneous litter for proper off-site disposal.
- Post-construction monitoring and supplemental revegetation where needed.

This measure shall be included in all project plans and specifications, and all applicable features shall be shown on project plans.

Timing/Implementation: *Submittal of plan prior to the approval of any grading plans or any groundbreaking activity. On-going during all construction and for required post-construction time periods.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

Implementation of mitigation measures MM 4.9.1a, MM 4.9.1b, MM 4.9.2a and MM 4.9.2b would reduce indirect impacts to endangered, threatened, and rare species within the project area to **less than significant**.

Loss of Habitat

Impact 4.9.3 Implementation of the proposed project could result in the loss of foraging habitat for raptors, migratory birds and other forms of wildlife other than Swainson's hawk. This would be a **significant** impact.

The aquatic features on the site provide foraging habitat for a variety of shore birds, waterfowl, and migratory passerines including northern pintail, blue-winged teal, killdeer, American avocet, long billed dowitcher and tricolor blackbird. The annual grassland habitat provides foraging habitat for a variety of raptors including redtail hawk and American kestrel along with non-raptor migratory birds including loggerhead shrike, western meadowlark, and brewer's blackbird. Wildlife commonly utilize the project site for denning and forage. Mammals known to occur on site include coyote, and black-tailed hare. Loss of the project site as habitat or components of habitat for raptors, migratory birds and other forms of wildlife is a significant impact. Mitigation measures MM 4.9.1a, MM 4.9.1b, and MM 4.9.2a will result in the creation, restoration, and permanent preservation in the project vicinity that not only benefits the target mitigation species, but also species identified in this impact as well.

Mitigation Measures

Implementation of mitigation measures MM 4.9.1a, MM 4.9.1b, MM 4.9.2a and MM 4.9.2b will reduce this impact to a **less than significant** level.

Loss of Northern Hardpan Vernal Pool Community

Impact 4.9.4 Implementation of the proposed project will result in adverse effects to the northern hardpan vernal pool community that is identified by CDFG as a sensitive natural community. This would be a **significant** impact.

The project will result in the direct loss of 10.46 acres of northern hardpan vernal pools. In addition, the project will result in indirect effects of northern hardpan vernal pools. This loss is a significant impact to this resource. Mitigation measures MM 4.9.1a, MM 4.9.1b, MM 4.9.1c and MM 4.9.2a will result in the creation, restoration, and permanent preservation of hardpan vernal pools and ensure there will be no net loss of the resource in the project vicinity. In addition, Mitigation Measure MM 4.9.2b will minimize indirect effects to this community during construction.

Mitigation Measures

Implementation of mitigation measures MM 4.9.1a, MM 4.9.1b, MM 4.9.2a and MM 4.9.2b will reduce this impact to a **less than significant** level.

Loss of Jurisdictional Waters

Impact 4.9.5 Implementation of the proposed project will have a substantial adverse effect on state and federally protected waters through direct removal, filling, hydrological interruption, or other means. This would be a **significant** impact.

The project applicant has completed a wetland delineation report that identifies the presence of 21.26 acres of jurisdictional waters on the project site. Applying the current site plan to this delineation identifies that approximately 15.65 acres of jurisdictional waters will be filled as a result of the project.

Waters of the US on the project site provide a variety of functions. As discussed previously, the seasonal wetlands habitats (depressions, vernal pool, and riverine) provide habitat for vernal pool fairy and tadpole shrimp. In addition, a variety of other wildlife utilizes this habitat for foraging and as a water source.

In addition to habitat functions, the aquatic features on the project site provide a variety on physical functions. Overland surface flows from the majority of the site empty into the ephemeral drainage, which in turn, is a tributary to Morrison Creek (see **Figure 4.9-2**). On site seasonal wetlands capture and detain some of the peak surface flows during rain events. This function slows down the velocity and quantity of discharge into the ephemeral drainage and ultimately to Morrison Creek. This is an important function since large, flashy, storm water discharges into drainages and creeks can result in bank cutting and sedimentation of these features. The drainage itself, with its meander and floodplain, acts to detain and slow flows into Morrison Creek.

The project-related loss of 15.65 acres of waters of the US and their associated functions is a significant impact to the resource.

Mitigation Measures

The following mitigation measures are based upon the previously adopted mitigation measures BR-2 and BR-4of the SDCP/SRSP EIR and are applied to this project.

MM 4.9.5a The project applicant shall ensure that the project will result in no net loss of waters of the U.S. and waters of the State (acreage and function).

In conjunction with preparation and implementation of the habitat mitigation and monitoring plan identified in Mitigation Measure MM 4.9.1b, the project applicant shall prepare and submit plans for the creation of jurisdictional waters at a mitigation ratio no less than 1:1 acres of created waters to each acre filled. The mitigation plans must demonstrate how the Corps criteria for jurisdictional waters will be met through implementation. Vernal pool and seasonal wetland mitigation achieved through implementation of mitigation measure MM 4.9.1b can satisfy this mitigation measure if the creation of the mitigation features is conducted in such a way that it both meets the habitat function and the Corps criteria for creation of waters of the US. The wetland creation section of the habitat mitigation and monitoring plan will include the following:

- Target areas for creation.
- A complete biological assessment of the existing resources on the target areas.
- Specific creation and restoration plans for each target area.
- Performance standards for success that will illustrate that the compensation ratios are met.
- A monitoring plan including schedule and annual report format.

The applicant shall submit the mitigation and monitoring plan to the Corps, USFWS and the City for approval prior to engaging in mitigation activities (including mitigation land acquisition). The land utilized to satisfy this mitigation measure shall be protected through a fee title or conservation easement acceptable to the Corps. Additionally, the project applicant is responsible for the cost of the conservation easement or fee title and establishment of maintenance plan for mitigation areas. Resources within the on-site preserve can be assumed to partially fulfill this requirement when the conservation easement for this area is established. Mitigation monitoring will be continuous until the performance standards identified in the mitigation and monitoring plan are consistently met for five consecutive years.

Timing/Implementation: *Submittal of plan prior the approval of improvement plans.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

MM 4.9.5b The project applicant shall ensure that the post-project peak flow conditions into the off-site section of the ephemeral drainage (tributary of Morrison

Creek) are equivalent in periodicity, seasonality, volume, and flow velocity to pre-project conditions.

The project shall result in no-net change to peak flows into the offsite tributary of Morrison Creek. The applicant shall establish a baseline of conditions for the ephemeral drainage on site. The baseline flow conditions will be established for 2, 5, 10 and 20-year storm event. These baseline conditions will used to develop monitoring standards for the stormwater system on the project site. The baseline conditions, monitoring standards, and a monitoring program will be submitted to the Corps and the City for their approval. The engineered channel and detention basins shall be design and constructed to ensure that the performance standards are met. The discharge site into the off-site ephemeral drainage shall be monitored to ensure pre-project conditions are being met. Corrective measures shall be implemented as necessary. The mitigation measure will be satisfied when the monitoring standards are met for five consecutive years without undertaking corrective measures to meet the performance standard.

Timing/Implementation: *Submittal of baseline report, monitoring standards, monitoring plan and stormwater plan prior the approval of improvement plans.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

MM 4.9.5c Prior to approval of each final map and grading activities within 250 of wetlands supporting federally-listed species, the project applicant shall obtain all necessary US Army Corps of Engineers permits pursuant to Section 404 of the Clean Water Act, and all necessary California Endangered Species Act permits and Streambed Alteration Agreements from the CDFG, pursuant to the Fish and Game Code.

Timing/Implementation: *Prior to each final map and grading activities within 250 feet of wetlands.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

Implementation of mitigation measures MM 4.9.5a, MM 4.9.5b and MM 4.9.5c would reduce loss of jurisdictional wetlands impacts within the project area to **less than significant.**

Effect to Movement Corridor

Impact 4.9.6 Implementation of the project will interfere substantially with the movement of vernal pool tadpole shrimp. This is a **significant** impact.

The ephemeral drainage on the project site disperses vernal pool tadpole shrimp throughout the landscape. This movement allows for the species to exploit new habitat and provides a mechanism for genetic exchange of material. As organisms and their eggs are carried with high velocity flow, they can move outside of the bank area into the surrounding landscape when banks are overtopped. Genetic exchange of material is an important element of population health. As designed, the engineered drainage will not provide an opportunity for vernal pool tadpole shrimp to move outside the channel.

Mitigation Measures

There is no feasible mitigation other than redesigning the proposed project to keep Morrison Creek intact. This is a **significant and unavoidable** impact.

Loss of Trees

Impact 4.9.7 Implementation of the project will not conflict with the City's tree preservation ordinance and **no impact** to trees would occur.

The project site is primarily made up of grazing land and has historically been used for rural residences and dry land farming. Field surveys have concluded that the entire project site is void of any trees. Implementation of the project would not conflict with the City of Rancho Cordova Tree Ordinance or result in the loss of trees protected under provision of the Ordinance; therefore, there would be **no impact**.

Mitigation Measure

None required.

Conflict with Adopted Habitat Conservation Plan and Natural Community Conservation Plan

Impact 4.9.8 Implementation of the project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. This would result in **no impact**.

The South Sacramento Habitat Conservation Plan is currently under development. Since it is not finalized and adopted, it cannot be ascertained if the project will be in conflict with the Plan. Additionally, there is no Natural Community Conservation Plan for the area.

The USFWS, the Environmental Protection Agency (EPA) and the Corps met in March 2004, to establish a conceptual-level strategy for the entire SDCP area, which includes the proposed project site. The intent of the strategy was to formulate an avoidance, minimization, and preservation strategy for the aquatic resources within the Community Plan area. Additionally, the strategy is aimed at achieving the reasonable protection and conservation of federally threatened and endangered species under the FESA, while taking a regional approach to avoidance and minimization of impacts to waters of the U.S., including wetlands, in accordance with Section 404 (b)(1) guidelines under the CWA. The conceptual-level strategy was designed to facilitate post project approval permitting. The strategy identified a preferred project layout for each of the specific plan areas including internal design elements to be implemented during project planning. Though the project is not consistent with the conceptual strategy, the conceptual-level strategy does not provide a formalized agreement, was not signed by any agency with permitting authority, and was not adopted by the City of Rancho Cordova, therefore carries no legal or regulatory status.

Mitigation Measures

None required.

Indirect Effects to Wildlife and Plant Resources

Impact 4.9.9 Implementation of the project will result in a variety of indirect effects to wildlife and plant resources. This would be a **less than significant** impact.

During and after the completion of the proposed project, the preserved biological resources within the plan area along with the natural habitats in the vicinity of the plan area could be adversely affected by indirect impacts. The potential indirect impacts associated with the implementation of the proposed project could include the following:

Increased Human/Wildlife Interactions

The major circulation features associated with the project are heavily traveled. Wildlife within the region is currently exposed to traffic and roadway impediments. Though implementation of the proposed project could increase the amount of vehicle traffic, it would not substantially increase the roadway impediments that moving wildlife currently experience.

Habitat Fragmentation

The project will result in minor fragmentation of the regional vernal pool ecosystem existing in the regional Laguna Formation. Currently the majority of the habitat in the Laguna Formation remains intact providing a continuous connection of vernal pool habitat from east to west. Though much of this habitat will be lost through implementation of the Sunrise Douglas Community Plan, these projects are currently not approved or permitted and cannot be presumed in the biological baseline. Therefore the project is being evaluated at the current biological baseline. The cumulative effects of the project with Sunrise Douglas Community Plan are discussed in Impact 4.9.10.

Mitigation Measures

None required.

Biological Impacts Associated With Proposed Amendments to the Sunrise Douglas Community Plan

Impact 4.9.10 Implementation of the proposed amendments to adopted mitigation measures BR-2 and BR-4 contained in the Sunrise Douglas Community Plan could result in impacts to wetland features in the Community Plan area not regulated by the US Army Corps of Engineers or California Department of Fish and Game. This would be a **potentially significant** impact.

As identified in Section 3.0 (Project Description), the project applicants are proposing the following changes to adopted mitigation measures BR-2 and BR-4 contained in the Sunrise Douglas Community Plan:

BR-2 ~~*In conjunction with the filing and processing of applications for future development entitlements (such as tentative subdivision maps or development plans) within any future Specific Plan area, such*~~ *Prior to approval of any improvement plans or grading permits within any portion of a Specific Plan area containing wetlands subject to the jurisdiction of the U.S. Army Corps of Engineers, project proponents shall submit a wetland delineation for the proposed development area, and a detailed plan which describes the specific methods to*

be implemented to avoid and/or mitigate any project impacts upon wetlands such that no net loss in wetland habitat acreage and values in achieved. This detailed Wetland Avoidance/Mitigation Plan shall be prepared in consultation with the US Army Corps of Engineers~~, the USFWS, the CDFG, and the US Environmental Protection Agency~~ and shall incorporate the following components:

a) A wetland delineation of the project site and any proposed off-site wetland preservation/creation sites(s), verified by the US Army Corps of Engineers;

b) The location of proposed wetland preservation, acquisition, and creation site(s);

c) A detailed map of proposed wetland creation site(s) showing the acreage, distribution, and type of wetlands to be created to ensure no net loss in wetland habitat acreage, values, and functions. Compensation wetlands shall be designed to:

- Meet or exceed the hydrophytic conditions and operating functions of the existing wetlands proposed for impact;

- Mitigate the loss of special status species habitat, including fairy/tadpole shrimp, as required by the USFWS and the CDFG;

d) A monitoring plan designed to assess whether the compensation wetlands are functioning as intended. Specific performance standards for hydrologic, floral, and faunal parameters shall be proposed to determine success of the created wetlands. The monitoring plan shall specify the corrective measures/modifications to be implemented in the event that monitoring indicates that the performance standards are not being met. Monitoring shall occur for at least five years and until success criteria are met, and as required by the US Army Corps of Engineers and the USFWS; and

e) A maintenance plan for the wetland preservation/mitigation areas describing the measures to be implemented to assure that they are maintained as wetland habitat in perpetuity. The maintenance plan shall address buffering from adjacent uses, fencing, access, erosion control, and weed eradication.

BR-4 Prior to approval of any ~~future development projects (such as tentative subdivision maps, development plans, improvement plans)~~ improvement plan or grading permit within any portion of a ~~future~~ Specific Plan area containing wetlands subject to the jurisdiction of the U.S. Army Corps of Engineers, the habitat of an endangered, threatened or rare species protected by federal or state law, or a stream or other water body subject to the direct regulatory jurisdiction of the California Department of Fish and Game, the applicants shall obtain all necessary US Army Corps of Engineers permits pursuant to Section 404 of the Clean Water Act, and all necessary California Endangered Species Act permits and Streambed Alteration Agreements from the CDFG, pursuant to the Fish and Game Code.

The above proposed changes to these adopted mitigation measures would not negatively alter the performance standards set forth in BR-2 and BR-4 that minimize impacts to the approximately 247 acres of jurisdictional wetlands (waters of the U.S.) in the Sunrise Douglas Community Plan and would provide clarification on the appropriate timing of these mitigation measures. However, these changes do not address potential impacts to wetland features that are subject to the jurisdiction of the Central Valley Regional Water Quality Control Board under the Porter-Cologne Water Quality Control Act. The following revisions to the applicant's proposed changes are provided below under "Mitigation Measures".

Mitigation Measures

MM 4.9.10 The following modifications shall be to Sunrise Douglas Community Plan adopted mitigation measures BR-2 and B-4 (shown shaded and in underline and strikeout):

BR-2 ~~In conjunction with the filing and processing of applications for future development entitlements (such as tentative subdivision maps or development plans) within any future Specific Plan area, such~~ Prior to approval of any improvement plans or grading permits or any groundbreaking activity (whichever comes first) within any portion of a Specific Plan area containing wetlands subject to the jurisdiction of the U.S. Army Corps of Engineers, CDFG and/or RWQCB, project proponents shall submit a wetland delineation for the proposed development area, and a detailed plan which describes the specific methods to be implemented to avoid and/or mitigate any project impacts upon wetlands such that no net loss in wetland habitat acreage and values in achieved. This detailed Wetland Avoidance/Mitigation Plan shall be prepared in consultation with the US Army Corps of Engineers and/or the RWQCB~~, the USFWS, the CDFG, and the US Environmental Protection Agency~~ and shall incorporate the following components:

a) A wetland delineation of the project site and any proposed off-site wetland preservation/creation sites(s), verified by the US Army Corps of Engineers;

b) The location of proposed wetland preservation, acquisition, and creation site(s);

c) A detailed map of proposed wetland creation site(s) showing the acreage, distribution, and type of wetlands to be created to ensure no net loss in wetland habitat acreage, values, and functions. Compensation wetlands shall be designed to:

- Meet or exceed the hydrophytic conditions and operating functions of the existing wetlands proposed for impact;

- Mitigate the loss of special status species habitat, including fairy/tadpole shrimp, as required by the USFWS and the CDFG;

d) A monitoring plan designed to assess whether the compensation wetlands are functioning as intended. Specific performance standards for hydrologic, floral, and faunal parameters shall be proposed to determine success of the created wetlands. The monitoring plan shall specify the corrective measures/modifications to be implemented in the event that monitoring indicates that the performance standards are not being met. Monitoring shall occur for at least five years and until success criteria are met, and as required by the US Army Corps of Engineers, RWQCB and/or the USFWS; and

e) A maintenance plan for the wetland preservation/mitigation areas describing the measures to be implemented to assure that they are maintained as wetland habitat in perpetuity. The maintenance plan shall address buffering from adjacent uses, fencing, access, erosion control, and weed eradication.

BR-4 Prior to approval of any ~~future development projects (such as tentative subdivision maps, development plans, improvement plans)~~ improvement plan or grading permit or any groundbreaking activity (whichever comes first) within any portion of a ~~future~~ Specific Plan area containing wetlands subject to the jurisdiction of the U.S. Army Corps of Engineers and/or RWQCB, the habitat of an endangered, threatened or rare species protected by federal or state law, or a stream or other water body subject to the direct regulatory jurisdiction of the California Department of Fish and Game, the applicants shall obtain all necessary US Army Corps of Engineers permits pursuant to Section 404 of the Clean Water Act and/or RWQCB approvals under the Porter-Cologne Water Quality Control Act, and all necessary California Endangered Species Act permits and Streambed Alteration Agreements from the CDFG, pursuant to the Fish and Game Code.

Timing/Implementation: *These amendments shall be incorporated into the Sunrise Douglas Community after City Council approval.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

Implementation of mitigation measure **MM 4.9.10** would reduce this impact to less than significant.

4.9.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

SETTING

The USFWS, the Environmental Protection Agency (EPA) and the Corps met in March 2004, to establish a conceptual-level strategy for the entire SDCP area, which includes the proposed project site. The intent of the strategy was to formulate an avoidance, minimization, and preservation strategy for the aquatic resources within the Community Plan area. Additionally, the strategy is aimed at achieving the reasonable protection and conservation of federally threatened and endangered species under the FESA, while taking a regional approach to avoidance and minimization of impacts to jurisdictional waters, including wetlands, in accordance with Section 404 (b)(1) guidelines under the CWA and under the Porter-Cologne Water Quality Control Act.

As discussed in Section 4.0, cumulative impacts are based on existing, proposed, planned and approved projects. For this technical section, Biological Resources, the geographic extent of cumulative impacts on vernal pool and vernal pool associated biological resources is based on the extent of the Laguna Geologic Formation as illustrated in **Figure 4.9-4**. All past, present and reasonably foreseeable projects within the Laguna Formation are detailed in **Tables 4.9-7** and **4.9-8**. Each project includes the total acreage of land within the project site and the acreage of vernal pools (potential invertebrate habitat) that have or will be impacted (permanently destroyed) by project construction.

Within the proposed project there are 15.39 acres of vernal pools. Of these 15.39 acres, 68 percent (10.46 acres) will be permanently destroyed by project construction. Within proposed projects in Rancho Cordova, within the Laguna Formation, approximately 53 percent (110.72 acres) of vernal pools would be destroyed by the implementation of various current and proposed projects. The Preserve at Sunridge would contribute to the cumulative loss of 5 percent of the vernal pools within the Laguna Formation. In addition to the direct loss of habitat, the proposed project with the existing plans of the Sunrise Douglas Community Plan area will result in the fragmentation of the regional vernal pools resources of the Laguna Formation, completely disconnecting proposed preserves of the project site with vernal pool resources west and east of the Sunrise Douglas Community Plan. The project would also contribute to the loss of other wetland resources.

The area encompassing a 10-mile radius of the project site serves as the cumulative context for evaluation of the loss of annual grassland and associated biological resources including Swainson's hawk. The extent of potential impacts was determined through identifying the amount of the extant (existing) annual grassland within the 10-mile radius area that will be lost through the implementation of the project and reasonable and foreseeable projects. There is approximately 9,044 acres of annual grassland within 10 miles of the project site. Implementation of the project will result in the loss of 454.9 acres or approximately 5 % of the regional resource. Implementation of the other proposed, planned and approved projects within 10 miles of the project site would result in the loss of 6,346 acres of annual grassland. This is a 70% loss of annual grassland in the region.

TABLE 4.9-7
APPROVED PROJECTS WITHIN THE LAGUNA FORMATION

Project[1] Name	Total Acres within Project	Vernal Pools Existing Before Project Construction	Vernal Pools Destroyed by Project Construction	% Vernal Pool Loss on Site	% Vernal Pool Project Loss Cumulative to Formation
Sunridge Park	244.2	0.41	0.0	0	0
Anatolia I	229.8	14.76	14.76	100	7.10
Anatolia II	298	10.20	10.20	100	4.90
Anatolia III	208	44.42	8.2	18.95	3.90
Anatolia IV	25	2.07	2.07	100	1.00
Mather East	44.56	0.22	0.22	100	0.10
Sunrise Douglas Shopping Center	N/A	0.02	0.02	100	0.01
Villages of Zinfandel – Stone Creek Apartments	17.08	0.0	0.0	0	0
Villages of Zinfandel GPA	823	0.0	0.0	0	0
North Douglas	130.3	1.54	1.54	100	0.74
Capital Village	117	0.0	0.0	0	0

Source: City of Rancho Cordova, South Sacramento Habitat Conservation Plan.

TABLE 4.8
PROPOSED PROJECTS WITHIN THE LAGUNA FORMATION

Project Name	Total Acres within Project	Vernal Pools Existing Before Project Construction	Vernal Pools Destroyed by Project Construction	% Vernal Pool Loss on Site	% Vernal Pool Project Loss Cumulative to Formation
Rio del Oro	3,828.5	39.51	17.28	43.74	12.87
Suncreek Specific Plan	3,410	33.14	21.19	63.94	15.78
Sunridge East	609.4	29.78	17.38	58.36	12.94
Montelena	251.9	16.50	11.08	67.15	8.25
West-borough	1,518	0.0	0.0	0	0
Glen-borough	1,366	0.749	0.749	100	0.05
The Preserve at Sunridge	530	15.39	10.46	67.97	7.8

Source: City of Rancho Cordova, South Sacramento Habitat Conservation Plan.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Biological Resources

Impact 4.9.11 Implementation of the project, together with past, present, and probable future projects would result in a cumulatively significant loss of biological resources in the region. The project's incremental contribution to this significant cumulative impact is **cumulatively considerable**.

The proposed project could result in degradation of wildlife habitat through development of new facilities which, when combined with other habitat impacts occurring from development within the Laguna Formation, could result in significant cumulative impacts. Despite the implementation of project-specific biological resource mitigation measures identified in Section 4.9, there will be temporal loss of vernal pool resources and Swainson's hawk foraging habitat during mitigation implementation until performance standards are met. The temporal loss of these habitats associated with this project and other projects as identified in **Table 4.9-7**

and **Table 4.9-8** will result in the temporal loss of 5 percent of vernal pool habitat within the Laguna Formation, the permanent loss of 70% of the annual grassland habitat within a 10-mile radius of the project site. In addition, when considered collectively, these projects will result in a fragmentation of the regional resource. These impacts are considered to be cumulatively significant.

Though these project-specific impacts may be considered individually minor, when viewed with similar impacts associated with implementation of the projects identified in **Table 4.9-7** and **4.9-8**, the proposed project's incremental impacts to temporal impacts and habitat fragmentation are cumulatively considerable and thus significant.

Mitigation Measures

Implementation of the biological resources mitigation measures MM 4.9.1a, MM 4.9.1b, MM 4.9.2a, MM 4.9.2b, MM 4.9.5a, MM 4.9.5b and MM 4.9.5c and MM 4.9.10 would reduce the direct project-specific impacts on biological resources to a less than significant level. However, on a cumulative level the direct and indirect impacts would be considered **cumulatively considerable**.

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This section considers and evaluates the potential impacts of the proposed project on cultural and paleontological resources. Cultural resources include historical buildings and structures, historical districts, historical sites, prehistoric and archaeological sites, and other prehistoric and historic objects and artifacts. Paleontological resources include fossil remains, as well as fossil localities and formations, which have produced fossil material in other nearby areas.

4.10.1 EXISTING SETTING

PREHISTORY

The Central Valley of California has long held the attention of California Archaeologists. The project area in particular has been of archaeological interest dating back to the 1920s, and is significant in the development of both Central Valley and California archaeology. Indeed, archaeological work during the 1920s and 1930s led to the development of the first cultural chronology for Central California presented by Lillard, Heizer, and Fenenga in 1939. This chronology was based on the results of excavations conducted in the lower Sacramento River Valley.

The chronology identified three archaeological cultures. These cultures were named Early, Transitional, and Late (Lillard et al 1939). An antecedent to the Early Culture was postulated, but neither characteristics nor probable origins of this earlier culture were discussed in detail (Lillard et al 1939). Heizer (1949) redefined these three archaeological cultures. He subsumed the three cultural groups into three time periods, designated the Early, Middle, and Late Horizons. Heizer (1949), based on his excavations at CA-SAC-107, identified the Windmiller cultural pattern as representative of the Early Horizon. Heizer intimated that new research and a reanalysis of existing data would also be initiated for cultures associated with the Middle and Late Horizons, but did not complete this work.

Ragir (1972), a student of Heizer, further refined the Windmiller Pattern. Ragir (1972), working near the project area, reanalyzed, updated, and elaborated the description, temporal span, and geographic distribution of the Windmiller Pattern. The Windmiller Pattern is highlighted by: large, heavy, stemmed and leaf-shaped projectile points commonly made of a variety of materials; perforate charmstones; haliotis and olivella shell beads and ornaments; trident fish spears; baked clay balls (presumably for cooking in baskets); flat slab millingstones; small numbers of mortars; and ventrally extended burials oriented toward the west (Heizer 1949; Ragir 1972). The subsistence pattern of Windmiller groups probably emphasized hunting and fishing, with seed collecting (possibly including acorns) supplementing the diet (Heizer 1949; Ragir 1972; Moratto 1984). Ragir (1972) dates the Windmiller Pattern from 4,500-2,500 B.P., with a maximum age of 7,000 B.P.

Windmiller groups appear to have been firmly established in the Lower Sacramento River Valley by 4,000 B.P., and were routinely interacting with their neighbors. For example, Windmiller groups acquired: obsidian from at least two Coast Range and three trans-Sierran sources; haliotis and olivella shells and ornaments from the coast; and quartz crystals from the Sierra foothills (Heizer 1949; Ragir 1972). It is hypothesized that the bulk of these materials were acquired through trade. Some of these materials, however, may have been acquired as part of seasonal movements between the Central Valley and the Sierra Nevada foothills. Johnson's work (1967; 1970) along the edge of the Sierra Nevada foothills at Camanche Reservoir and CA-AMA-56, the Applegate site, further support a link between Windmiller cultures of the Central Valley and cultures of the Sierra Nevada foothills.

Ragir (1972) not only investigated the Windmiller Pattern, but also investigated cultures associated with the Middle and Late Horizon. She identified the Cosumnes Culture as representative of the Middle Horizon, based on excavations at CA-SAC-66 (Ragir 1972). The Middle Horizon is characterized by: tightly flexed burials with variable orientation; red ochre stains in burials; distinctive olivella and haliotis beads and ornaments; distinctive charmstones; cobble mortars and evidence of wooden mortars; numerous bone tools and ornaments; large, heavy foliate and lanceolate concave base projectile points made of materials other than obsidian; and objects of baked clay. Middle Horizon cultures are generally quite different from Windmiller, but do continue to exhibit some of the characteristics of Windmiller such as similar projectile point forms. The similarities in projectile point forms may be indicative of cultural continuity and/or functional and adaptational success of particular forms.

The Late Horizon is characterized by the Hotchkiss Culture (Ragir 1972), and spans the time period from 1,500 B.P. to Euroamerican contact. The Hotchkiss Culture primarily represents both local innovation and the blending of new cultural traits introduced into the Central Valley. It is distinguished by intensive fishing, extensive use of acorns, elaborate ceremonialism, social stratification, and cremation of the dead.

The work of Lillard, Fenenga, Heizer, and Ragir in the lower Sacramento River Valley is significant in the development of archaeology in the Central Valley of California. The research of Ragir is particularly relevant due to its impact on the Central California Taxonomic System (CCTS) originally presented by Beardsley (1954). The CCTS attempted to organize a cultural sequence for the area of Central California from the interior to the coast. Ragir's work corrected and refined aspects of the CCTS and facilitated future research of its temporal sequence and cultural units. The CCTS and its refinement is a dominant theme in the archaeology of Central California and research in the lower Sacramento River Valley has played a significant part in its development.

ETHNOGRAPHY

Prior to the arrival of Euroamericans in the region, California was inhabited by groups of Native Americans speaking more than 100 different languages and occupying a variety of ecological settings. Kroeber (1925, 1936) subdivided California into four subculture areas, Northwestern, Northeastern, Southern, and Central. The Central area encompasses the project area, which is in Valley Nisenan territory (Wilson and Towne 1978). Valley Nisenan are members of the Maiduan family of Penutian languages (Kroeber 1925; Beals 1933; Wilson and Towne 1978).

The basic social and economic group of the Nisenan was the family or household unit, with the nuclear and/or extended family forming a corporate unit. Among the Nisenan these groups combined to form tribelets, which were their largest sociopolitical unit (Wilson and Towne 1978). Each tribelet had a chief or headman who exercised political control over all villages within it. Tribelet populations of Valley Nisenan were as large as 500 persons living in permanent villages that were usually located on raised areas to avoid flooding (Wilson and Towne 1982). Beals (1933) estimates that Nisenan tribelet territory averaged approximately 100 square miles. Within these areas, the Nisenan practiced seasonal transhumance, moving from one area or elevation to another to harvest plants, fish, and hunt game across contrasting life zones that are in relatively close proximity to each other. The Valley Nisenan, however, generally did not range beyond the valley and lower foothills.

Valley Nisenan used a variety of utilitarian flaked and ground stone tools (Wilson and Towne 1978; Levy 1978). Obsidian was a highly valued material for tool manufacture, and was usually imported. Other tools and weapons were made of bone and wood, including stirring sticks,

mush paddles, pipes, and hide preparation equipment. Cordage was made from plant material and used to construct fishing nets and braided and twined tumplines. Valley Nisenan also fostered trading relationships with surrounding groups for commodities such as salt, marine shells, and basketry.

Fishing formed a large component of Valley Nisenan subsistence activity. Consequently, they used an extensive assemblage of fishing-related implements and facilities including: spears; cordage lines with bone fishhooks; harpoons with detachable points; dams for stream diversion; nets of cordage and basketry; weirs; and an array of fish traps (Wilson and Towne 1982). Tule, lashed log, and bark rafts were also used to acquire resources and facilitate travel. Other specialized food processing and cooking techniques primarily included grinding and leaching of ground acorn and buckeye meal. Acorns, buckeyes, pine nuts, seeds, berries, and meat were routinely processed using bedrock mortars and pestles. A soaproot brush was used to sweep meal into mortar cups and collect flour. Fist-sized, heated stones were used to cook and/or warm liquid-based foods such as acorn gruel. Whole acorns were stored in granaries. In addition to these plant resources, other plants may have been managed, primarily by controlled burning, for both food (e.g., edible grasses and seed producing plants) and the manufacture of baskets and other useful equipment (Blackburn and Anderson 1993).

HISTORIC PERIOD

Spanish exploration of the Central Valley dates to the late 1700s, but exploration of the Northern section of the Central Valley and contact with its Native American population did not begin until the early 1800s (Beck and Haase 1974). At this time, the attention of Spanish missionaries shifted away from the coast and its dwindling Native American population, to the conversion and missionization of interior populations. This time period also marks the beginning of the decline of Native American populations due to an influx of new Euroamerican diseases and the relocation of many groups to missions. Many Native American groups, however, were not willing converts, and there are numerous accounts of groups fleeing missions. Subsequent attempts by the Spanish to return Native Americans to missions led to a series of Indian wars, which resulted in not only the loss of life, but also the loss of Native American traditional culture.

Simultaneously with the exploration of the Central Valley and the flanks of the Sierra Nevada, trails were being blazed across the plains and mountains facilitating the westward migration of Euroamericans. Groups such as the 1841 Bartleson-Bidwell party and the 1844 Stevens-Murphy party typify these early immigrants. The commencement of the Mexican-American war in 1846 also affected the exploration and development of California, including the identification of new trails across the Sierra Nevada. The exploits of the Mormon Battalion and the establishment of the Mormon Emigrant Trail highlight these activities.

The second quarter of the nineteenth century encompasses the Mexican Period (ca. 1821-1848) in California. This period is an outgrowth of the Mexican Revolution, and its accompanying social and political views affected the mission system across California. In 1833, the missions were secularized and their lands divided among the Californios as land grants called ranchos. These ranchos, such as the 35,000-acre Rancho Rio de los Americanos, located north of the project area, facilitated the growth of a semi-aristocratic group that controlled the larger ranchos (Beck and Haase 1974). Local Native American populations, who were essentially used as forced labor, accomplished work on many of these large tracts of land. Consequently, Native American groups across California were forced into a marginalized existence as peons or vaqueros on large ranchos.

The Rancho Rio de los Americanos was originally granted to William Leidesdorff and subsequently sold to Joseph Folsom. Neither of these individuals, however, developed the rancho, and it does not reflect patterns of rancho development and use that are typical in other parts of California. Regardless, the discovery of gold at Sutter's Mill in Coloma in 1848 caused a dramatic alteration of both Native American and Euroamerican cultural patterns in California. Once news of the discovery of gold spread, a flood of Euroamericans began to enter the region, and gravitated to the area of the "Mother Lode". Initially, the Euroamerican population grew slowly, but soon exploded as the presence of large deposits of gold was confirmed. The population of California quickly swelled from an estimated 4,000 Euroamericans in 1848 to 500,000 in 1850 (Bancroft 1888). This large influx of immigrants had a negative effect on Native American cultures, and marks the beginning of a relatively rapid decline of both Native American populations and culture.

The second half of the nineteenth century witnessed an ongoing and growing immigration of Euroamericans into the area, an influx also accompanied by regional cultural and economic changes. These changes are highlighted by the development of Sacramento and other towns associated with expanding business opportunities related to gold mining, agriculture, or ranching.

4.10.2 REGULATORY FRAMEWORK

FEDERAL

Paleontological resources are classified as non-renewable scientific resources and are protected by several federal and state statutes, most notably by the 1906 Federal Antiquities Act (PL 59-209; 16 United States Code 431 et seq.; 34 Stat. 225), which calls for protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on federal lands. The proposed project currently does not involve such lands. Consideration of paleontological resources is required by CEQA (see Appendix G). Other state requirements for paleontological resource management are found in Public Resources Code Chapter 1.7, Section 5097.5, Archeological, Paleontological, and Historical Sites. This statute specifies that state agencies may undertake surveys, excavations, or other operations as necessary on state lands to preserve or record paleontological resources. The statute would apply to the CLSP project site only if the state or a state agency were to obtain ownership of project lands.

No state or local agencies have specific jurisdiction over paleontological resources. No state or local agency requires a paleontological collecting permit to allow for the recovery of fossil remains discovered as a result of construction-related earth moving on state or private land in a project site. Neither Sacramento County (the County) nor the City of Rancho Cordova (the City) has adopted General Plan goals or policies relating to the protection of paleontological resources.

PROFESSIONAL STANDARDS

The Society of Vertebrate Paleontology (1995, 1996), a national scientific organization of professional vertebrate paleontologists, has established standard guidelines that outline acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, specimen preparation, analysis, and curation. Most practicing professional paleontologists in the nation adhere to the Society of Vertebrate Paleontology assessment, mitigation, and monitoring requirements, as specifically spelled out in its standard guidelines.

STATE

California Environmental Quality Act

Under CEQA, public agencies must consider the effects of their actions on both "historical resources" and "unique archaeological resources." Pursuant to Public Resources Code section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether proposed projects would have effects on "unique archaeological resources."

"Historical resource" is a term of art with a defined statutory meaning. (See Pub. Resources Code, Section 21084.1; CEQA Guidelines, Section 15064.5, subds. [a], [b].) The term embraces any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be "historical resources" for purposes of CEQA unless a preponderance of evidence indicates otherwise (Pub. Resources Code, Section 5024.1; Cal. Code Regs., tit. 14, Section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources (Pub. Resources Code, Section 21084.1; CEQA Guidelines, Section 15064.5, subd. [a][3]). In general, an historical resource, under this approach, is defined as any object, building, structure, site, area, place, record, or manuscript that:

a) Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and

b) Meets any of the following criteria:

    1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

    2) Is associated with the lives of persons important in our past;

    3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

    4) Has yielded, or may be likely to yield, information important in prehistory or history.

(CEQA Guidelines, Section 15064.5, subd. [a][3].)

Archaeological resources can sometimes qualify as "historical resources." (Id., subd. (c)(1).) Additionally, Public Resources Code 5024 requires consultation with the Office of Historic Preservation when a project may impact historical resources located on State-owned land.

For historic structures, State CEQA Guidelines Section 15064.5, subdivision (b)(3), indicates that a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995) shall mitigate impacts to a level of less than significant. Potential eligibility also rests upon the integrity of the resource. Integrity is defined as the retention of the resource's physical identity that existed during its period of significance. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling and association of the resource.

As noted above, CEQA also requires lead agencies to consider whether projects will impact "unique archaeological resources." Public Resources Code Section 21083.2, subdivision (g), states that "'unique archaeological resource' means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

- Has a special and particular quality such as being the oldest of its type or the best available example of its type.

- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

(Pub. Resources Code, Section 21083.2, subd. [g].)

Treatment options under Section 21083.2 include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a "unique archaeological resource").

Advice on procedures to identify cultural resources, evaluate their importance and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including but not limited to, museums, historical commissions, associations and societies, be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains.

Section 7050.5(b) of the California Health and Safety code specifies protocol when human remains are discovered. The code states:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or

> disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

State CEQA Guidelines Section 15064.5, subdivision (e), requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native Americans, if any, as timely identified by the Native American Heritage Commission. Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

In addition to the mitigation provisions pertaining to accidental discovery of human remains, the State CEQA Guidelines also require that a lead agency make provisions for the accidental discovery of historical or archaeological resources, generally. Pursuant to Section 15064.5, subdivision (f), these provisions should include "an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."

As of March 1, 2005, Senate Bill 18 (Gov. Code, Sections 65352.3, 65352.4) requires that, prior to the adoption or amendment of a general plan proposed on or after March 1, 2005, a city or county must consult with Native American tribes with respect to the possible preservation of, or the mitigation of impacts to, specified Native American places, features, and objects located within that jurisdiction.

Sacramento County General Plan

The existing Sacramento County General Plan was adopted in December of 1993. The County's General Plan is undergoing update. The update addresses plans for growth in the next planning cycle (2004-2025) as well as addressing new emerging planning issues. Topics addressed in the Update Project include, but are not limited to, holding capacity, infrastructure financing, policy analysis, smart growth planning, and mature communities. As noted in Section 4.1 (Land Use), the City is currently operating under its Interim General Plan rather than the Sacramento County General Plan for policy direction in the City.

City of Rancho Cordova Interim General Plan

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to **Appendix 4.0** for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation

of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

4.10.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Based on Public Resources Code Sections 21083.2 and 21084.1, and Section 15064.5 and Appendix G of the State CEQA Guidelines, the City considers cultural resource impacts to be significant if the project would:

- Cause a substantial adverse change in the significance of a unique archaeological resource or an historical resource as defined in Public Resources Code section 21083.2 and CEQA Guidelines section 15064.5, respectively;

- Directly or indirectly destroy a unique paleontological resource or site or unique geological feature; or

- Disturb any human remains, including those interred outside of formal cemeteries.

State CEQA Guidelines Section 15064.5 defines "substantial adverse change" as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource is materially impaired.

METHODOLOGY

Pacific Municipal Consultants (PMC) cultural resources staff performed all current archaeological and historical investigations for The Preserve at Sunridge Project. These investigations were conducted in March 2004 and included a records search at the North Central Information Center at California State University, Sacramento and pedestrian surface survey across the project APE using 20 meter transects. These investigations did not identify any cultural resources (e.g., prehistoric sites, historic sites, or isolated artifacts) either within or immediately adjacent to the project Area of Potential Effect (APE). PMC cultural resources staff also requested a sacred lands search and a list of Native American contacts from the Native American Heritage Commission (NAHC) for the project APE. PMC received the results of the sacred lands in August 2004. The sacred lands search did not identify any Native American cultural resources either within or near the currently proposed project APE. PMC contacted all the Native American groups and/or individuals identified by the NAHC. PMC, to date, has not received any comments from the Native American community.

Previous Environmental Review in the SDCP/SRSP EIR

The SDCP/SRSP Final EIR identified potentially significant cultural resource related impacts. The Sacramento County Board of Supervisors determined that the significant and unavoidable impacts resulting from the project were outweighed by overriding economic, social, and other considerations. The Board adopted CEQA Findings of Fact Statement of Overriding Considerations of the Board of Supervisors of Sacramento County for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project on July 17, 2002. The following impact was identified as potentially significant in the SDCP/SRSP Final EIR and is applicable to the proposed project.

"Impact Potential for impact to an important cultural resource.

CR-1 *Should any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains be encountered during any development activities, work shall be suspended and the Sacramento County Department of Environmental Review and Assessment shall be immediately notified. At that time, the Department of Environmental Review and Assessment will coordinate any necessary investigation of the site with appropriate specialists, as needed. The project proponent shall be required to implement any mitigation deemed necessary for the protection of the cultural resources. In addition, pursuant to Section 5097.98 of the State Public Resources Code and Section 7050.5 of the State Health and Safety Code, in the event of the discovery of human remains, all work is to stop and the County Coroner shall be immediately notified. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains."*

Cultural resource impacts were identified as potentially significant in the SDCP/SRSP EIR and CR-1 was adopted to reduce the impacts to an acceptable level in the Community Plan area. The following section addresses the Preserve at Sunridge's project-specific cultural related impacts.

4.10.4 PROJECT IMPACTS AND MITIGATION MEASURES

IMPACTS AND MITIGATION MEASURES

Undiscovered Prehistoric Resources, Historic Resources, and Human Remains

Impact 4.10.1 Implementation of the proposed project could result in the potential disturbance of undiscovered cultural resources. This is considered a **potentially significant** impact.

Archaeological and historical investigations for the proposed project are adequate to identify typical prehistoric and historic resources in the project site. These investigations did not identify any cultural resources either within or immediately adjacent to the project site. However, there is a possibility of unanticipated and accidental archaeological discoveries during ground-disturbing project-related activities.

The SDCP/SRSP EIR concluded that no prehistoric resources or archeological deposits identified in the Community Plan area. Additionally, the Cultural Resources Assessment prepared in association with the SDCP/SRSP EIR indicated that the areas surveyed and examined in detail were known to be free of important cultural resources and the research conducted indicates a very low probability of discovering such resources in the remainder of the Community Plan area. A current and site-specific cultural resource assessment was performed in March 2004, which included archaeological and historical investigations for the proposed project and identified no significant cultural resources. Although, no cultural, archeological, or prehistoric resources were identified; unanticipated and accidental archaeological discoveries during project implementation may have the potential (though considered to be low) to affect significant archaeological resources. Therefore, this impact is considered potentially significant.

Mitigation Measures

The following mitigation measures are based on CR-1 of the SDCP/SRSP EIR in order to address project specific impacts.

MM 4.10.1a Should any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains be encountered during development activities, work shall be suspended and the City of Rancho Cordova shall be immediately notified. At that time, the City will coordinate any necessary investigation of the site with an appropriate specialist, as needed. The project proponent shall be required to implement any mitigation necessary for the protection of the cultural resources. In addition, pursuant to Section 5097.98 of the State Public Resources Code and Section 7050.5 of the State Health and Safety Code, in the event of the discovery of human remains, all work is to stop and the County Coroner shall be immediately notified. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.

The City and the project applicant shall consider the mitigation recommendations of the qualified archeologist. The City and the project applicant shall consult and agree upon implementation of a measure or measures that the City and project applicant deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures.

Timing/Implementation: *As a condition of project approval, and implemented during construction activities.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

MM 4.10.1b If human remains are discovered, all work must stop in the immediate vicinity of the find, and the County Coroner must be notified, according to Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.

Timing/Implementation: *As a condition of project approval, and implemented during construction activities.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department*

Implementation of the above mitigation measures MM 4.10.1a and MM 4.10.1b would reduce impacts to undiscovered cultural resources to a **less than significant** level.

Paleontological Resources

Impact 4.10.2 Implementation of the proposed project could result in the potential damage or destruction of undiscovered paleontological resources. This is considered a **potentially significant** impact.

Pedestrian surface survey of the project APE and other research (i.e., a search of the University of California, Berkeley Museum of Paleontology collections database) did not identify any evidence of paleontological resources. However, there is a possibility of unanticipated and accidental paleontological discoveries during ground-disturbing project-related activities.

Unanticipated and accidental paleontological discoveries during project implementation have the potential to affect significant paleontological resources.

Mitigation Measures

MM 4.10.2 If any potentially unique paleontological resources (fossils) are found once project construction is underway, all work in the immediate vicinity must stop and the City shall be immediately notified. A qualified paleontologist shall be retained to evaluate the finds and recommend appropriate mitigation measures for the inadvertently discovered paleontological resources.

The City and the project applicant shall consider the mitigation recommendations of the qualified archeologist. The City and the project applicant shall consult and agree upon implementation of a measure or measures that the City and project applicant deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures.

Timing/Implementation: *As a condition of project approval, and implemented during construction activities.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

Implementation of Mitigation Measure MM 4.10.2 would reduce impacts on paleontological resources to a **less than significant** level.

4.10.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting associated with the proposed project includes proposed, planned, reasonably foreseeable, and approved projects in the vicinity of the project site. Development of proposed projects and planned land uses within the entire Rancho Cordova area would contribute to potential conflicts with cultural and paleontological resources. Proposed and approved development projects in the general area described in Section 4.0, including implementation of the City's Interim General Plan. The implementation and completion of these projects could affect known and unknown cultural prehistoric and historic resources in the City of Rancho Cordova area. These resources include archaeological resources associated with Native American activities and historic resources associated settlement, farming, gold mining and development (see Section 4.10.1). Similarly, proposed projects in the City could damage undiscovered paleontological resources. Paleontological resources have recently been discovered south of the project site associated with Sacramento Municipal Utility District's construction activities for the Cosumnes River Power Plant project.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Prehistoric and Historic Resources

Impact 4.10.3 Implementation of the proposed project, along with any foreseeable development in the project vicinity, could result in cumulative impacts to cultural resources. However, surveys of the project area and project site have

not identified any significant cultural resources. The project's contribution to cumulative cultural resource impacts is considered to be **less than cumulatively considerable**.

As described above under Impact 4.10.1, the project site and the Sunrise Douglas Community Plan area have surveyed and evaluated for the existence of cultural resources. No significant cultural resources have been identified to date on the project site or in the Sunrise Douglas Community Plan area. Additionally, the Cultural Resources Assessment prepared in association with the SDCP/SRSP EIR indicated that the areas surveyed and examined in detail were known to be free of important cultural resources and the research conducted indicates a very low probability of discovering such resources. Thus, development of the project site is not expected to contribute to cumulative cultural resource impacts.

Impact 4.10.1 does acknowledge that the project could impact cultural resources not currently known to exist below the ground surface. Implementation of Mitigation Measure MM 4.10.1a provides options for mitigation of this potential impact that are consistent with State CEQA Guidelines Section 15126.4(b)(3). Implementation of this mitigation measure and Mitigation Measure MM 4.10.1b would ensure that the project's contribution to cumulative cultural resources would remain less than cumulatively considerable.

Mitigation Measures

None required.

Paleontological Resources

Impact 4.10.4 Implementation of the proposed project, along with any foreseeable development in the project vicinity, could result in cumulative impacts to paleontological resources. The project's contribution to this impact could be **cumulatively considerable**.

Implementation of the proposed project in combination with cumulative development in the City of Rancho Cordova would increase the potential to disturb known and undiscovered paleontological resources. Development of the site is likely to impact undiscovered paleontologic resources. As noted above, there have been recent discoveries of resources in the region.

Mitigation Measures

Implementation of Mitigation Measure MM 4.10.2 would ensure that potential project impacts to discovered paleontological resources would mitigate the project's contribution to **less than cumulatively considerable**.

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This section of the EIR describes the existing visual resources of the Preserve at Sunridge project area and provides an analysis of the anticipated changes to the visual characteristics and aesthetics of the site and surrounding vicinity as a result of the proposed project. This section analyzes the project's consistency with applicable General Plan policies, the SDCP/SRSP EIR and Design Guidelines for the City of Rancho Cordova.

4.11.1 EXISTING SETTING

AESTHETICS

The project site is located in an undeveloped area in close proximity to developing areas and areas proposed or planned for development. All properties to the east, west and south of the site were once used for cattle grazing. The site to the north is a horse boarding and training facility, which will be removed for project development. All adjacent properties are large parcels, typically over 100 acres, with rural single-family residences or undeveloped.

The SDCP area is primarily dominated by vacant, undeveloped grazing land and gently sloping topography. The site is located at an elevation of 175 to 200 feet above sea level in the eastern portion of the Sacramento Valley. Morrison Creek runs through the project site. Wetlands and vernal pools are present on the site including a number of isolated depressions and a seasonal drainage meandering from the northeast corner of the west side. The vernal pools are a visual resource during the spring months, after the rainy season with their wild flowers in bloom. Two sets of high-voltage electrical transmission lines cross the site from northeast to southwest. No buildings are present on the project site or surrounding properties.

EXISTING VIEWS AND SCENIC CORRIDORS

There are no scenic corridors in the vicinity of the project site. The scenic vista of the Sierra Nevada Mountains is only visible on clear days typically in the winter months. No other scenic resources are visible from the project site. Mid-range views consist of rural homesteads, limited agriculture operations, and open space. Long-range views generally consist of rural/agricultural land uses, power transmission lines, industrial and aggregate operations and military/airport operations.

The nearest highways are United States 50 (US-50) and the Jackson Highway/State Route 16 (SR-16), which are not designated as state scenic highways in the vicinity of the project site. US-50 is approximately 4 miles north of the project site and SR-16 is approximately 4 miles south of the project sites.

LIGHTING AND GLARE

The SDCP area is primarily agricultural and undeveloped currently. These uses typically do not generate nighttime lighting or glare. During nighttime hours, the ambient light in the area can be accentuated during periods of low cloudiness or fog, which increases the amount of light and reflective glare. Due to the rural nature of the site and surrounding vicinity the ambient nighttime lighting and illumination levels in the area are very low. Nighttime light illumination and glare can be divided into stationary and mobile sources. Stationary sources of nighttime light include structure illumination, decorative landscape lighting, lighted signs, and streetlights. Mobile sources are primarily motor vehicles. The principal sources of nighttime light and glare in the project's vicinity are vehicle headlamp illumination, streetlights, and nearby building lighting.

During the day, sunlight reflecting from nearby structures and motor vehicles are the primary source of glare in the area. There are no sources of glare on the project site.

4.11.2 REGULATORY FRAMEWORK

SACRAMENTO COUNTY GENERAL PLAN

The existing Sacramento County General Plan was adopted in December of 1993. The County's General Plan is undergoing update. The update addresses plans for growth in the next planning cycle (2004-2025) as well as addressing new emerging planning issues. Topics addressed in the Update Project include, but are not limited to, holding capacity, infrastructure financing, policy analysis, smart growth planning, and mature communities. As noted in Section 4.1 (Land Use), the City is currently operating under its Interim General Plan rather than the Sacramento County General Plan for policy direction in the City.

CITY OF RANCHO CORDOVA INTERIM GENERAL PLAN

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to **Appendix 4.0** for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

CITY OF RANCHO CORDOVA DESIGN GUIDELINES

The Rancho Cordova Design Guidelines implement the City's Vision for quality projects that enhance the character of the community, as outlined in the Interim General Plan Vision Book and Draft Land Use Map Book. These Design Guidelines provide design professionals, property owners, residents, staff, and decision-makers with a clear and common understanding of the City's expectations for the planning, design and review of development proposals in Rancho Cordova. Generally, these guidelines apply to all new development within the City, as well as qualifying modifications to existing development. Provisions are based on development type, rather than zoning designation and serve to supplement the minimum development standards in the City's Zoning Code.

4.11.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following significance thresholds are based on Appendix G, from the State CEQA Guidelines (2005). A project is considered to have a significant visual effect on the environment if it will:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or

- Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

METHODOLOGY

This visual resources light and glare discussion is based on field review of the project site and surroundings, review of the City of Rancho Cordova Interim General Plan and Zoning Ordinance, and consultation with relevant agencies. The focus of this analysis is on visual impacts potentially resulting from implementation of the project and related components. The reader is referred to other sections of this DEIR for a detailed analysis of other relevant environmental effects, resulting from the proposed land uses.

As proposed, the project would change the existing primarily undeveloped agriculture project site to residential, commercial uses, a school and other urbanized land uses. The NOP and associated Initial Study prepared for the project indicated that the project would not adversely affect a scenic vista or substantially degrade the visual character of the site or surrounding vicinity.

PREVIOUS ENVIRONMENTAL REVIEW IN THE SDCP/SRSP EIR

The Preserve at Sunridge's potential visual and aesthetic resource related impacts were globally addressed in the SDCP/SRSP EIR. The SDCP/SRSP Final EIR evaluated potential aesthetic and visual resource resulting from development of the SDCP area in the land use impacts analysis and concluded the issue was less than significant (SDCP/SRSP FEIR p. 4.32).

"Impact Effects on aesthetics and visual resources."

As described in the SDCP/SRSP EIR on page 4.32:

"Because the entire Community Plan area is specifically identified in the County General Plan as an Urban Development Area and falls within the Urban Service Boundary, community issues resulting from new growth in this particular location, conversion of the area to urban uses, compatibility with the surrounding area, loss of open space and increase in nighttime lighting and daytime glare have already been globally addressed in the certified General Plan EIR. The project does not include any additional losses of aesthetic or visual resources not already considered in the General Plan. The extensive vernal pool resources on the site will result in significant areas of land set aside for permanent protection. This results in an unintended benefit as the General Plan assumed these lands would be converted to urban uses.

Mitigation Measure

None required.

The following discussions address the project-specific visual resources related impacts of the proposed project.

PROJECT IMPACTS AND MITIGATION MEASURES

Visual and Aesthetic Resources

Impact 4.11.1 The proposed project would not impact any existing significant or designated scenic visual or aesthetic resources, as none are located on the project site or in the vicinity. Therefore, this impact is considered **less than significant**.

The proposed project would alter the site's visual character from a rural area to urban uses. The existing uses and features within the area are not considered to be significant visual resources. However, the on-site vernal pools, wetlands, and Morrison Creek corridor are considered valuable visual resources during the spring months of the year, after the rainy season. Though most of this habitat is currently intact, much of it is anticipated to be lost through the implementation of the Sunrise Douglas Community Plan. As indicated in Section 4.9 Biological Resources, the project would result in a 71 percent loss of on-site resources, which is considered a significant biological impact under project and cumulative conditions.

The project site and surrounding areas are planned and approved for urban development and the area is undergoing urbanization under the SDCP. The visual resource impacts of associated with the urbanization of the project area were previously considered in the Sacramento County General Plan EIR (1993) and subsequently in the Sunrise Doulgas Community Plan/Sunridge Specific Plan (SDCP/SRSP) EIR. Since both of those documents had been prepared, the project area's landscape characteristics have been modified with the residential urban development of the Sunridge Specific Plan area north and west of the project site along Sunrise Boulevard and Douglas Road. While the proposed project would change the visual character of this portion of the SDCP area, it would blend with currently developing urban land uses in the area. Development of the SDCP is consistent with land uses envisioned in the City's Interim General Plan and would subject to design review process of the City to ensure that the project's character is consistent with the City's vision of the area. Additionally, the project would not result in any new or additional impacts to aesthetic or visual resources not already considered in the Sacramento County General Plan EIR and the SDCP/SRSP EIR; therefore, this impact is considered less than significant.

Mitigation Measures

None required.

Light and Glare

Impact 4.11.2 Implementation of the Preserve at Sunridge project would introduce new sources of light and glare into a previously undeveloped area. This would result in a **potentially significant** impact.

As proposed, the project would be operational during both the daytime and nighttime hours and would create a light and glare source not currently present in the area. Lighting impacts would include streetlights within the project adjacent to Jaeger Road and Chrysanthy Boulevard, parking lot lighting, car lights, and lights associated with residential, park, school and commercial structures. These sources of lighting would increase the sky glow within the region. These lights would be visible during nighttime hours and would represent the greatest source of new light to nearby residents. Proposed windows, particularly large areas of glass in commercial structures, could create glare impacts. Other proposed and approved projects in the SDCP area and surrounding area would also contribute to light and glare impacts. As indicated

above, the project site was considered for urban development and evaluated in both the Sacramento County General Plan EIR and the SDCP/SRSP EIR for global aesthetic and visual resource impacts. However, the SDCP/SRSP EIR did not evaluate the project-specific light and glare impacts; therefore, for the purpose of this EIR, this impact is considered potentially significant.

Mitigation Measures

MM 4.11.2a A lighting plan shall be developed and provided with improvement plans for the project to ensure that parking lot pole lights and streetlights shall be fully hooded and back shielded to reduce the light "spillage" and glare, prohibit the illumination from breaking the horizontal plane, and ensure that lighting does not exceed the standard illumination of two-foot candles along the property lines of adjoining land uses. The two-foot candle lighting standard shall also apply to all park facilities where sports field lighting may be utilized. The design of light features shall be consistent with the City's Design Guidelines.

Timing/Implementation: *Prior to approval of building permits and/or improvement plans.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

MM 4.11.2b Non-glare glass shall be used in all commercial buildings to minimize and reduce impacts from glare. Semi-reflective glass may be allowed on commercial buildings that are properly oriented to minimize reflection or glare.

Timing/Implementation: *Final design plans shall specify the types of non-glare/semi-reflective glass provided on final for commercial projects.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department.*

Implementation of Mitigation Measure MM 4.11.2a and MM 4.11.2b would ensure that the project's light and glare related impacts are **less than significant**.

4.11.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for this visual resources/light and glare analysis consists of the City of Rancho Cordova, surrounding portions of the Sacramento County area, and local and distant viewsheds. This cumulative visual analysis takes into account the proposed project and the surrounding vicinity (see Section 4.0 for anticipated development in the project area), the City's Interim General Plan, and include consideration of limited views of the Sierra Nevada Mountains Range and some views of open space resources (e.g., wetland preserves and creek corridors). Under cumulative conditions, the SDCP area will contain additional residential communities, commercial, and other urban land uses. The increased number of residential and commercial uses in the in the area would contribute to impacts on the visual resources and contribute to the nighttime lighting and daytime glare.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Alteration to Visual Character

Impact 4.11.4 Implementation of the Preserve at Sunridge project in combination with other projects would introduce new sources of nighttime lighting and daytime glare in the area, and contribute to cumulative visual and aesthetic related impact. Thus, the project's contribution to the alteration of the visual character of the area is considered to be **cumulatively considerable**.

Cumulative impacts from these projects would include the conversion of vacant or agricultural land to urban uses. A cumulative visual impact would exist relative to the loss of vacant undeveloped land as viewed from the public roadways discussed in this section of the EIR. The amount of visible natural vegetation would also decrease. Nighttime illumination and daytime glare would increase in the area as a result of cumulative project development. Although individual development projects would be responsible for incorporating mitigation to minimize their visual impacts, the net result would still be a general conversion of an area with an open, rural character to a more urban and developed character.

The project-specific and cumulative impacts are inherently related to the general conversion of an agricultural area to urban development from the introduction of development structures and lighting sources, which was globally addressed in both the Sacramento County General Plan EIR and the SDCP/SRSP EIR. The Sacramento County General Plan EIR and the SDCP/SRSP EIR both concluded that development of the Sunrise Douglas Community Plan area would substantially alter the existing visual character of the area, limit visual access to large areas of open space, and conflict with the existing character of the area relative to height, mass and scale; therefore, were considered significant and unavoidable. Additionally, the Sacramento County General Plan EIR noted that development of the Community Plan area would include various intensities of development, which could substantially alter existing views and conflict with the scale of existing structures and the rural character of these areas. The introduction of urban uses and densities in these areas would substantially alter the present nature of their viewsheds (GP EIR, p 4.10-11).

The project would not contribute to the additional loss of aesthetic or visual resources not already considered in previous environmental review of the Sacramento County General Plan EIR and SDCP/SRSP EIR. Although, because these impacts had been addressed extensively in the General Plan process, the SDCP/SRSP FEIR did not identify the impacts as being significant effects to the Community Plan area (FEIR p. 4.32), the Sacramento County Board of Supervisors noted that development of the SDCP/SRSP would contribute to the occurrence of significant General Plan level impacts, and that no further mitigation is feasible given the Board's 1993 decision, as part of the General Plan approval process, to ultimately approve urban development in the Community Plan area. Since adoption of the Sacramento County General Plan and approval of the Sunrise Douglas Community Plan, the City of Rancho Cordova has developed its Interim General Plan that identifies greater urbanization and visual resource alteration than previously considered in previous EIRs.

Mitigation Measures

Implementation of mitigation measures MM 4.11.2a and MM 4.11.2b would reduce the project's specific light and glare impacts; however, the project's contribution to cumulative aesthetic and visual resource impacts would remain **cumulatively considerable**.

REFERENCES

County of Sacramento. CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project. July 17, 2002.

County of Sacramento. Sunrise Douglas Community Plan/Sunridge Specific Plan, Final Environmental Impact Report. November 2001.

County of Sacramento. Sunrise-Douglas Community Plan. July 17, 2002.

This section describes the public facilities and utilities for the proposed Preserve at Sunridge project. Each section includes descriptions of existing facilities, service standards, and potential impacts on each service resulting from implementation of the proposed project.

4.12.1 FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES

EXISTING CONDITIONS

The Sacramento Metropolitan Fire District (SMFD) provides fire protection services, fire suppression, inspection, plan checking, emergency transportation and medical services, public education, advanced life support, and rescue services to the unincorporated portions of the County as well as the City of Rancho Cordova. The SMFD encompasses approximately 417 square miles in the southern portion of Sacramento County and includes both urban and rural areas. The SMFD is the largest district in the County of Sacramento and the seventh largest local fire agency in the State of California. The SMFD has 42 fire stations with approximately 673 paid personnel on its staff. The District includes 39 engine companies, 5 truck companies, 12 medic transportation units, 8 historical fire apparatus, 5 crash/rescue units, and various watercraft response units. The SMFD currently has seven fire stations located in the Rancho Cordova Planning Area. **Table 4.12-1** displays the location of the current SMFD facilities within the General Plan Planning Area boundaries. With the recent addition of the seventh station, the Fire Department expanded its personnel base to approximately 108 employees, which includes 90 line personnel, 8 chief officers and 10 other support related personnel. (Sacramento Municipal Fire District, April 2005; Dobson, April 2005)

TABLE 4.12-1
EXISTING RANCHO CORDOVA PLANNING AREA FIRE DEPARTMENT FACILITIES AND LOCATIONS

Name of Facility	Address	Location
Fire Administrative Office	2101 Hurley Way	Sacramento
Station 54	8900 Frederick Avenue	Sacramento
Station 61	10595 Folsom Blvd	Rancho Cordova
Station 62	3646 Bradshaw Road	Sacramento
Station 63	12395 Folsom Blvd	Rancho Cordova
Station 64	9116 Vancouver Drive	Sacramento
Station 65	11201 Coloma Road	Rancho Cordova
Station 66	3180 Kilgore Road	Rancho Cordova

Source: Sacramento Metropolitan Fire District, April 2005.

The closest station to the proposed project site is Station 66 at 3180 Kilgore Road. Station 66 houses one Engine Unit, one Reserve Medic, one Grass Unit, and a Battalion Chief, totaling six personnel. The district as a whole responded to 37,347 medical emergencies, 7097 fire emergencies, and 24,960 other types of emergencies in 2003. Station 66's engine company responded to 1509 and calls in 2003, consisting of 974 medical, 162 fire, and 374 other calls as well as one mutual aid call. Their Reserve Medic responded to an additional 1789 calls. Their Grass Unit responded to 1175 additional calls consisting of 113 medical, 243 fire, and 816 other calls as well as 3 auto aid calls. (Sacramento Municipal Fire District, April 2005)

Fire Suppression Fleet

The fire suppression fleets vary from station to station depending on location and the intensity of development in the immediate vicinity. SMFD fire suppression equipment generally consists of engines, aerial platform trucks, rescue boats, grass units, water tenders, and fully equipped Type 3 modular medical paramedic emergency response units. If a paramedic equipped engine is the first responder to an incident, the on-board paramedic provides emergency medical attention until a Type 3 modular unit arrives and assumes emergency medical service responsibilities.

Emergency Medical Fleet

The Emergency Medical Service (EMS) Division oversees the SMFD's emergency related services and personnel. The SMFD currently deploys ten 24-hour Advanced Life Support (ALS) ambulances, a number of ALS reserve ambulances, and several ALS engine companies. The majority of the stations in the Rancho Cordova Planning Area are equipped with either an ALS engine/paramedic combination or an ALS Type 3 modular/paramedic combination unit, or both.

Funding Mechanisms

The SMFD is generally funded through property taxes and grant funding. The funding and expenditures for the District are facilitated through the District's Capital Improvement Program (CIP). Measure Q was passed in November 2000 enabling the District to provide services to the communities of Sloughhouse and Rancho Murieta. Measure Q is funded through property taxes. Within the City limits of Rancho Cordova, the SMFD is funded through a variety of sources. Property tax revenue from the City's General Fund provides the majority of the funding for fire related services. Additional funds are generated through fire impact fees (used exclusively for construction of new growth stations and associated apparatus), ambulance transport fees, and service fees (mostly from fire prevention plan checking charges). (Dobson, April 2005)

Service Standards

The Insurance Services Office (ISO) rating is the recognized classification for a fire department or district's ability to defend against major fires. According to the ISO, newly developing urban areas should have a fire station opened within 1½ miles of all commercial development and 2 ½ miles from all residential development when "build-out" exceeds 20 percent of the planned area. A rating of 10 generally indicates no protection, whereas an ISO rating of 1 indicates high firefighting capability. The SMFD has an ISO rating of 3 in locations of their service area with established water distribution systems and hydrants. In "unwatered" areas they have an ISO rating of 8 (Dobson, April 2005).

Response Time

The SMFD has established a goal for a response time of five minutes or less for 80 percent of the time in the urbanized portions of the City (Dobson, 2005). The SMFD Master Plan provides policy guidance, objectives, and activities to achieve improved emergency response to the District's citizens, to utilize existing District resources more efficiently, and to improve District essential facilities. Fire and emergency services in the County of Sacramento have developed a Joint Powers Authority (JPA) for a unified dispatch system. Under the JPA, the closest unit available is dispatched to an incident and Fire District boundaries are not an issue when an incident occurs. The Regional Fire and Rescue Training Authority is a Joint Powers Authority ("JPA") comprised of

three member agencies: California Office of Emergency Services – Fire and Rescue Branch; Sacramento Metropolitan Fire District; and the Sacramento Fire Department.

4.12.1.2 REGULATORY FRAMEWORK

LOCAL

Sacramento County General Plan

The existing Sacramento County General Plan was adopted in December of 1993. The County's General Plan is undergoing update. The update addresses plans for growth in the next planning cycle (2004-2025) as well as addressing new emerging planning issues. Topics addressed in the Update Project include, but are not limited to, holding capacity, infrastructure financing, policy analysis, smart growth planning, and mature communities. As noted in Section 4.1 (Land Use), the City is currently operating under its Interim General Plan rather than the Sacramento County General Plan for policy direction in the City.

Rancho Cordova Interim General Plan

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to Appendix 4.0 for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

City Emergency Response/Evacuation Plans

The City of Rancho Cordova is responsible for emergency response and evacuation plans within the City limits. The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster. Because the City of Rancho Cordova incorporated in July 2003, it is not under any time constraints to prepare an emergency management plan. Until such time that it prepares an emergency management plan, the City has implemented the County of Sacramento's program.

Fire Codes and Guidelines

The availability of sufficient water flows and pressure are a basic requirement of the SMFD Fire Department. Fire Department requirements are determined for specific development projects at the design stage and are based on the Uniform Building Code (UBC). In addition to meeting minimum fire flow requirements, all development projects within the City of Rancho Cordova are required to meet other various fire protection requirements identified in the plan check and review process.

The Fire District requires that fire sprinklers be installed in all new commercial construction that exceeds 3,600 square feet and some residential properties exceeding 2,999 square feet. Also, for structures exceeding 3,600 square feet, the district requires water pressure of at least 20 pounds per square inch residual pressure at 1,000 gallons per minute flow. The district also requires that all signals installed on the project site include traffic control devices (Opticom) that allow the Fire District to activate the light and therefore control the flow of traffic in order to

maintain a response time of 5 minutes. Fire lanes must be installed and dedicated prior to project approval. (Dobson, April 2005)

4.12.1.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following standards are based on State CEQA Guidelines (2005) Appendix G. A significant impact to fire protection and emergency services would occur if implementation of the proposed project:

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

METHODOLOGY

Evaluation of potential fire service impacts was based on consultation with the staff from the fire protection and emergency service providers in the City of Rancho Cordova as well as review of the Sacramento County General Plan and other relevant literature.

PREVIOUS ENVIRONMENTAL REVIEW IN THE SDCP/SRSP EIR

The following is the fire and emergency medical related impact and mitigation measure identified in the SDCP/SRSP Final EIR (SDCP/SRSP FEIR, p. 6.15) that is applicable to the proposed project.

Impact — *Provision of fire protection services.*

PS-5 — *Future development projects shall comply with the following design measures:*

Cul-de-sacs shall not exceed 150-feet in length where possible, in order to facilitate emergency vehicle response throughout the development area. Off-street bikeways, pathways, and recreational areas shall provide adequate access for fire fighting apparatus.

All development shall meet minimum water supply requirements for fire flow, by type of land use.

Accessibility for fire control shall meet the specifications for the Fire District and shall be in place during all phases of the project.

The following evaluation focuses on the project-specific fire protection related impacts.

Fire Protection and Emergency Medical Services

Impact 4.12.1.1 Implementation of the proposed project would require additional fire protection and emergency medical equipment and facilities that would result in physical environmental impacts. This would be a **less than significant** impact.

The SMFD has fire protection requirements and standards for new development projects, including hydrant spacing, fire flow, access and roadway requirements, and limitations on materials used. The SMFD must review and approve the projects prior to any construction for compliance with State and local requirements.

Chief Michael Dobson of the Sacramento Metropolitan Fire District stated that as of August 2005 the fire department has accepted a location for the next fire station to be built in the City of Rancho Cordova. This fire station will be equipped with an Engine, Grass Unit, Medic Unit, and Truck and will be built on a property immediately adjacent to the planned water treatment plant on Sunrise Boulevard between the Anatolia I and Anatolia III developments (Dobson, 2005). This new location is within the required 1-½ miles of the Preserve at Sunridge project site and will be responsible for primary fire and emergency response to the project area (Dobson, 2005). Four new fire stations are planned in the vicinity of the proposed project. Other proposed stations will be located in projects nearby (Dobson, 2005). With the addition of the new station, current fire stations, equipment, and personnel are sufficient to serve the planned uses of the project. During the project's construction and initial development, primary calls would most likely be for emergency medical responses. The proposed project is subject to modern fire codes, which would decrease the likeliness of structure related fire risks. While the project-specific impacts were not addressed in the Master EIR, compliance with SMFD standards and regulations and implementation of conditions of approval based on previously adopted Mitigation Measure PS-5 from the SDCP/SRSP Master EIR, would ensure that the proposed project's fire protection and emergency medical service impacts would be less than significant.

Mitigation Measure

None required.

4.12.1.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for fire protection and emergency medical services includes the service area boundaries of the SMFD, specifically the service areas of the seven stations located within the Rancho Cordova Planning Area (See **Table 4.12-1**). Future development within the City's proposed General Plan Planning Area, which is also within SMFD service boundaries, would further increase the demand for fire protection, emergency medical services, and related facilities. Reader is referred to Section 4.0 for a list and locations of proposed and approved projects in the vicinity of the proposed project. The cumulative setting also takes into account existing development in the City's Planning Area.

Cumulative Fire Protection and Emergency Medical Services

Impact 4.12.1.2 Implementation of the proposed project, in combination with other reasonably foreseeable development, would increase the population within the SMFD service area, requiring additional fire and emergency medical services and related facilities. The project's contribution to the need for expanded fire protection services is considered **less than cumulatively considerable**.

Implementation of the proposed project and other foreseeable projects in the area would require additional fire related services, equipment, and facilities to adequately serve the projected development within SMFD's service area boundaries. Four new fire stations would be

required by the SMFD. All four are in the planning stages with the first station, located in the proposed Anatolia projects, to be built and operational by July, 2007 (Dobson, April 2005). Funding from property taxes, developer fees, impact fees and other alternative sources of funding would provide sufficient resources to serve the projected needs of the fire district under projected conditions in 2030 within SMFD's service area boundaries (Dobson, 2005). Subsequently, future development in these areas would increase revenues for the SMFD and provide funding to accommodate the additional growth. Individual development projects would be subject to SMFD review and approval for consistency with the Master Plan, as well as CEQA review on a project-by-project basis, ensuring that impacts would be less than cumulatively considerable.

Mitigation Measures

None required.

4.12.2 LAW ENFORCEMENT

EXISTING CONDITIONS

City of Rancho Cordova Police Department

The City of Rancho Cordova Police Department is contracted through the Sacramento County Sheriff's Department (SCSD) Patrol Services. Patrol Services operate the SCSD towing and parking enforcement, community resources and service centers, emergency operations, and specialized patrol units. The SCSD has a paid staff of 2,332, consisting of 1,789 officers and 543 non-sworn members. The SCSD also has a reserve force of 168 officers and approximately 621 community volunteers. The City adopted an agreement noting that all law enforcement for the City of Rancho Cordova shall be provided by the County of Sacramento and shall include the enforcement of State statutes and City codes and ordinances. The contracted services include patrol, traffic enforcement, investigations, and administrative services. The Police Station is located at 10361 Rockingham Way in the City of Rancho Cordova.

Service Standards

The City's Police Department utilizes several "in-house" targets for planning purposes, including the goal of providing one officer per every 1,000 citizens and one support staff member for every three officers – a standard that was adopted from the Sacramento County Sheriff's Department. Likewise, the Police Department's goal is to maintain an average response time for Priority One calls for service of five minutes or less. A Priority One call is a violent crime against a person or emergencies requiring an immediate response in order to preserve a life. Daily assessments are conducted on a call-by-call basis with the goal of improving the Department's response times.

Funding Sources

The SCSD and the Rancho Cordova Police Department are funded through Sacramento County tax revenues, including Rancho Cordova tax revenues and special federal and local grants. The SCSD is aggressive in identifying alternative funding sources for current and future problem-solving efforts, at both federal and local levels. Some of the problem-solving efforts included obtaining several grants from the Office of Community Oriented Policing Services in Washington, D.C. and the California Office of Traffic Safety. The agreement between the City and the SCSD is funded through the City's General Fund.

California Highway Patrol

The California Highway Patrol (CHP) provides traffic regulation enforcement, emergency management, and assistance on State roadways and other major roadways in unincorporated portions of the southern Sacramento Valley area. The CHP is responsible for providing patrols on all interstates and state highways within Sacramento County. The nearest CHP office is the Sacramento Communications Center (214), located in the City's Planning Area at 3165 Gold Valley Drive in Rancho Cordova. The office is a joint facility shared with Cal-Trans and dispatches all the patrols for Sacramento and Yolo Counties and dispatch approximately 75 percent of El Dorado, Nevada, and Placer Counties, 25 percent of Sierra County dispatches, and approximately 10 percent of the patrols for Yuba County. The Communications Center is primarily staffed by non-uniformed personnel but provides a wide-range of administrative and patrol services including, but not limited to: call box responses; stolen vehicle reports; cellular 911 calls; unit dispatches; and monitoring of the state-wide CHP General Information Hotline. The CHP has jurisdiction over interstates and state highways, including US-50, State Route 99, and SR-16.

4.12.2.2 REGULATORY FRAMEWORK

LOCAL

Refer to Section 4.12.1.2 above for information on the Sacramento County General Plan and the Proposed Rancho Cordova General Plan.

City Emergency Response/Evacuation Plans

The City of Rancho Cordova is responsible for emergency response and evacuation plans within the City limits. The State of California passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster. Because the City of Rancho Cordova incorporated in July 2003, it is not under any time constraints to prepare an emergency management plan. Until such time that it prepares an emergency management plan, the City has implemented the County of Sacramento's program.

City of Rancho Cordova Interim General Plan

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to Appendix 4.0 for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

4.12.2.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following standards are based on State CEQA Guidelines (2005) Appendix G. A significant impact to police protection would occur if implementation of the proposed project:

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

METHODOLOGY

Evaluation of potential law enforcement impacts was based on consultation with the staff from the Sacramento County Sheriff's Department, including the City of Rancho Cordova Police Department, as well as review of the Sacramento County General Plan and other relevant literature such as the Agreement for Law Enforcement Services Between the County of Sacramento and the City of Rancho Cordova.

Previous Environmental Review in the SDCP/SRSP EIR

The following is the law enforcement related impact and mitigation measure identified in the SDCP/SRSP Final EIR (SDCP/SRSP FEIR, pp. 6.15 and 6.16) that is applicable to the proposed project.

> "*Impact* *Provision of law enforcement services.*
>
> *PS-6* *Future development projects shall consult with the Sheriff's Department and implement recommended crime prevention/safety development design measures to the maximum extent feasible.*"

The following evaluation focuses on the project-specific police protection and law enforcement related impacts.

Law Enforcement Service Standards

Impact 4.12.2.1 The proposed project would result in 2,703 new residences and commercial uses requiring additional law enforcement protection. This would be a **less than significant** impact.

Land uses associated with the proposed project, which includes residences, commercial, and recreation would contribute to an increased demand for law enforcement and related services. Assuming 2.68 persons per dwelling unit, the project could result in a permanent population of 7,244. This would result in the additional need for seven new officers in the area. The Sacramento County standard for sheriff protection is 1 officer per 1,000 residents. Although the proposed development would increase demand for law enforcement services, it would also provide additional funding to accommodate that growth. While the project alone would not require the addition of a new substation or station, the Police Department plans to construct at least one new substation or fully staffed station in the SDCP area or within the Rio Del Oro project (proposed) to serve the planned growth in the area east of Sunrise Boulevard (Rodrigues, 2005). Direct physical effects of any new station within the Rio Del Oro project will be analyzed in the EIR/EIS under preparation for that project. Consultation with the Rancho Cordova Police Department was conducted in order to determine the impact to law enforcement, consistent with mitigation measure PS-6 of the SDCP/SRSP FEIR (SDCP/SRSP FEIR, p. 6.16).

Mitigation Measures

None required.

Design-Related Safety Concerns

Impact 4.12.2.2 Land use, neighborhood design, home design, street design, and other features of the project could reduce the ability of the City of Rancho Cordova Police Department to enforce the law and respond to crime and other emergencies in the project area. This is a **potentially significant** impact.

The City of Rancho Cordova Police Department has established guidelines to enhance law enforcement and emergency response. These guidelines include the use of several design measures to increase the opportunity for residents and occupants of buildings to see into areas deemed as potential sites for crime, such as secluded walkways and parks. While the RCPD understands the usefulness of pedestrian walkways and bikeways, they also recognize the potential for crime in these areas. Therefore, they have also set guidelines for the design of these pedestrian use areas. Street design is also a concern. An improperly designed street can adversely affect the ability of police officers to see clearly into neighborhoods as well as affect safety for pedestrians – especially children and handicapped residents. (Rodrigues, April 2005)

The project-specific law enforcement impacts were not addressed in the SDCP/SRSP Master EIR; therefore, the City proposes the following mitigation measures, which are revisions to the previously adopted measure, to ensure that the proposed project's law enforcement impacts are addressed.

Mitigation Measures

The following mitigation measures are based comments from the Rancho Cordova Police Department and on the previously adopted Mitigation Measure PS-6 from the SDCP/SRSP FEIR (p. 6.16) and are applicable to the project.

MM 4.12.2.2 The project applicant shall consult with the Rancho Cordova Police Department and implement recommended crime prevention/safety development design measures.

Timing / Implementation: *Prior to approval of improvement plans.*

Enforcement / Monitoring: *City of Rancho Cordova Planning Department and the City of Rancho Cordova Police Department.*

The proper design of homes, buildings, roads, parks, and other parts of the project would increase the ability of the City of Rancho Cordova Police Department to enforce the law and respond to public safety issues. Additionally, implementation of Mitigation Measure MM 4.12.2.2 will reduce the project's law enforcement impacts related to design to **less than significant**.

4.12.2.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for law enforcement is the Sacramento County Sheriff's service area, which includes the City of Rancho Cordova and surrounding portions of Sacramento County. The development associated with the proposed project would result in population increases contributing to a cumulative impact on law enforcement services. Development in the City of Rancho Cordova would result in an incremental cumulative demand for law enforcement and

result in additional environmental impacts associated with the development of new facilities. The environmental impacts associated with the development of future law enforcement facilities would be evaluated on a project-by-project basis for immediate and cumulative impacts as required by the CEQA. Reader is referred to Section 4.0 for a list and locations of proposed and approved projects in the vicinity of the proposed project. The cumulative setting also takes into account existing development in the City's Planning Area.

Cumulative Law Enforcement Impacts

Impact 4.12.2.3 The proposed project, in addition to reasonably foreseeable development, would increase the population within the City of Rancho Cordova and surrounding areas and would require additional law enforcement services under cumulative conditions. This would be a **less than cumulatively considerable** impact.

Implementation of the proposed project would require additional law enforcement personnel services and equipment to adequately serve the projected development in Rancho Cordova. Cumulative development in the Rancho Cordova area would require additional officers to accommodate the increased population. The Police Department plans to construct at least one new substation or fully staffed station in the SDCP area or within the Rio Del Oro project (proposed) to serve the planned growth in the area east of Sunrise Boulevard (Rodrigues, 2005). The Rancho Cordova Police Department receives funding from property tax, building impact fees, facility impact fees and bonds, which are supplied through the City's general fund. As such, cumulative development would provide additional funding sources for the provision of law enforcement services. Individual development projects would be subject to review and approval by local law enforcement to ensure that adequate access, visibility, and security is provided. This project's impacts on law enforcement would not be cumulatively considerable.

Mitigation Measures

None required.

4.12.3 PUBLIC SCHOOLS

EXISTING SETTING

The proposed project falls within the service area of the Elk Grove Unified School District (EGUSD). The EGUSD has more than doubled in the past decade and is expected to experience the same level of growth through 2010. The District covers nearly 320 square miles and has been in existence for over 41 years. The EGUSD boundaries encompass the entire City of Elk Grove, portions of the City of Sacramento and the City of Rancho Cordova, and most of southern Sacramento County. The EGUSD stretches from the Sacramento River to the foothills of Amador County, and is bisected from east to west by the Cosumnes River and north to south by State Route 99 and Interstate 5. The District is the 12th largest school district in California and one of the fastest growing school districts in the nation. The District currently serves more than 52,500 students and expects to reach 80,000 students by 2010. Due to constant increases in population, the Elk Grove Unified School District must change its school boundaries on a regular basis.

The project lies within the elementary boundary for Sierra Enterprise Elementary School, located at Fruitridge Road and Hedge Avenue in Sacramento. However, as the project includes a site for an elementary school, the new school would serve the project instead. The project lies within

the secondary boundaries of T.R. Smedburg Middle School and Sheldon High School. Both schools are located at Calvine Road and Kingsbridge Drive in Sacramento.

Funding and Financing Mechanisms

The District funds new schools with a combination of local bonds, developer fees, and state bonds. State bonds pay for almost half the costs of new schools. In 2001-2002 for instance, state bonds provided more than $45 million to EGUSD to build one high school, one middle school, and one elementary school. Of the thirty-one schools that the district needs to build by 2010, only five were funded by the state in June 2002.

The community has passed two local bonds since 1987 that have helped pay for nearly thirty new schools in the past fifteen years, new libraries and multipurpose rooms at older schools, and maintain and upgrade existing schools. Local bonds are paid for by property taxes that range from $3.82 per month for houses built before 1987 to $16.67 per month for houses built after July 1, 2001. Passage of state bonds is not linked to any increase in property taxes. The principal and interest on state bonds are paid for by the state's general fund, which is made up of mainly personal and corporate income taxes and sales tax revenues.

Under the Leroy F. Greene School Facilities Act (SB 50) and Government Code Section 65995 (refer to section 4.12.3.2 below) the EGUSD currently imposes a fee of $3.95 per square foot on new residential development. This fee amount was adopted by the State Board of Education and became effective on July 4, 2004 (Kim Williams, 2005).

In addition to local bonds, the Kindergarten-University Public Education Facilities Bond Act of 2002 (Prop 47) was approved by voters in November 2002 and provides for a bond issue of $13.05 billion to fund necessary education facilities to relieve overcrowding and to repair older schools. Funds will be earmarked for areas of greatest need and must be spent according to strict accountability measures.

The following funding formula has been adopted by the EGUSD for use from 2002 through 2010 and is based on a mixture of state school bonds, developer fees and local Mello-Roos bonds:

- 41% California school bonds approved by voters statewide.
- 40% Developer fees established by state law as well as additional developer fees negotiated by the District via county and city ordinances.
- 19% Local Community Facilities District (CFD) special tax approved by voters in 1987 and amended in 1997-1998

Additionally, the EGUSD Master Plan proposes alternative funding mechanisms if state funds are unavailable to cover construction and modernization costs within the District. The proposed mechanisms include increased developer and local tax fees, a local general obligation bond, creation of a Benefit Assessment District, institute asset management, sale of surplus property, and the raising of funds through Certificates of Participation. The local CFD bonds were used to build twenty-two new schools and enabled major improvements at twenty-two of the existing school facilities. The EGUSD will continue to seek new funding mechanisms and take advantage of new opportunities as available.

Service Standards

The EGUSD plans for school facilities using its Facilities Master Plan. The Master Plan establishes service standards based on student generation rates and school capacities to determine the District's needs through the current plan period. The number, type, and location of school facilities required are based on criteria and standards set forth in the Master Plan. The District selects school sites in accordance with criteria developed by the California Department of Education. Factors considered in site selection include width to length ratio, proximity to potential hazards (such as railroad tracks, airports, and high voltage power lines), noise level, site access, and absence of environmental constraints. The Department of Education must review and approve all sites considered for selection and use by the District. The District uses the student generation rates shown in **Table 4.12-2** to determine the projected number of students that will result from residential development. Site selection criteria and projected student generation are the basis for determining the location, type, and number of schools required to serve a new development.

TABLE 4.12-2
ESTIMATED STUDENT GENERATION RATES

School Type	Single Family Residence(K-12 students/residence)	Multi-Family Residence(K-12 students/residence)
Elementary (K-6)	0.4398	0.3057
Middle 7-8)	0.1238	0.0730
High (9-12)	0.2007	0.1587
Total	0.7643	0.5374

Source: EGUCD School Facilities Master Plan, 2002-2010

Table 4.12-3 describes the maximum number of students that may be accommodated within each type of school under both multi-track year-round and traditional nine-month enrollment periods. The EGUSD uses year-round programs in some elementary and middle schools in order to increase efficiency. Year-round schools provide for a twenty percent increase in student enrollment.

TABLE 4.12-3
MAXIMUM SCHOOL CAPACITIES

School Type Traditional 9	Month Schools (students/school) Multi		Track/Year	Round Schools (students/school)
Elementary (K	6)	1,000 1,060		
Middle (7	8)	1,200 1,440		
High (9	12)	2,200 N/A		

Source: EGUCD School Facilities Master Plan, 2002-2010

The following facilities would need to be added to the District to meet the population growth expected between 2003 and 2010. The following facility need projections are based on the Sacramento Area Council of Governments (SACOG) population estimates for Sacramento County, including Rancho Cordova and the City of Elk Grove, as well as current Census 2000 data:

- 24 new elementary schools.
- 4 middle schools.

- 2 alternative schools.

The above needs are estimated for the entire EGUSD Master Plan time frame, which is between 2002 and 2010. The Master Plan has also outlined a fifteen-year plan to meet the District's more immediate need through 2005 and include, but are not limited to, the following recommendations:

- Build 15 new elementary schools.
- Where educationally justifiable, increase all elementary schools to ultimate capacity, including year-round schedules.
- Build several new 6th, 7th, 8th middle/high school complexes.
- Complete all improvement projects at 30 of the existing school sites.
- Expand Support Services for Food Services, Grounds, Maintenance and Warehouse facilities.

Should development in the EGUSD occur at maximum projected levels and the year-round schedule is not feasible for all elementary schools in the District, the Master Plan recommends that four additional elementary schools be added in the East Franklin Specific Plan area and one in the vicinity of the proposed project between 2005 and 2010.

4.12.3.2 REGULATORY FRAMEWORK

STATE

Leroy F. Greene School Facilities Act of 1998 (SB 50)

The "Leroy F. Greene School Facilities Act of 1998," also known as Senate Bill No. 50 (Stats. 1998, Ch.407), governs a school district's authority to levy school impact fees. This comprehensive legislation, together with the $9.2 billion education bond act approved by the voters in November 1998 as "Proposition 1A", reforms methods of school construction financing in California. Prior to the Leroy F. Greene School Facilities Act of 1998 (Government Code Sections 65995-65998), case law allowed cities to consider and impose conditions to mitigate impacts of new development on school facilities. The 1998 School Facilities Act suspended this authority, commonly referred to as Mira authority.

California Government Code Section 65995(e) states that a city does not have the ability to condition any land use approval, whether legislative or adjudicative, on the need for school facilities. In addition, Government Code Section 65995(f) prohibits a city or county from imposing a requirement to participate in a Community Facilities District ("CFD," also known as Mello-Roos district). Government Code Section 65995(g)(1) further states that a developer's refusal to participate in a CFD cannot be a factor in considering a "legislative or adjudicative" act. However, Government Code Section 65995(g)(2) further states that a "person can voluntarily elect" to pay a fee through a CFD.

Government Code Section 65995(h) states that the payment or satisfaction of a fee, charge, or other requirement levied or imposed pursuant to Section 17620 of the Education Code in the amount specified in Section 65995 and, if applicable, any amounts specified in Section 65995.5 or 65995.7 are hereby deemed to be full and complete mitigation of the impacts of any

legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization as defined in Section 56021 or 56073, on the provision of adequate school facilities.

Section 65996 (b) states that the provisions of this chapter are hereby deemed to provide full and complete school facilities mitigation and, notwithstanding Section 65858, or Division 13 (commencing with Section 21000) of the Public Resources Code, or any other provision of state or local law, a state or local agency may not deny or refuse to approve a legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property or any change in governmental organization or reorganization, as defined in Section 56021 or 56073, on the basis that school facilities are inadequate.

The Kindergarten-University Public Education Facilities Bond Act of 2002 (Prop 47)

This act was approved by voters in November 2002 and provides for a bond issue of $13.05 billion to fund necessary education facilities to relieve overcrowding and to repair older schools. Funds will be targeted at areas of greatest need and must be spent according to strict accountability measures. Funds will also be used to upgrade and build new classrooms in the California Community Colleges, the California State University, and the University of California in order to provide adequate higher education facilities to accommodate growing student enrollment.

LOCAL

City of Rancho Cordova Interim General Plan

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to Appendix 4.0 for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

4.12.3.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following standards are based on State CEQA Guidelines (2005) Appendix G. A significant impact to public schools would occur if implementation of the proposed project:

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

METHODOLOGY

Evaluation of potential public school impacts associated with the implementation of the Preserve at Sunridge Project is based on review of the EGUSD Master Plan and from consultation with school district staff.

PREVIOUS ENVIRONMENTAL REVIEW IN THE SDCP/SRSP EIR

The following are the significant school related impacts and mitigation measures identified in the SDCP/SRSP Final EIR (SDCP/SRSP FEIR, pp. 6.16 and 6.17) that are applicable to the proposed project.

"Impact Provision of school services.

. . . Additional school sites will need to be designated within the Community Plan area at the time that specific land use plan(s) are developed for that area, in order to provide an adequate number of school sites to serve buildout development within the remaining Community Plan area. The location of future school sites within the Community Plan area should be determined in consultation with the relevant school district, and shall meet the following minimum local criteria and any applicable state criteria for school siting:

- *School sites shall be basically level and square in shape, with not more than 3 to 5 width-to-length ratio.*
- *Schools shall be located away from major power lines, such as the 230 kV corridor that traverses the Plan area.*
- *Schools shall not be located within an existing or proposed noise contour line of 65 CNEL/Ldn or greater and all portions of the site must be mitigatable to 60 Ldn.*
- *Schools shall not be located within any aircraft accident exposure or airport safety areas, nor conflict with any ALUC, FAA, AICUZ, or California Division of Aeronautics policies or regulations. If a site is within 2-miles of the Mather Airport runways, or any other runway or heliport, it must receive California Division of Aeronautics Review.*
- *The schools shall be located in residential neighborhoods along secondary collector streets, typically with two street frontages.*
- *Schools and adjacent land affecting the use of the site must be free of any significant environmental constraints, including but not limited to protected habitats or species, water courses, wetlands or vernal pools, potentially toxic and hazardous substances, and geologic, seismic, topographic, or soil restrictions. Application of agricultural chemicals on farmlands adjacent to proposed school sites may be considered a constraint.*
- *School sites must be free of wetland constraints or within an area permitted to be filled.*
- *The site must not be significantly affected by any nuisance factors such as odors associated with farm operations, landfills, or sewage treatment plants. Proximity to the Sacramento Rendering Company and prevailing wind direction shall be disclosed.*

- *Schools must be adjacent to compatible uses. Industrial and commercial uses are not typically considered compatible adjacent uses for elementary schools.*

- *Schools should not be on land under an active Williamson Act contract.*

- *Schools must have timely access to all utilities and services, including sewer, water, gas, electric and drainage. Utility easements on school sites should be avoided. The site must not be traversed by or immediately adjacent to major fuel, natural gas, or hazardous materials/waste pipelines or storage tanks.*

. . . By contributing towards the costs of school facilities as outlined in the proposed Financing Plan, and by designated an adequate number of sites for new school construction, Sunrise Douglas Plan area development will have a less than significant impact on school facilities."

The following evaluation focuses on the project-specific public school related impacts.

IMPACTS AND MITIGATION MEASURES

Public School Facilities

Impact 4.12.3.1 Implementation of the project would increase student enrollment at the Elk Grove Unified School District's schools and require the construction of new school facilities to serve the project. This impact is considered **less than significant**.

The addition of the proposed 2,703 dwelling units would generate approximately 2000 new students. EGUSD schools currently serving the project could not handle this many new students, therefore requiring the construction of additional EGUSD schools and related facilities to accommodate the project.

The Elk Grove Unified School District indicated that the current student housing costs including land, construction, & furnishings for the district is $47,963,164, which is based upon costs of $19,576 per K-6 student, $28,126 per 7-8 grade student, and $32,086 per 9-12 grade student. As indicated above, Government Code Section 65995 establishes the dollar amount school districts may impose on new development. The EGUSD has stated that Mello-Roos taxes will not nearly be sufficient to make up this difference (Williams, April 2005). However, funding from state grants is possible but other sources would most likely still be required. Sources include but are not limited to Prop 47 funds, increased developer and local tax fees, and the local general obligation bond funds. California Government Code Sections 65995 (h) and 65996 (b) provide full and complete school facilities mitigation.

The project includes an 11-acre site for a new elementary (K-6) school to serve the residents of the project. The California Department of Education has established minimum site criteria for new schools. The school site provided in the proposed project meets these criteria in all but two areas. The proposed school site is bounded on three sides by roads, not the preferred two sides as stated within the state guidelines. Also, the school is in close proximity to a major road, Chrysanthy Boulevard, to the south – the impact of which is reduced by a row of courtyard style homes between the school and Chrysanthy Boulevard. Even with these two issues, the EGUSD

has indicated that the site as proposed is acceptable to them and would serve their needs for a new elementary (K-6) school (Williams, April 2005).

The environmental affects of constructing the school are analyzed in Sections 4.1 through 4.13 of this EIR. In addition to this elementary school, a high school, middle school, and elementary school will be built in the proposed Suncreek project directly to the south of The Preserve at Sunridge project. The environmental effects of constructing those schools will be included in the environmental analysis of the Suncreek project. Project specific impacts of the proposed project were not analyzed in the SDCP/SRSP FEIR, however the impact to public school facilities is less than significant, therefore no mitigation measures are required.

Mitigation Measures

None required.

4.12.3.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

Under cumulative conditions, the EGUSD is expected to continue to provide education services to the southwestern portion of Rancho Cordova that lies generally south of Douglas Boulevard, including the proposed project area. In addition to this portion of Rancho Cordova, EGUSD will continue to provide education to all of Elk Grove as well as portions of the City of Sacramento and Sacramento County. The EGUSD estimates that every three to five days they add enough students to fill a classroom (EGUSD, 2004). Between 1998 and 2004 the EGUSD opened 32 schools and gained nearly 37,000 new students. They estimate that by 2010 they will be responsible for approximately 80,000 students (EGUSD, 2004). Assuming a constant rate of growth of 2,920 students a year (8 students a day), EGUSD may provide education for as many as 134,590 students by the year 2030.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Public School Impacts

Impact 4.12.3.2 The proposed project, in combination with reasonably foreseeable development proposed in the District, would result in a cumulative increase in student enrollment at the Elk Grove Unified School District's schools which would require the construction of additional schools. The project's contribution to this impact is considered to be **less than cumulatively considerable**.

Development of the project would result in population increases and therefore an incremental cumulative demand for schools, resulting in additional environmental impacts associated with the development of new sites. The Elk Grove Unified School District identified a list of needs to meet the growth within the District through 2010. They indicated that the District would need to add approximately thirty new schools including four high schools, four middle schools, and at least twenty elementary schools, as well as improve some existing schools and support facilities to accommodate the estimated 80,000 students the District will have by 2010. Using the EGUSD student generation rates presented in **Table 4.12-2**, the proposed project would result in approximately 1,800 elementary students, 475 middle school students, and 868 high school students, for a total of 3,143 students. The construction of new schools and related facilities

would provide additional capacity to accommodate current and future enrollment. However, providing new school sites would result in cumulative environmental impacts on traffic congestion, noise, potential loss of habitat, water, solid waste, etc. The environmental impacts associated with the development of future school sites would be evaluated individually by either the EGUSD or as part of development projects. Evaluation of these future sites would include immediate and cumulative impacts as required by the State Board of Education and CEQA.

The adoption of all or some combination of Mello-Roos taxes, and SB 50 funding would assist in mitigating potential cumulative impacts on schools. California Government Code Section Sections 65995 (h) and 65996 (b) provides further school facilities mitigation. Each new EGUSD school facility must undergo CEQA evaluation prior to construction to lessen environmental related impacts. Based on current EGUSD generation rates, the District is expected to add approximately 48,000 new students by 2010, based on the EGUSD Master Plan report. Assuming a constant rate of growth of 2,920 students a year (8 students a day), EGUSD may provide education for as many as 134,590 students by the year 2030. The existing funding mechanisms, bond measures within the school district and compliance with General Plan policies would reduce the cumulative impacts on school facilities. Additionally, pursuant to State law, payment of statutory fees represents full and complete school facilities mitigation. This project's impacts on school facilities would not be cumulatively considerable.

Mitigation Measures.

None required.

4.12.4 WASTEWATER SERVICE

EXISTING CONDITIONS

The Sacramento Regional County Sanitation District (SRCSD) provides public wastewater conveyance, treatment, and disposal in the urbanized portions of Sacramento County. The SRCSD is a publicly owned wastewater agency serving over one million people in the major Sacramento Metropolitan Area through its three contributing agencies: the City of Folsom; the City of Sacramento; and the Sacramento County Sanitation District 1 (CSD-1). Under the Master Interagency Agreement (MIA) that defines the operational, financial, and administrative responsibilities of the SRCSD, the County of Sacramento and the Contributing Agencies SRCSD is responsible for the financing of any new interceptor sewer facilities.

The main CSD-1 collection system includes over 2,400 miles of sewer pipelines ranging in size from four to 75 inches in diameter. The collection system pipelines are categorized and based on size, function and hydraulic capacity. Trunk sewers are pipes that function as conveyance facilities to transport the collected wastewater flows to the SRCSD interceptor system.

The Bradshaw Interceptor will serve the project area. Connection to that interceptor is planned under the Anatolia III Major Roads Sewer Force Main, and Water Transmission Main projects as well as under future projects to the north and west of the Preserve at Sunridge project. The collection system within the project area will feed into this interceptor and includes trunks (designed to carry flows from 1 – 10 millions of gallons per day) and laterals, which are wastewater conveyance facilities that carry wastewater flows of less than 1 million gallons per day (mgd). These trunks and laterals will feed into the sewer interceptor under Jaeger Road, to be built under a planned capital improvement project and completed before the Preserve at Sunridge.

The CSD-1 facilities collect and transport wastewater into SRCSD's regional wastewater treatment plant facility. An EIR was prepared for the CSD-1 Sewerage Facilities Expansion Master Plan in April 2004 by the County of Sacramento (State Clearinghouse Number 2002042143). Responsibility for treating wastewater flows from the proposed project resides with the Sacramento Regional Wastewater Treatment Plant (SRWTP), located at 8521 Laguna Station Road. The SRWTP receives and treats an average of 155 million gallons per day (mgd) and has a permitted dry weather flow design capacity of 181 mgd. Treated effluent discharges from the Rancho Cordova Planning Area are conveyed to SRCSD's Wastewater Treatment Plant and ultimately discharged into the Sacramento River near the unincorporated town of Freeport in Sacramento County. The environmental effects of the SRWTP operation were evaluated in the EIR for the Sacramento Regional Wastewater Treatment Plant 2020 Master Plan Project (Control Number 97-PWE-0599), which was certified by the SRCSD Board of Directors on June 23, 2004.

The SRCSD and CSD-1 Board of Directors are in the process of approving the current Sacramento Sewerage Expansion Master Plan (Master Plan). The environmental effects of the Master Plan were evaluated in the Sacramento Sewerage Expansion Master Plan EIR (SCH No. 2002042143), which was approved in March 2004. The Master Plan considers wastewater generation associated with projected land use buildout scenarios. The Master Plan is updated every five years to incorporate revised land use plans and projections. The projections are based on Sacramento County General Plan and local jurisdictions land use projections (i.e., City of Rancho Cordova, City of Folsom etc.) within the Urban Services Boundary. The Master Plan also identifies improvements and modifications needed to ensure sufficient capacity in both conveyance and treatment facilities. The Master Plan includes construction and operation costs associated with the proposed facilities. Planning of sewer system facilities for the CSD-1 is based on a unit flow rate representing the average base wastewater flow contribution from one Single-Family dwelling, termed an Equivalent Single-Family Dwelling Unit (ESD).

4.12.4.2 REGULATORY FRAMEWORK

LOCAL

City of Rancho Cordova Interim General Plan

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to Appendix 4.0 for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

Sacramento Regional Community Services District Sewerage Facilities Master Plan

The overall goal of the CSD-1 Sewerage Facilities Master Plan (Master Plan) is to estimate the future capital improvement needs of the CSD-1 trunk sewer system, both in capacity relief projects for the existing system and expansion projects to serve newly developed areas. The Master Plan translates existing land use projections into wastewater flow estimates, identifies trunk relief and expansion projects and combines them to create a capital improvement program and assesses several financial elements of the CSD-1 trunk program.

Sacramento Wastewater Treatment Plant Master Plan

The Sacramento Wastewater Treatment Plant Master Plan (2020 Master Plan) for the SRWTP provides a phased program of recommended wastewater treatment facilities and

management programs to accommodate planned growth and to meet existing and anticipated regulatory requirements through the year 2020. The 2020 Master Plan addresses both public health and environmental protection issues while ensuring reliable service at affordable rates for SRCSD customers. The key goals of the 2020 Master Plan are to provide sufficient capacity to meet growth projections and an orderly expansion of SRWTP facilities, to comply with applicable water quality standards, and to provide for the most cost-effective facilities and programs from a watershed perspective.

4.12.4.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following standards are based on State CEQA Guidelines (2005) Appendix G. A significant impact to wastewater service would occur if implementation of the proposed project would result in the following:

- Project exceeds wastewater treatment requirement of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion or existing facilities, the construction of which could cause significant environmental effects; or,
- A determination by the wastewater treatment provider, which serves or may serve the project, that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

METHODOLOGY

Evaluation of potential impacts on wastewater facilities and services was based on consultation with Sacramento County Regional Sanitation District and County Sanitation District 1. Additionally, Master and Expansion Plan documents for CSD-1 were also reviewed.

PREVIOUS ENVIRONMENTAL REVIEW IN THE SDCP/SRSP EIR

The following are the significant wastewater related impacts and mitigation measures identified in the SDCP/SRSP Final EIR (SDCP/SRSP FEIR, p. 8.6 – 8.9) that are applicable to the proposed project.

"Impact *Ability to provide sewer service.*

Mitigation Measures:

None required.

Impact *Consistency with General Plan and sewer facility plans.*

SE-1 *Prior to submission of improvement plans for any development proposal within the Plan area, provide a detailed sewer design report which addresses all necessary on-site and off-site facilities to the County Water Quality Control Division for review and approval.*

Impact *Potential impacts to habitat.*

SE-3 *Implementation of off-site sewer facility improvements shall not occur until the following items have been submitted to the Sacramento County Board of Supervisors for review and approval:*

- *A wetland delineation for the improvement area verified by the US Army Corps of Engineers.*
- *A detailed mitigation plan for wetlands to be impacted by the proposed improvements which specifically describes the measures which will be implemented to achieve no net loss in wetland habitat acreage and values.*
- *Determinate surveys of the improvement area for potentially occurring special-status species.*
- *A detailed mitigation plan developed in cooperation with the regulatory resource agencies (US Army Corps of Engineers, US Fish and Wildlife Service, California Department of Fish and Game) which is designed to reduce impacts of the proposed improvements on any special-status species identified in the determinate surveys to a less than significant level.*

SE-4 *Implementation of off-site sewer facility improvements shall not occur until all necessary permits and/or agreements for the proposed improvements have been obtained from the US Army Corps of Engineers, US Fish and Wildlife Service, and California Department of Fish and Game."*

The following evaluation focuses on the project-specific wastewater service related impacts.

IMPACTS AND MITIGATION MEASURES

Wastewater Conveyance and Treatment

Impact 4.12.4.1 The project would increase wastewater flows and require additional infrastructure and treatment capacity to accommodate anticipated demands. This impact is considered **less than significant**.

New wastewater conveyance infrastructure required to serve this project includes collectors, trunks and interceptor sewer lines and appurtenances. Wastewater improvements are required on and off the project site. In the interim, the project wastewater flows will be directed to a new lift station and then through the force main and to the Bradshaw Interceptor. The interim force main will be located at Sunrise Boulevard from Chrysanthy Boulevard to Kiefer Boulevard. It then travels along Kiefer Boulevard with a mid section traversing Mather Road. The serving interim lift station will be located on the south side Chrysanthy Boulevard approximately 1,000 feet east of Sunrise Boulevard. The AJ-1 Interceptor, which is anticipated to be used for ultimate conditions in the southern portion of the SDCP, will be located at Chrysanthy Boulevard until it reduces to trunk size and continues along Chrysanthy. Other trunks and collectors will be located within the project boundaries and are anticipated to be located within public right-of-ways. The environmental impacts of additional infrastructure and capacity were reviewed as part of the SDCP/SRSP Master EIR as well as within the Anatolia Subdivisions and Development Agreement

Mitigated Negative Declaration (MND). The sewer force main portion of the above improvements is further analyzed in the Anatolia III Major Roads, Sewer Force Main, and Water Transmission Main MND. CEQA review of environmental impacts of the AJ-1 Interceptor is covered in part by the Anatolia III Major Roads, Sewer Force Main, and Water Transmission Main MND. Off-site sewer improvements associated with the proposed project and the remaining portions of this interceptor were analyzed in general for environmental impacts in the SDCP/SRSP Final EIR and in the CSD-1 Sewerage Facilities Master Plan EIR. The majority of environmental impacts due to the installation of additional wastewater facilities identified in the SDCP/SRSP Final EIR were found to be less than significant (pp. 8.6-8.7). Impacts to wetlands and habitat were found to be potentially significant, however mitigation incorporated in the Final EIR reduced those impacts to less than significant for those areas where habitat data was available (SDCP/SRSP Final EIR, p. 8.8).

CSD-1 has indicated that 2.76 million gallons per day (peak wet weather flow) will be generated by the proposed project (see **Table 4.12-4**). With current permitted capacity, CSD-1 foresees no problems serving the uses of the project (Morgan, 2005). SRCSD has also indicated that they will have adequate capacity to serve the proposed project, as long as the project follows established policies, ordinance, and fees (Morgan, 2005).

TABLE 4.12-4
WASTEWATER GENERATION BY LAND USE

Land Use	Acreage	Dwelling Units	Equivalent Single Family Dwellings	Peak Wet Weather Flow (mgd)
Single-Family Residential	329.2	1,950	2,496	1.73
Multi-Family Residential	17.5	350	263	0.18
Commercial	13.0	-	78	0.06
Elementary School	10.7	-	87	0.07
Parks, Open Space, Wetlands	158.9	-	953	0.72
TOTAL	529.3	2,300	3,877	2.76

Source: Morgan, April 2005.

The project developer will initially finance construction of trunk lines, collector lines, and appurtenances. Trunk facilities (including the lift station and force main) are fully reimbursable over a period of time when the developer enters into a Reimbursement Agreement with CSD-1. All interceptor expenses are fully funded by SRCSD. Impact and service fees are collected based on acreage and use to finance projects funded or reimbursed by CSD-1 and /or SRCSD. Therefore, this impact is considered less than significant and no mitigation is necessary.

Mitigation Measures

None required.

4.12.4.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for wastewater includes the SRCSD service area boundaries, which includes the CSD-1 and the SRWTP service areas. The development associated with the proposed project would result in population increases contributing to a cumulative impact on wastewater facilities. Development would result in an incremental cumulative demand for wastewater and related services and result in additional environmental impacts associated with the development of new facilities. This development would include further urbanization identified in the City of Rancho Cordova Interim General Plan. The construction of new wastewater facilities would provide additional capacity to accommodate current and future enrollment. The environmental impacts associated with the development of future wastewater facilities for the SDCP/SRSP area, which includes the proposed project area, were analyzed in the SDCP/SRSP Master EIR and will be evaluated further on a project-by-project basis for immediate and cumulative impacts as required by the CEQA.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Wastewater Impacts

Impact 4.12.4.2 Implementation of the project, in addition to reasonably foreseeable development within SRCSD service area, would result in an increase in wastewater flows and require additional infrastructure and treatment capacity. The project's contribution could be **cumulatively considerable**.

The Sacramento region is experiencing high growth, resulting in a substantial cumulative demand for wastewater facilities and related services. Development proposed under the SDCP/SRSP, City of Rancho Cordova Interim General Plan and development projects planned in SRCSD's service area would result in cumulative demands for wastewater service. The capacity of the SRWTP and construction of wastewater SRCSD interceptors are determined by regional population estimates performed by SACOG and not dependent on land use designations and residential densities. Individual trunk systems are determined by land uses in a specific geographical area and are dependent on the phasing of development in a particular area. The environmental effects of currently anticipated wastewater facility improvements have been evaluated in the in the EIRs for the Sacramento Regional Wastewater Treatment Plant 2020 Master Plan Project and planned expansion of CSD-1 regional wastewater facilities. However, future growth may require modification and expansion of currently planned wastewater facility improvements. The physical effects of constructing new trunk systems will be analyzed by the SRCSD or evaluated as part of development projects on a project-by-project basis.

All new development would be required to pay connection fees and construct necessary wastewater improvements.

Mitigation Measures

MM 4.12.4.2 Prior to the approval of each final map, written commitment from County Sanitation District 1 shall be provided that sufficient wastewater conveyance and treatment capacity is available to serve the specific amount of development to be mapped. This written commitment shall include identification of any necessary improvements to convey project wastewater.

In addition, all required financing associated with wastewater facilities shall be in place.

Timing / Implementation: *Prior to approval of each final map.*

Enforcement / Monitoring: *City of Rancho Cordova Planning Department and County Sanitation District 1.*

Implementation of the above mitigation measure would ensure that development would not proceed until wastewater service is ensured and would fully mitigate the project's contribution to **less than cumulatively considerable**.

4.12.5 WATER SERVICE

EXISTING SETTING

The reader is referred to Section 4.7 (Hydrology and Water Quality) regarding a detailed description of water supply sources and hydrologic conditions.

The Sacramento County Water Agency (SCWA) has the responsibility of providing water supply service through benefit zones located between the American and Cosumnes Rivers. SCWA is a separate legal entity from the County of Sacramento. However, the Agency Board consists of the five members of the Sacramento County Board of Supervisors. The Water Agency Act authorizes the creation of benefit zones for the purpose of instituting projects for the benefit of the geographic area encompassed by these zones. Over the ensuing years zones have been formed to provide funding for drainage and water supply planning (Zone 13), drainage facilities (Zones 11A, 11B, 11C), water facilities (Zones 40 and 50) and water supply operation and maintenance (Zone 41). Funding derived from a zone can only be used to benefit that zone.

Zone 40 provides for the construction of major water supply facilities in the urban and urbanizing areas of the Cities of Elk Grove and Rancho Cordova and in the Florin and Vineyard communities in the unincorporated area of the county. Revenues are generated by fees collected at the time of development and by utility charges. These fees are used for the planning and construction of major capital facilities to support new growth within Zone 40's boundaries. The water supply produced by these facilities is conveyed and wholesaled to retail purveyors and ultimately to customers.

Retail water purveyors in the vicinity of the proposed project include Zone 41 and the California American Water Company (Cal-Am). Zone 41 includes the Mather/Sunrise system. The Mather portion of the system comprises the original "main base" area of Mather Field which is predominantly commercial development and a small pocket of residential development located south of the runway. The Sunrise portion of the system is predominantly commercial and industrial. The Zone 41 service area that lies within Zone 40, in accordance with the 1993 Sacramento County General Plan, has approved Specific Plans and tentative maps that require the provision of supplemental water supplies (i.e., surface water) and in some cases replace facilities that have been shutdown due to groundwater contamination. The financing of facility improvements for new growth is provided through Zone 40. The Cal-Am Security Park water system was originally constructed to serve the McDonnel Douglas Corporation's operations at their Rancho Cordova Test Site. This system now serves the small industrial complex of Security Park located on what is now called the Inactive Rancho Cordova Test Site (IRCTS). Some of the wells within this system have been impacted by groundwater contamination that underlies the

IRCTS. It is anticipated that Zone 40 will wholesale water to Cal-Am to meet the future demands of the Security Park system and new customers within the Cal-Am service area.

In order to achieve the objectives of the Zone 40 Water Supply Master Plan (WSMP), which details SCWA's conjunctive use water management program, SCWA has undertaken the preparation of a WSIP that provides details on water supplies and capital facilities necessary to meet present and future customers water supply needs within its service area. The WSIP does not identify smaller distribution facilities, which are evaluated and documented in water studies, developed for individual projects.

WATER SYSTEMS

As previously indicated, the existing water systems in the vicinity of the proposed project include Zone 41, American States, and Cal-Am's Security Park system. American States and Cal-Am's water systems are not owned or operated by SCWA. The Mather/Sunrise portion of the Zone 41 system comprises the original Mather "main base" (predominantly commercial development), the "housing" area (a small pocket of residential development south of the Mather Field runway), and commercial and industrial development along Sunrise Boulevard.

The existing Zone 41 system is characterized by small transmission and distribution mains, with pipelines ranging from 12- to 16-inches in diameter and are sized to serve only existing demands. The primary source of supply for this system comes from the well field and treatment plant located in the Mather housing area. The existing system has been refurbished by SCWA; however, due to the loss of a number of wells, as a result of groundwater contamination, current service capacity is limited to the housing and main base areas of Mather Field and a portion of the Sunrise system. The total capacity of the existing Zone 41 system is approximately 6,000 gallons per minute (gpm). Additional supply comes from an intertie with American States' Arden Cordova water system. This intertie is located at the north end of Zone 41 near Sunrise Boulevard. The existing Mather/Sunrise system has a total of 2.1 million gallons of storage in four above ground storage tanks. The American States intertie initially started out as an emergency backup connection for both Zone 41 and American States. With the loss of all Sunrise wells to groundwater contamination, the American States intertie has become a critical source of water to the Mather/Sunrise water system until new supplies are developed. The total capacity of this intertie is 1,000 gpm. SCWA has indicated that as new supplies come on line from either groundwater, surface water, or recycled water facilities the intertie between these two systems will eventually revert to an emergency connection. In the event American States loses additional capacity due to groundwater contamination, SCWA has committed to replace a portion of this capacity through an agreement with American States (Water Supply Delivery Agreement With American States Water Company, November 2004).

Cal-Am's Security Park water system was originally constructed to serve McDonnel Douglas Corporation's operations. This system now serves the small industrial complex of Security Park located on the IRCTS. Some of the wells within this system have been impacted by groundwater contamination that underlies the IRCTS. It is anticipated that Zone 40 will wholesale water to Cal-Am to meet the future demands of Security Park and new customers within the Cal-Am service area. The proposed project is not within Cal-Am's franchise service area and will not be served by Cal-Am or its facilities.

NORTH VINEYARD WELL FIELD/EXCELSIOR ROAD WELL FIELD

Capacity from this well field was brought on-line this year (2005) to serve the Sunridge Specific Plan area. The Sunrise Douglas Community Plan/SunRidge Specific Plan Final Environmental

Impact Report (SDCP/SRSP EIR) and a site-specific environmental document for the ERWF provides for the extraction of up to 10,000 Acre-Feet-Year (AF/yr) of groundwater provided the persistent decline in groundwater levels in and around the well field does not exceed ten (10) feet (SDCP/SRSP EIR Mitigation Measure WS-2). The ERWF will ultimately consist of up to eight (8) wells located in the vicinity of Excelsior and Florin Roads and a 30-inch pipeline to convey raw groundwater to the Anatolia Water Treatment Plant (Anatolia WTP) located on Sunrise Boulevard. The Anatolia WTP is located within the SRSP which is adjacent to the western boundary of the proposed project site. The total anticipated maximum day capacity of the well field is approximately 8,000 gpm. The first phase consists of three (3) wells with a capacity of 4,500 gpm (one of these wells is considered a back-up and not part of the treatment plant's capacity). Additional capacity and wells will be added as needed. Any capacity beyond the 8,000 gpm needed for the SRSP area is reserved as a replacement supply by SCWA in the event any well within the Mather/Sunrise service area is shut down due to contamination.

SPECIAL CONDITIONS

As a condition of approval of the SRSP, an agreement was required between SCWA and developers (currently limited to the SRSP area) for monetary participation in a Well Protection Program (Program) to protect of private well owners against the loss of their well as a result of pumping from the well field. Because development within the SRSP area is funding the Program, capacity from the well field is assigned to developers that are participating in the Program. The Program is administered by SCWA and requires that private wells be registered prior to the start of pumping from the well field to establish baseline conditions for the potentially affected wells. The assignment of water from the well field is done by SCWA's Board of Directors at the tentative map stage and through conditions requiring participation in the Program.

Other conditions require that needed wells, treatment, and pressure zone facilities be constructed prior to building permits being issued, and that land for capital facilities (e.g., tanks, pumps, treatment, etc.) be acquired and the appropriate environmental documentation is complete prior to the approval of tentative maps.

DELIVERY SYSTEM

Groundwater supply from the ERWF is delivered to the Anatolia WTP, which is located within the Anatolia II development which is adjacent to the proposed project site along the western boundary. Raw groundwater delivery to the WTP is made via a seven-mile long 30-inch diameter pipeline constructed from the well field to the Anatolia WTP. At Sunrise Boulevard the 30-inch pipeline goes due north to the WTP and is stubbed out to go east at Sunrise Boulevard with a 24-inch pipeline for possible future connection to the proposed Suncreek WTP. **Table 4.12-5** illustrates the distribution and transmission facilities associated with the well field and the NSA and the quantities and associate sizes of these facilities.

Raw groundwater is treated at the Anatolia WTP and stored in the two on-site 2.0 MG storage tanks (T-A001 in **Table 4.12-5**). Treated water is pumped via a 16-inch T-main to provide service to the southern portions of the Anatolia development and to a 36-inch T-main that extends north providing service to the balance of the SRSP area and connecting to the Mather/Sunrise portion of the system. Pressure reducing valves assist in interim and long-term operation of the distribution system under changing demand and supply conditions.

TABLE 4.12-5
REQUIRED FACILITIES (2005 SCENARIO) IN THE NSA

Facility	Quantity (Units)
16-inch Pipeline	5,000 (feet)
24-inch Pipeline	21,810 (feet)
30-inch Pipeline	36,500 (feet)
36-inch Pipeline	10,010 (feet)
42-inch Pipeline	13,420 (feet)
Pressure Reducing Valves	3 (each)
ERWF wells	3,000 (GPM)1
Anatolia WTP	5.0 (MGD)2
Storage Tank (T-A001)	2 x 2.0 (MG)3

Source: SCWA, April 2004.
Notes: [1] *GPM = gallons per minute.*
[2] *MGD = million gallons day.*
[3] *MG = million gallons.*

As demands in the lower elevations of the SDCP area increase, they will be served by a smaller WTP located in the proposed Suncreek Specific Plan (SSP) area, which is adjacent to the proposed project to the south, east, and southwest, and by the Central Surface Water Treatment Plant. A pressure-reducing valve is located between the Anatolia distribution system and the connection with the Mather/Sunrise system. This valve may or may not be needed depending on future American States operations and purchases.

SUNRISE DOUGLAS 2 (SUNCREEK) GROUNDWATER TREATMENT PLANT

According to modeling conducted by Boeing, wells for this facility need to be located south of Kiefer Road where they will not be threatened by contaminant plumes to the north. Because the usable aquifer thickness in the area is relatively small, only a small two (2) to three (3) well groundwater treatment plant is planned for construction within the proposed SPS area. The anticipated maximum day capacity from this facility is 4,000 gpm. According to SCWA, there is also the possibility of routing raw water supplies from the ERWF to the Suncreek WTP during the interim period until the Central WTP is constructed and providing water to the NSA, which will be evaluated as the Suncreek development application proceeds. This facility is considered the long-term replacement supply for wells SCWA lost in the Mather/Sunrise portion of the system due to groundwater contamination.

ZONE 40 CENTRAL (SURFACE) WATER TREATMENT PLANT

SCWA and the East Bay Municipal Utility District as the Freeport Regional Water Authority (FRWA) are jointly constructing a diversion structure on the Sacramento River near the town of Freeport in conjunction with a raw water conveyance pipeline to bring additional surface water supplies into Zone 40. SCWA will also construct a surface water treatment facility with an ultimate capacity of 100 million-gallon-day (mgd) along with appurtenant water conveyance pipelines. The anticipated maximum day capacity available to the NSA from this source is 31,675 gpm. **Table 4.12-6** provides a summary of water demands for the NSA.

TABLE 4.12-6
ANTICIPATED MAXIMUM DAY WATER DEMANDS IN THE NSA

Demand areas	Maximum day demand (gpm)
Cal-Am Replacement Supply	2,500
American States Replacement Supply	3,400
Rio Del Oro (Cal-Am)	4,857
Rio Del Oro (Zone 41)	6,045
Anatolia	2,926
Montelena (includes DJ Enterprises)	849
The Preserve1	1,665
Sunridge Park	873
Suncreek2	4,471
East Side Properties3	2,232
North Douglas I and II	520
Sunrise Douglas Community Plan	5,357
Lot J4	321
Mather New Growth	6,667
American States (shut-off in future)	1,000
Total	**43,683**

Notes: [1] *Sunridge Park*
[2] *Sunrise Douglas 2*
[3] *Douglas 104, Galaxidas Property, Grantline 208, and Pappas Property.*
[4] *Cresleigh Homes*

Table 4.12.5-2 sums the proposed Suncreek villages, splits the Rio Del Oro demands into Cal-Am and Zone 41 retail service areas, and includes replacement supplies for adjacent purveyors that may require water from Zone 40. As indicated, approximately 44,000 gpm in new demands are projected to occur within the NSA over the next 30 years. The reader is referred to Section 4.7 Hydrology and Water Quality of this DEIR for a detailed discussion of the existing and future water supplies sources for the proposed project.

4.12.5.2 REGULATORY FRAMEWORK

STATE

California Water Code Section 10910-10915 (SB 610)

Public Resources Code (PRC) Section 21151.9, requires that any EIR, negative declaration, or mitigated negative declaration for a qualifying project include consultation with affected water supply agencies. Water Code section 10910 describes the water supply assessment that must be undertaken for projects referred to under PRC Section 21151.9, including an analysis of groundwater supplies. Water agencies are given 90 days from the start of consultation in which to provide a water supply assessment to the CEQA lead agency; Water Code Section 10910 also specifies the circumstances under which a project for which a water supply assessment was once prepared would be required to obtain another assessment.

California Government Code Section 66773.7 (SB 221)

Government Code Section 66455.3 requires that the local water agency be sent a copy of any proposed residential subdivision of more than 500 dwelling units within 5 days of the subdivision application being accepted as complete for processing by the city or county. Government Code Section 66473.7 provides detailed requirements for establishing whether a "sufficient water supply" exists to support any proposed residential subdivisions of more than 500 dwellings, including any such subdivision involving a development agreement. When approving a qualifying subdivision tentative map, the city or county must include a condition requiring a sufficient water supply be available. Proof of availability must be requested from and provided by the applicable public water system. If there is no public water system, the city or county must undertake the analysis described in Section 66473.7. The analysis must include consideration of effects on other users of water and groundwater.

California Water Code Section 10610-10645 (Urban Water Management Plan)

Water Code Section 10617 requires that every urban water supplier that provides water to more than 3,000 customers or supplies more that 3,000 AF/yr prepare and adopt an Urban Water Management Plan (UWMP). The UWMP shall describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. Additionally, the UWMP identifies and quantifies, to the extent practicable, the existing and planned sources of water available to the supplier and the reliability of the water supply and vulnerability to seasonal or climatic shortages. SCWA is responsible for developing the UWMP for Zone 41.

LOCAL

Water Forum Agreement

The Water Forum is a diverse group of business and agricultural leaders, citizens groups, environmentalist, water managers and local governments in the Sacramento region. The Water Forum was developed to address water related issues facing the Sacramento region, which include water shortages, environmental degradation, groundwater contamination and reliability, and economic prosperity. The Water Forum resulted in the establishment of principles to guide regional development and the development of the Water Forum Agreement (WFA). The comprehensive WFA allows the region to meet its needs in a balanced way through implementation of seven elements. The elements include detailed understandings among stakeholders on how this region will deal with key issues, which include groundwater management practices, water diversions, dry year water usage, water conservation measures, and the protection of the Lower American River. The understandings were included in the Memorandum of Understanding for the Water Forum Agreement, which created the overall political and moral commitment to the WFA. The WFA established the following two main coequal objectives: "Provide a reliable and safe water supply for the region's economic health and planned development to the year 2030" and "Preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River."

The Sacramento Metropolitan Water Authority Groundwater Committee and the Sacramento Water Forum Groundwater Negotiation Team developed the Groundwater Management Element of the WFA jointly. The purpose of the groundwater management element is to protect the viability of groundwater resources for current and future uses. Through the creation of a publicly accountable governance structure, with respect to all groundwater users, the element requires the monitoring of total water withdrawn from the groundwater basin and the promotion

of groundwater use in conjunction with surface water supplies to maximize the availability of both. To achieve the objectives of the WFA, the Groundwater Management Element addresses both conjunctive use and sustainable yield.

Conjunctive use is the planned management and use of both groundwater and surface water in order to improve the overall reliability of the region's total water supply. For instance, in wet years when ample supplies of surface water are available, groundwater pumping may be reduced or ceased, with only surface water used, which would result in the groundwater basin being replenished in wetter years. In dryer years when surface water is in shorter supply, the water that accumulated during wetter years would be pumped for use, with surface water diversions being reduced or eliminated entirely. It should be noted that additional surface water diversions are required to implement the conjunctive use program. Conjunctive use is also expressed in acre-feet per year (Af/yr), and according to WSMP estimates, an estimated long-term average of 68,637 Af/yr of surface water is needed to sustain SCWA's conjunctive use program.

As defined above, sustainable yield is the amount of groundwater that can be safely pumped from the groundwater basin over a long period of time while maintaining acceptable groundwater elevations and avoiding undesirable effects. Sustainable yield requires a balance between pumping and basin recharge and is expressed as the number of acre-feet of water per year, which can be pumped from the basin on a long-term average basis.

The Baseline Report (existing conditions) used for the WFA provided a basis for the definition of a sustainable yield for each of the three Sacramento County groundwater basins. The WFA defined three groundwater basins underlying Sacramento County (North Area, Central Area, and the South Area) on the hydraulic boundaries resulting from each of the river sources.

The agreed upon long-term average annual limit (sustainable yield) for each of the three geographic sub-areas of the groundwater basin within Sacramento County are 131,000 acre-feet (AF) for the North Area (north of the American River), 273,000 AF for the Central Area (between the American and Cosumnes rivers) and 115,000 AF for the South (Galt) Area (south of the Cosumnes River). Any proposed water supply project must satisfy the groundwater conditions specified in the WFA for the 2030-projected level of development.

Water Forum Successor Effort

The WFA was signed by forty stakeholder organizations and agencies in April of 2000 and provided the establishment of the Water Forum Successor Effort (WFSE), which is responsible for overseeing, monitoring and reporting on the implementation of the WFA. The WFSE is composed of representatives of the stakeholder organizations that are WFA signatories. The WFSE continues the interest-based collaborative process that was used in developing the WFA. The WFSE has no independent governing or regulatory authority. One of the objectives of the WFSE is to continue a public process designed to provide all community interests the opportunity to participate in developing a groundwater management program which takes into account local needs and circumstances. This process is called the Central Sacramento County Groundwater Forum (Groundwater Forum). The objectives of the Groundwater Forum are as follows:

- Identify and convene stakeholders representing all segments of the community that have an interest in developing a groundwater management plan.

- Conduct an educational effort among the stakeholders to establish a common understanding of the groundwater basin conditions.

- Negotiate a groundwater management program, including identification of basin management objectives and some form of governance, if appropriate.

As stated above, the WFSE is not a decision-making body and it holds no governing or regulatory authority. The recommendations of the Groundwater Forum are presented to the WFSE for review and approval and forwarded to the relevant agencies for implementation.

Sacramento County Water Agency and Zone 40 Water Supply Master Plan

The Zone 40 Water Supply Master Plan (WSMP) provides a flexible plan of water management alternatives, which can be implemented and revised as availability and feasibility of water supply sources change in the future. The current WSMP reflects changes from the 1987 Master Plan in the pattern of water demand growth, treatment for water quality, expansion of the original service area, and in the availability of potential sources of surface water supplies.

Sacramento County General Plan

The existing Sacramento County General Plan was adopted in December of 1993. The County's General Plan is undergoing update. The update addresses plans for growth in the next planning cycle (2004-2025) as well as addressing new emerging planning issues. Topics addressed in the Update Project include, but are not limited to, holding capacity, infrastructure financing, policy analysis, smart growth planning, and mature communities. As noted in Section 4.1 (Land Use), the City is currently operating under its Interim General Plan rather than the Sacramento County General Plan for transportation policy direction in the City.

City of Rancho Cordova Interim General Plan

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to Appendix 4.0 for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

4.12.5.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following significance thresholds are based on Appendix G from the State CEQA Guidelines (2005) and apply to the proposed project's water supply system. A project is considered to have a significant water supply impact on the environment when it would:

1) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);

2) Result in the need for new systems or a substantial expansion or alteration to the local or regional water treatment or distribution facilities that would result in a physical impact to the environment;

3) Result in the need for new systems or a substantial expansion or alteration to the local or regional water supplies that would result in a physical impact to the environment;

4) Result in insufficient water supplies available to serve the project from existing entitlements and resources; or

5) Result in the need for new or expanded entitlements.

METHODOLOGY

This section is based on review of applicable General Plan policies and the review of previously prepared environmental documents for other projects in the SDCP area, including the following:

- The Zone 40 Water Supply Master Plan (SCWA, February 2005)
- The Environmental Impact Report (EIR) for the 2002 Zone 40 Water Supply Master Plan (EDAW, November 2003)
- The Water Systems Infrastructure Plan (WSIP) for the Sunrise Corridor/Mather/Sunrise Douglas Service Areas (MWH, April 2004).
- The Sacramento County Improvement Standards (Sacramento County, June 1999).

All these documents are available for public review at the City of Rancho Cordova Planning Department at 3121 Gold Canal Drive, Rancho Cordova, CA 95670.

The following impact analysis is focused on infrastructure issues associated with water supply delivery. The reader is also referred to the impact analysis under Section 4.7 (Hydrology and Water Quality) regarding the environmental effects of the project's anticipated water supply.

IMPACTS AND MITIGATION MEASURES

Water Service Impacts

Impact 4.12.5.1 Additional raw water treatment capacity, conveyance pipelines, and other water supply infrastructure are required to meet project's water demands. This is considered a **less than significant** impact.

As previously discussed, the Preserve at Sunridge is part of the larger SDCP area. The SDCP and SRSP were approved concurrently with the certification of the SDCP/SRSP FEIR on July 17, 2002. The water study evaluated in the certified EIR for both the SDCP and SRSP identified two sources of supply to meet estimated demands: (1) up to 10,000 AF/yr of annual average groundwater production from the NVWF; and (2) treated surface water from SCWA's proposed Central Surface Water Treatment Plant (CSWTP), which is expected to begin operation in 2011. According to the Water Supply Assessment (WSA) issued by SCWA (December 7, 2004) the Preserve at Sunridge project would result in a total water demand of approximately 1,319.0 AF/yr, which would be served in the near-term by groundwater delivered through SCWA Zone 40 facilities. The reader is referred to Section 4.7 (Hydrology and Water Quality) regarding environmental effects of the utilization of groundwater. In the short-term, the Preserve at Sunridge will use groundwater extracted from the NVWF and treated at the Anatolia Water Treatment Plant (SCWA, October 2005). In the long-term, the project would be supplied in accordance with SCWA's conjunctive use program, which is a sustainable water supply

program providing 100 percent reliable water supplies through 2030. SCWA would not require any new groundwater or surface water entitlements to serve the proposed project.

The Anatolia Water Treatment Plant was designed to meet the estimated buildout water demands of the SRSP area; with treatment capacity for approximately 7,300 AF/yr of groundwater delivered from the NVWF. Due to significant changes in designated land use in the SRSP area and certification of the SDCP/SRSP EIR, most notably in the amount of dedicated wetland area. As a result, the total water demand for the SRSP area has been reduced and, when fully completed, there will be sufficient capacity in the both the Anatolia treatment facility and in the NVWF to meet the estimated water demands for the Preserve at Sunridge project.

Existing infrastructure in the project's vicinity consists of the Mather housing wells, the American States intertie, 12-inch to 16-inch pipelines, and six above ground storage tanks, with a capacity of 6.1 million gallons. As indicated in **Table 4.12.5-1**, new transmission pipelines, pressure reducing valves, check valves, storage tanks, and increased water treatment capacity is required to provide water service to the NSA, including the proposed project. The WSIP was prepared as a steering document to achieve the objectives of the WSMP and to ensure reliable long-term water supplies and adequate infrastructure for its customers within this service area. The WSIP developed various scenarios (Existing Scenario, 2004-2005, 2006-2010, 2011-2015, and 2015 to build-out). These scenarios were developed because the NSA water system will operate in the near-term as a "stand alone" water system; however, the NSA will ultimately intertie with the rest of Zone 40 when the Central WTP is completed. The build-out scenario (2016-build-out) includes redundant pipelines necessary to maintain a maximum velocity of 5 feet/second under ultimate demand conditions. While these pipelines would not be necessary until after 2015, they may be built earlier depending on the pace of development (Mather/Sunrise WSIP, page 7-19). The proposed project would initially be served via a 30-inch transmission pipeline from the Suncreek WTP that interties with the 24-inch pipelines from the Anatolia developments. Ultimately, a 30-inch pipeline would traverse the project site and tie-in with the 24-inch pipelines proposed to serve the Eastern properties, North Douglas I and II, and portions of the proposed Suncreek Specific Plan area. Environmental review of the installation of these pipelines will be conducted on a project-by-project basis or within review conducted for related developments. Initial water supply to the project site will be established at the intersection of Chrysanthy Boulevard and Jaeger Road in the northwest corner of the project. Environmental review of this pipeline will be included in the Jaeger Major Road, Sanitary Sewer, Water Transmission Main, and Drainage MND currently being prepared by the City of Rancho Cordova.

The majority of the proposed pipelines and other related water service related infrastructure would be placed within City of Rancho Cordova or potentially Sacramento County right-of-way to lessen potential environmental impacts. The environmental effects on groundwater extraction from the NVWF were addressed in the certified SDCP/SRSP EIR. The potential environmental impacts associated with the Anatolia treatment facility were addressed in the EIR for the project, which was certified by the Sacramento County Board of Supervisors in December 2003. Additionally, the potential environmental effects associated with implementation of the WSIP were addressed in the certified 2002 Zone 40 WSMP FEIR. Given that the water demands and environmental impacts associated with the WSMP were considered in the Water Forum FEIR (State Clearinghouse Number 95082041), which constitutes a legally satisfactory analysis, all issues addressed therein, including water service related impacts; the proposed project's water service related impacts are considered less than significant.

Mitigation Measures

None required.

4.12.5.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for water service includes the basin-fill aquifer system underlying the Central Valley, which is the largest in the state and the main surface water resources in the vicinity of the Preserve at Sunridge project: the American River, the Cosumnes River, Morrison Creek, Laguna Creek, and Elder Creek watersheds. The cumulative setting also includes the service area of SCWA Zone 40, which is the water purveyor for the Preserve at Sunridge project and the anticipated development within Zone 40 service boundaries.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Water Service Impacts

Impact 4.12.5.2 The extension of existing water supply infrastructure and new water conveyance facilities would be required to adequately serve the proposed project. The project's contribution is considered to be **less than cumulatively considerable**.

Development of the Preserve at Sunridge would require additional water treatment and storage capacity and the extension of SCWA's existing water system including pipelines and other transmission and conveyance infrastructure. As previously discussed, most of the proposed water transmission pipeline facilities will be located within City or County public rights-of-ways. All system improvements are subject to SCWA approval. SCWA finances, in accordance with SCWA Ordinance No. 18 and Title 3 of the SCWA Code, new transmission lines, pump stations, wells, and other water service related infrastructure through development and user/service fees from new developments. The Preserve at Sunridge's water service related facilities would be phased into the project consistent with service and demand requirements. Initial water service will be provided by a water transmission main to be installed under Jaeger Road in the northwest corner of the project area. This pipeline will enter the project area at Chrysanthy. Environmental review of the installation of this pipeline will be included in the Jaeger Major Road, Sanitary Sewer, Water Transmission Main, and Drainage MND currently being prepared by the City of Rancho Cordova. In some cases, there may be a lag between facility approval and actual delivery; however, all necessary conveyance facilities would be constructed per agreement with the SCWA.

As previously discussed, the project would initially be supplied with extracted groundwater from the NVWF treated at the Anatolia Water Treatment Plant, and conveyed to the project site. The Anatolia treatment facility is an existing water system constructed to serve the SRSP area; therefore, the environmental effects associated with this facility were addressed in the SDCP/SRSP EIR. Given that the buildout water demands for the SDCP were considered in the WFA area are addressed in the Zone 40 WSMP less than cumulatively considerable water service impacts would result. Reader is referred to Section 4.7 Hydrology and Water Quality for a further discussion regarding cumulative water supply impacts.

Mitigation Measures

None required.

4.12.6 SOLID WASTE SERVICE

EXISTING CONDITIONS

Commercial, multi-family residential, and industrial waste is collected through open competition in Sacramento County. The Sacramento Waste Authority (SWA) provides waste management collection services for approximately 155,500 single-family and duplex homes and some multi-family homes in the unincorporated area of the County. SWA approves a list of haulers with whom businesses can contract for waste collection services. At present, the list maintained by the SWA includes 15 haulers. Each of these haulers must receive a permit from the SWA prior to operating. (Kobold, April 2005)

The largest commercial, multi-family and industrial haulers in unincorporated Sacramento County are BFI and Waste Management Inc. Both BFI and Waste Management Inc. take waste to their own transfer facilities and transport the remaining un-recyclable wastes to landfills outside the Sacramento area. BFI has contracted with the City of Rancho Cordova to provide solid waste, recyclable materials, and greenwaste services. BFI takes waste to their transfer facilities and transports the remaining un-recyclable wastes to Forward Landfill in Manteca, California. BFI completed its transfer facility in May 2000 and stopped hauling refuse to the Kiefer Road Landfill at that time. For areas that are outside of the city limits, solid waste is collected by the Sacramento County Department of Waste Management and Recycling and taken to their transfer facility and from there on to Lockwood, Nevada.

The Kiefer Landfill is the primary municipal solid waste disposal facility in Sacramento County. It is the only landfill facility in Sacramento County permitted to accept household waste from the public. Waste is accepted from the general public, businesses and private waste haulers. (Kobold, April 2005)

In 1998, an estimated 37.7 percent of the County's waste from unincorporated areas was diverted through various source reduction, recycling, and re-use efforts. In order to achieve 50 percent diversion, the Sacramento County Waste Management and Recycling Division (WMRD) has converted its existing recycling collection program to a co-mingled program and has completed the implementation of greenwaste collection for residents in the Regional Agency service area. The Regional Agency expects to achieve 50 percent diversion in the residential section upon full implementation of these two major collection programs. (Kobold, April 2005)

SWA Ordinance No. 2 and Resolution 96-01 mandate refuse haulers, as a condition of their refuse hauling permit, to divert 30 percent of the waste they currently collect from commercial and multi-family accounts in the unincorporated area, the City of Citrus Heights, and the City of Sacramento. The WMRD relies on private refuse haulers (commercial permittees) and local solid waste facilities to comply with this ordinance. WMRD staff estimates that compliance with this ordinance, combined with existing diversion by private recycling companies, would increase overall diversion rates in the commercial/multi-family and self-haul sectors (and for the Regional Agency) to 50 percent. (Kobold, April 2005)

Solid Waste Diversion

Licensed solid waste authorities hauled 292,000 tons of waste materials in 2000. Substantial progress in diverting this waste from landfills has been made. For example, in 1990 approximately 18.3 percent of the solid waste stream was diverted from landfills through various source reduction, recycling and re-use efforts. In 1998, the County of Sacramento achieved a 39 percent waste diversion. In 2002, approximately 90,000 tons of the 292,000 tons was diverted

from local landfills and the waste stream, which is an approximate 31 percent diversion. Specific information on the City of Rancho Cordova is unavailable at the present time.

Landfill Capacity

At present, the Kiefer Road Landfill, which comprises approximately 1,084 acres, is the only landfill within the jurisdiction of Sacramento County that is permitted to accept solid waste for disposal. The Kiefer Road Landfill is also the only public accessible landfill in the area. The maximum tons per day (tpd) allowed at the Kiefer Road Landfill is 10,815 tpd, with an average intake of 6,362 tpd. The landfill has a total capacity of 117 million cubic yards (58 million tons). The Kiefer Road Landfill is classified as a major landfill, which is defined as a facility that receives more than 50,000 tons of solid waste per year. Currently, the Kiefer Road landfill is operating below permitted capacity and will have capacity for the next 30 to 40 years based on current disposal rates.

BFI currently transports all non-recyclable solid waste from within the city limits of Rancho Cordova to Forward Landfill in Manteca, California. BFI is responsible for ensuring that capacity at Forward Landfill is adequate to serve their needs and may change landfills if this capacity becomes inadequate.

Service Standards

Solid waste is generated at an average per capita rate of six pounds per day. Under AB 939, the County Integrated Waste Management Plan will require recycling programs that are expected to result in a 50 percent diversion away from landfills. Refuse from City residences will be collected by an automated truck collection system, identical to that provided to other residential areas of the County. The automated trucks are capable of collecting refuse from approximately 2,500 to 3,000 households per week. Commercial and industrial accounts are required to obtain service from one of the private refuse collection companies that serve unincorporated areas of the County.

SOLID WASTE SOURCE REDUCTION PROGRAMS

Sacramento County

The County of Sacramento presently operates a solid waste management system (the "Solid Waste System") that is funded by solid waste revenues deposited in the County Refuse Enterprise Fund. The amount of solid waste disposed at the Solid Waste System has declined by almost 50 percent, due primarily to the delivery of waste generated in the City of Sacramento to transfer or disposal facilities other than the Solid Waste System. This loss of waste (and the corresponding loss of revenues associated with such waste) has placed significant financial stress on the Solid Waste System. The County is currently considering a number of additional ways to stabilize the long-term financial aspects of the Solid Waste System. In addition to the Solid Waste System the Department of Waste Management and Recycling implements various recycling programs including, but not limited to, Christmas Tree recycling, curbside recycling, and computer, television, and electronics recycling to reduce solid waste generation in the unincorporated portions of the County.

City of Rancho Cordova

In 1989, the California Legislature enacted AB 939, which requires every city and county within the State to prepare a Household Hazardous Waste Element (HHWE) and to provide for

management of household hazardous waste generated by the residents within its jurisdiction. The City is currently meeting with the County's Solid Waste Action Committee (SWAC) and is in the process of preparing its HHWE. Each component of the Element must undergo environmental review before being approved by the City Council. CWIMB granted an extension for such review.

4.12.6.2 REGULATORY FRAMEWORK FOR SOLID WASTE SERVICES

STATE

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (AB 939) requires every city and county in the State to prepare a Source Reduction and Recycling Element to its Solid Waste Management Plan that identifies how each jurisdiction will meet the mandatory State waste diversion goals of 25 percent by 1995 and 50 percent by 2000. The purpose of AB 939 is to "reduce, recycle, and re-use solid waste generated in the State to the maximum extent feasible."

The term "integrated waste management" refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. The Act has established a waste management hierarchy, as follows:

- Source Reduction;
- Recycling;
- Composting;
- Transformation; and
- Disposal.

LOCAL

City of Rancho Cordova Interim General Plan

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to Appendix 4.0 for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

4.12.6.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following standards are based on State CEQA Guidelines (2005) Appendix G. A significant impact to solid waste service would occur if implementation of the proposed project would result in the following:

- Production of quantities of solid waste that would exceed the capacity of the landfill(s) that will serve the project's solid waste disposal needs.

- Non-compliance with federal, state, and local statutes and regulations related to solid waste.

METHODOLOGY

Evaluation of potential impacts on solid waste facilities and services was based on consultation with staff from the Sacramento County Environmental Management Department, review of the Sacramento County General Plan, as well as review of other pertinent literature.

Previous Environmental Review in the SDCP/SRSP EIR

The SDCP/SRSP Final EIR identified a number of significant and potentially significant public service impacts. The following less than significant solid waste impact identified in the SDCP/SRSP Final EIR (SDCP/SRSP FEIR, p. 6.21) is applicable to the proposed project.

> *"Impact: Provision of solid waste service.*
>
> *Development of the Sunrise Douglas Plan area will generate the need for expanded solid waste collection and disposal services, which will be funded through the collection of user fees. Expansion of the Kiefer Landfill was recently approved, which will provide capacity to accommodate projected population growth through the year 2035. These planned solid waste facilities will therefore be sufficient to serve development of the Plan area. The project's impact on solid waste is considered less than significant."*

The following evaluation focuses on the project-specific potential solid waste impacts.

IMPACTS AND MITIGATION MEASURES

Solid Waste Service

Impact 4.12.6.1 The proposed project would increase solid waste generation and the demand for related services. This is considered a **less than significant** impact.

The land uses associated with the proposed project would include residential and commercial designations and would result in solid waste generation. It is estimated that the additional 6,080 dwelling units constructed during the project would add 16,600 residents to the area. Assuming that each person generates 1.47 tons of solid waste each year, the project would create an additional 24,402 tons of solid waste or an additional 66.8 tons per day (tpd). In addition, project construction would also generate solid waste that would require service. The Kiefer Landfill has a permitted capacity of 10,815 tons per day (tpd). Currently, the daily intake at the landfill is 6,362 tpd and is predicted to be 8,404 tpd by 2022. Although Kiefer Landfill has adequate capacity to accommodate waste disposed of by the public within the proposed project, the City may obtain service from landfill facilities outside of the County in the future. All residential and commercial waste is collected by BFI and moved to their transfer station where recyclables are separated out for processing (Quinn, 2005). The remaining waste is transported to Forward

Landfill in Manteca, California (Quinn, 2005). The physical effects of transporting additional waste out of the county to the Forward Landfill in Manteca, California by BFI, including additional trucks and trips, will increase incrementally with construction of the proposed project, but as any additional trips to handle solid waste generated by the proposed project would not make up a considerable percentage of the trips already undertaken by BFI in the area, this impact is less than significant. The Kiefer Landfill and BFI's facilities have sufficient disposal capacity to handle the estimated solid waste of the proposed project (SDCP/SRSP Final EIR, p. 6.21; Kobold, 2005). Project specific impacts to solid waste service were not analyzed in the SDCP/SRSP Final EIR, however as the impacts would be less than significant, no mitigation measures are required.

Mitigation Measures

None required.

4.12.6.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The proposed project lies within the Sunrise Douglas Community Plan area. Cumulative environmental impacts to solid waste service by development of this area were analyzed in the SDCP/SRSP Master EIR. BFI currently serves the cities of Elk Grove and Rancho Cordova and is therefore responsible for serving all new development in the vicinity of the project area. The cumulative setting also takes into account existing development in the City. Future development in Rancho Cordova and other portions of Sacramento County would cumulatively increase the demand for solid waste services. Reader is referred to Section 4.0for a list and locations of proposed and approved projects in the vicinity of the proposed project.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Solid Waste Service

Impact 4.12.6.2 The proposed project, in addition to proposed and approved projects in the region area, would generate solid waste that would require expanded collection and disposal services. The project's contribution would be **less than cumulatively considerable**.

Any residential, industrial or commercial development would contribute to cumulative solid waste generation and related impacts. The proposed project includes residential and commercial land uses that would occur in the Rancho Cordova area. New development under cumulative conditions may require new MRFs and recycling facilities to serve the additional demand. However, the proposed project by itself would not require a new MRF. It is only when considered cumulatively that a new MRF may be necessary. Using the per capita solid waste generation identified and assuming implementation of mandatory reduction and diversion programs, cumulative development under projected conditions in 2030 within the City's Planning Area would generate approximately 10,649 tons of solid waste per year. This figure is based on the approximate population in the year 2030 of 7,244 persons x 1.47 tons/person/yr = 10,649 tons/yr. All development projects are subject to mandatory source reduction and recycling programs. Additionally, the Kiefer Landfill, Forward Landfill, and the landfill in Lockwood, Nevada used by the Sacramento County Department of Waste Management have

adequate capacity to accommodate projected population growth in the County through the year 2035. These planned solid waste facilities will therefore be sufficient to serve development of the proposed project. Environmental review will be required for any new landfills or expansion of existing landfills. This project's impacts on solid waste service would not be cumulatively considerable.

Mitigation Measures

None required.

4.12.7 PARKS AND RECREATION

EXISTING CONDITIONS

The Cordova Recreation and Park District (CRPD) oversees the park and recreational facilities throughout the City of Rancho Cordova. The service area for the CRPD includes a portion of US-50 from Prairie City Road to Nimbus Dam; then following the American River to the Watt Avenue Bridge, Sacramento City Limits to Fruitridge Road, Fruitridge Road and its extension to Bradshaw Road; then south to Morrison Creek to the southerly boundary of the Rancho Arroyo Sports Center; then north to Jackson Highway following Jackson Highway east to Grant Line Road, and Grant Line Road and Prairie City Road on the east to US-50. The CRPD has the primary responsibility for providing recreation facilities and services within the City.

Existing Services

The CRPD owns and maintains 18 neighborhood parks, 6 community parks, 4 community swimming pools, the Cordova Community Center at Hagan Community Park on Chase Drive, the Cordova Senior Center on Routier Road, the Mather Sports Complex, the Cordova Public Shooting Center on Douglas Road, and the Cordova Golf Course on Jackson Road. **Table 4.12-7** includes the name, location, and short description of existing CRPD facilities.

TABLE 4.12-7
EXISTING CRPD FACILITIES AND SERVICES

Facility Name	Location	Description of Facilities
Ahlstrom Park	Zinfandel Drive & Cordova Lane, Rancho Cordova	7 acres with a little league ballfield, picnic tables
Dave Roberts Community Park	Benita Drive & Mapola Way, Rancho Cordova	13 acres with a lighted softball field, tennis courts, regulation soccer field, and play ground.
Countryside Park	Glenmoor Drive, Rancho Cordova	2 acres with picnic tables and tot lot.
Federspiel Park	Aramon Drive & Chassella Way, Rancho Cordova	4 acres with swimming pool, bantam soccer field, picnic tables, and play ground.
Gold River Park	Gold Country Boulevard & Poker Flat Drive, Gold River	6 acres with picnic tables, horse shoe pits, tot lot, and play ground, bantam soccer field
Gold Station Park	Gold Station road, Gold River	2.2 acres with picnic tables, playground, and bantam soccer field
Henley Park	Henley Drive, Rosemont	1/2 acre with picnic tables and tot lot.
Hagan Community Park	2197 Chase Drive, Rancho Cordova	75 acres with the Cordova Community Center, 3 swimming pools, 8 tennis courts, 8 group picnic areas, 3 baseball fields, 3 soccer fields, basketball court, petting zoo, play grounds, tot lots, fitness course, and scale model stream railroad. Also provides access to the American River Bike Trail and foot access to the American River.
Independence Park	Brittan Way & School Street,	11 acres with picnic tables, restrooms, and playground.

Facility Name	Location	Description of Facilities
	Mather	
Larchmont Community Park	Linda Rio Drive, Sacramento	14 acres with 2 tennis courts, 1 bantam soccer field, 1 regulation soccer field, group picnic area, and play ground.
Larchmont-Rossmoor Park	Ambassador Drive, Sacramento	3 acres with softball field, soccer field, picnic tables and play ground.
Lincoln Village Community Park	3480 Routier Road, Sacramento	17 acres with a lighted softball field, 4 tennis courts, swimming pool, basketball court, group picnic area and the Cordova Senior Center.
Manlove Park	Rose Parade Way & Spellbinder Court, Rosemont	3 acres with picnic tables and tot lot.
Primrose Park	Off Hedge Road & Jackson Highway, Rosemont	2.4 acres with picnic tables and tot lot with play structure.
Prospect Hill Park	Gold Flat Drive & Prospect Hill Drive, Rancho Cordova	7 acres with picnic tables, basketball court, bantam soccer field, and tot lot.
Riviera East Park	Mira Del Rio Drive, Sacramento	9 acres with 2 tennis courts, bantam soccer field, basketball court, group picnic area and tot lot.
Rosemont Community Park	Americana Way, Rosemont	17 acres with 4 tennis courts, 2 little league fields, softball field, playground, tot lot, and group picnic areas.
Rosemont North Park	Huntsman Drive & Premier Way, Rosemont	3 acres with picnic tables and play ground.
Rosswood Park	Roseport Way and Rose Brook Way, Rosemont	1 acre with picnic tables and tot lot.
Salmon Falls Park	Salmon Falls Drive, Sacramento	1/4 acre, no permanent facilities.
Sunriver Park	Klamath River Drive, Rancho Cordova	4 1/2 acres with picnic tables, ball field, basketball court, and tot lot.
Taylor Park	West La Loma Drive, Rancho Cordova	3 acres with a tot lot, play ground, and picnic tables.
Veterans Park	Mather Boulevard, Mather	6.4 acres with a play ground, tennis courts, basketball court, and a group picnic area.
White Rock Park	10488 White Rock Road, Rancho Cordova	12 acres with a swimming pool, 2 tennis courts, group picnic areas, play ground, and basketball courts.
Mather Sports Center	3755 Schriever Avenue, Mather	Aerobics, open gym, racquetball, weight rooms, and walking and jogging.
Cordova Senior Activity Center	3480 Routier Road, Sacramento	A full schedule of senior activities (i.e., watercolors, arts and crafts, yoga, and adult exercise.
Cordova Golf Course	9425 Jackson Road (1/2 mile west of Bradshaw Road	Pro shop, lighted driving range, practice putting green, electric carts, hand carts, golf club rentals, restaurant.
Cordova Shooting Center	11551 Douglas Road, near Sunrise Boulevard	Outdoor Shooting Range with covered shooting positions, Rental Firearms, services and classes available include; basic handgun class (Safety and shooting), state approved Hunter Safety Class, private shotgun lessons, and CCW Classes for the three-county area.

Source: Cordova Recreation and Park District – http://www.crpd.com/

Service Standards

California Government Code Section 66477, often referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees for park and recreation purposes. The required dedication and/or fees are based upon the residential density, parkland cost and other factors. Dedicated land and fees collected pursuant to the Quimby Act may only be used for the purpose of developing new or rehabilitating existing park or recreational facilities. The Quimby Act allows for local recreation and park districts to ask for a dedication of parkland up to 5 acres per 1,000 projected population, but the CRPD has indicated that they can agree to accept a reduction in parkland in exchange for land for future park sites and facilities to the District's approved specifications. The Rancho Cordova City Council has recently passed a resolution that establishes a standard of 7 acres per every 1,000 persons for new development within the City boundaries. New development in the areas outside the current city limits would be subject to the County's existing parkland standard.

Funding

New developments are required to provide either parkland dedication or in-lieu fees to the CRPD to construct new parks and related facilities. It is also common practice with new developments to form a special assessment district to fund the maintenance and operation costs of the new parks. The CRPD estimates such costs at approximately $7,500 per acre annually. The CRPD also has had a long-established policy of siting parks adjacent to schools and entering into joint-use agreements with the respective school district. The CRPD has just recently formed a Landscaping and Lighting Assessment District for the Independence at Mather subdivision, and a Community Facilities Finance District for the Villages of Zinfandel subdivision to offset maintenance and operation costs for parkland and open space facilities in these developments. The District will also form Community Facilities Finance District for Sunrise Douglas Community Plan area and Rio del Oro. The CRPD sponsored sports and education programs have grown and today provide a significant source of revenue for maintenance. Another recently approved revenue source is the Proposition 12 Park Bond, which will provide slightly over $1 million to upgrade CRPD facilities, and to replace aging equipment to comply with Consumer Products Safety Commission Guidelines and the Americans With Disabilities Act. (CRPD, March 2005)

4.12.7.2 REGULATORY FRAMEWORK

LOCAL

City of Rancho Cordova Interim General Plan

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to Appendix 4.0 for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

4.12.7.3 IMPACTS AND GENERAL PLAN POLICIES

STANDARDS OF SIGNIFICANCE

The following standards are based on State CEQA Guidelines (2005) Appendix G. A significant impact to recreational facilities would occur if implementation of the proposed project would result in the following:

- An increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

METHODOLOGY

This section was prepared and evaluated based on consultation with Cordova Recreation and Parks District staff and review of the District's Draft Master Plan.

PREVIOUS ENVIRONMENTAL REVIEW IN THE SDCP/SRSP EIR

The SDCP/SRSP Final EIR identified the provision of park and recreation services as an impact for the SunRidge Specific Plan area; however, it did not include a discussion or evaluation for the remainder of the SDCP area. Mitigation measure PS-7 in the SDCP/SRSP Final EIR (p. 6.18) applied only to the SRSP area and is not applicable to the proposed project.

The following evaluation focuses on the project-specific park and recreation related impacts.

IMPACTS AND MITIGATION MEASURES

Increased Demand for Park and Recreational Facilities

Impact 4.12.7.1 Implementation of the proposed project would increase the demand for additional parks and recreational facilities. This would be a **less than significant** impact.

The CRPD staffing and administrative needs will rise with the increase of population and additional park and recreational facilities associated with the proposed project. Currently, funding measures are in place for land dedications and basic park development (turf, landscaping, and walkways) for the majority of mini, neighborhood, and community parks. In order to meet the District's expansion goals, it will need to use sources of revenue including but not limited to development impact fees, Mello-Roos Community Facilities Districts (CFD), General Fund Reserves, grants and/or the expanded use of the District-wide Landscaping and Lighting District to fund capital expansion of parks and other recreational facilities. The proposed project will add nine new neighborhood parks and one large community park, totaling 22.3 acres. The environmental effects associated with the construction and operation of these on-site parks have been considered in the technical sections of this EIR.

Mitigation Measures

None required.

Inconsistency with General Plan Policy OSPT. 1.1

Impact 4.12.7.2 The layout of the proposed project does not meet the requirements of City of Rancho Cordova General Plan Policy OSPT.1.1. This would be a **potentially significant** impact.

Included in the Public Facilities element of the City of Rancho Cordova Draft General Plan is Policy OSPT.1.1, which states:

> *"The City shall implement the requirement that all new residential development dedicate land at a rate of seven (7) acres of land per 1,000 population or provides in-lieu payment for parkland sufficient to fund the acquisition of an amount of acceptable land equal to the dedication requirement. Required parkland dedication shall be calculated separate from any required open space."*

The proposed project includes 24.4 net acres of Community Park and 16.7 net acres of Neighborhood Parks, totaling 41.1 acres of parks. The project includes 2,703 dwelling units. Currently the average number of resident per household in the city is 2.68 persons, resulting in the addition approximately 7,244 new residents by the proposed project. This would require the

addition of 50.7 acres of new parks. The proposed project is not compliant with this policy and would require additional park acreage or the payment of an in-lieu fee. In order to ensure compliance with Policy OSPT.1.1, the city proposes the following mitigation measure in order to reduce impacts due to parks to a less than significant level.

Mitigation Measures

MM 4.12.7.2 The project applicant shall pay to the City an in-lieu payment or participate in other methods of improving park and recreational facilities for any shortage of park acreage not meeting the standards set forth in OSPT.1.1 of the Interim General Plan.

Timing / Implementation: *Prior to approval of improvement plans.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department/Cordova Recreation and Park District.*

Implementation of mitigation measure MM 4.12.7.2 would allow the project to meet the requirements of City Policy OSPT.1.1. This would reduce the impact of the project on parks to **less than significant**.

4.12.7.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for parks and recreation consists of the CRPD's service area boundaries. The potential future development of the City of Rancho Cordova would increase the demand for park and recreation facilities in the area. Reader is referred to Section 4.0 for a list and locations of proposed and approved projects in the vicinity of the proposed project. The cumulative setting also takes into account existing development in the City's Planning Area.

Cumulative Park and Recreation Demands

Impact 4.12.7.3 The proposed project and other reasonably foreseeable development would require additional park and recreation facilities in the City of Rancho Cordova. This would be a **less than cumulatively considerable** impact.

Implementation of proposed and approved projects would contribute to the cumulative demand for regional and local recreational facilities and services in the CRPD boundaries. Additionally, potential future development within Rancho Cordova would contribute to a cumulative demand for park and recreation facilities. The proposed project will provide 22.3 acres of parkland. Mitigation measure MM 4.12.7.2 would provide additional funding for the CRPD to fund future facilities within the City. Individual development projects would be subject to parkland standards per City and Quimby Act requirements. The Quimby Act Land Dedication Ordinance can be used to acquire most of the required parkland for future park locations. Community Active Use Parks would be acquired through developer dedications of land and District-wide facilities would be acquired through in-lieu fees, developer dedications or a combination of acceptable means. Additionally, the CRPD is actively working with the city and development community in order to site future parks and recreation facilities. The environmental impacts of new parks will be analyzed by the CRPD or evaluated as part of

development projects on a project-by-project basis. The proposed project's impacts on parks and recreational facilities would be less than cumulatively considerable.

Mitigation Measures

None required.

4.12.8 ELECTRICAL, NATURAL GAS, AND TELEPHONE SERVICES

EXISTING CONDITIONS

Electrical Services

The Sacramento Municipal Utilities District (SMUD) provides all electric service within the City's Planning Area boundaries. SMUD generates approximately 1,196.8 Megawatts (MW) of electricity and delivers it to an approximately 900 square mile area within Sacramento County. Approximately half of the electricity is generated by hydroelectric means. Approximately 40 percent of the electricity is generated through thermal means. The remaining electricity is generated by either wind or solar power. SMUD also has entered into long-term contracts with other various suppliers to provide an additional 1,186 MW of electricity. Throughout the year, SMUD buys and sells energy and capacity on a short-term basis to meet load requirements and reduce costs. SMUD is currently in the process of constructing the first phase of the Cosumnes Power Plant (CPP), which is part of SMUD's long range plans to meet the growing power needs of Sacramento County. The CPP is anticipated to be constructed in two phases and will provide the utility supplier with 1,000 megawatts.

Telephone Service

There are several purveyors (i.e., SBC, etc.) providing telephone service to the City's Planning Area. Telephone facilities in the General Plan Planning Area include both aerial and underground fiber and copper transmission lines, which are generally collocated underground with other utilities to reduce visual and aesthetic impacts and potential safety hazards. Telephone service infrastructure is planned for installation under the improvement of Jaeger Road. This service will originate from both Douglas Road in the north and from Kiefer Boulevard in the south and will be installed in underground trunks by the service provider. Environmental review of these lines was included in the Anatolia III Major Roads, Sewer Force Main, and Water Transmission Main MND as well as in the Douglas Jaeger Major Roads, Sanitary Sewer, Water Transmission Main, and Drainage MND currently being prepared by the City of Rancho Cordova.

Natural Gas

Pacific Gas and Electric Company (PG&E) provides natural gas to customers within the City limits and to unincorporated portions of Sacramento County. The existing facilities in the Planning Area consist of 4½-inch to 16-inch pipelines delivering service to all customers that are not served by private propane tanks. All construction and maintenance activities for natural gas facilities are the responsibility of PG&E. New natural gas pipelines are planned for installation under the planned improvements to Jaeger Road and Kiefer Boulevard. Gas service to the area will be located under the entire length of Jaeger Road and will originate from the Sunrise Boulevard in the south and Douglas Road in the north. Environmental review of these lines was included in the Anatolia III Major Roads, Sewer Force Main, and Water Transmission Main MND as

well as in the Douglas Jaeger Major Roads, Sanitary Sewer, Water Transmission Main, and Drainage MND currently being prepared by the City of Rancho Cordova.

Cable Service

Comcast and other purveyors provide cable television service in the City's Planning Area, including the project area. Cable supply infrastructure is co-located with telephone infrastructure and is installed concurrently. This infrastructure is installed underground within new development in order to reduce visual and aesthetic impacts and any potential safety hazards. Cable television service infrastructure will be installed under Jaeger Road and will be collocated with the telephone service infrastructure. See the Telephone Service section above for information on the locations of this infrastructure and previous and ongoing environmental review of the infrastructure installation.

4.12.8.2 REGULATORY FRAMEWORK

LOCAL

City of Rancho Cordova Interim General Plan

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to Appendix 4.0 for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

STATE

California Building Energy Efficiency Standards

Title 24, Part 6 of the California Code of Regulations, known as the Building Energy Efficiency Standards, were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. After adoption of the California Energy Security and Reliability Act of 2000 (AB 970), the California Energy Commission produced changes to the Building Energy Efficiency Standards. In November 2003 the California Energy Commission adopted these updated standards. The California Building Standards Commission adopted the 2005 changes in July 2003. These updated standards will take effect October 1, 2005.

4.12.8.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following standard is based on Appendix F and Appendix G from State CEQA Guidelines (2005). A utilities impact is considered significant if implementation of the project would result in any of the following:

1) The need for new systems or supplies, or a substantial expansion or alteration to existing systems that results in an adverse physical impact on the environment,

2) Inefficient and unnecessary consumption of energy during the project construction, operation, and/or maintenance, or,

3) Inefficient and unnecessary consumption of energy due to building or facility design within the project.

METHODOLOGY

Evaluation of potential impacts on electrical, natural gas and telephone services resulting from the proposed project is based on consultation with the service providers, review of California Energy Commission policies, State standards, and the Sacramento County General Plan.

Previous Environmental Review in the SDCP/SRSP EIR

The SDCP/SRSP Final EIR identified a number of significant and potentially significant public service impacts. The following are the significant electrical service impacts identified in the SDCP/SRSP Final EIR (SDCP/SRSP FEIR, p. 6.14) that are applicable to the proposed project:

"Impact *Provision of energy services.*

PS-1 *Future development project applicant(s) shall address and resolve project-related electrical facility issues through close coordination with SMUD in project planning and development. The applicant(s) shall grant all necessary right-of-way for installation of electrical facilities. Coordination with SMUD shall occur and any required agreements shall be established prior to issuance of necessary permits or approvals for the project.*

PS-2 *To promote the safe and reliable maintenance and operation of utility facilities, the California Public Utilities Commission (PUC) has mandated specific clearance requirements between utility facilities and surrounding objects or construction activities. To ensure compliance with these standards, future development project applicant(s) shall coordinate with PG&E early in the development of their plans. Any proposed development plans shall provide for unrestricted utility access and prevent encroachments that might impair the safe and reliable maintenance and operations of PG&E facilities.*

PS-3 *Residential design in all subdivisions shall adhere, to the greatest practical extent, to the SMUD Energy Efficiency/Load Management Measures for Residential New Construction (Plate PS-8)."*

The following are the significant telephone and cable television service impacts identified in the SDCP/SRSP Final EIR (SDCP/SRSP FEIR, p. 6.19) that are applicable to the proposed project:

"Impact *Provision of telephone and cable television services.*

PS-8 *Future development project applicants shall address and resolve issues related to the provision of telephone and cable television services within the Specific Plan area through close coordination with the applicable service provider during project planning and development."*

The following discussion evaluates the project-specific electrical, natural gas, and cable service related impacts.

IMPACTS AND MITIGATION MEASURES

Electrical Services

Impact 4.12.8.1 Implementation of the proposed project would increase demand for electrical services. This would be a **less than significant** impact.

The proposed project area is within the service area boundaries of the Sacramento Municipal Utility District (SMUD). SMUD is the sole provider for electricity within the district. Currently, SMUD generates approximately 1,197 megawatts (MW) per day and has long-term contracts with other electricity generators to provide 1,189 MW. According to the SMUD 2000 Annual Report, 87 MW can supply approximately 30,000 customers. A customer is considered a single electricity purchaser. Thus, the proposed project would add approximately 7,244 additional customers to SMUD's service area (excluding the proposed commercial and school uses).

According to SMUD's own calculations, the project will produce a need for as much as 13 MW of electricity, as well as require the installation of an underground 12kV system to provide power to residences and other uses within the project. In addition, SMUD predicts there will be a need for 69kV line routes and substations to route power to the underground system. One overhead 69kV would be installed within the existing transmission line corridor. This corridor currently contains a double circuit 230kV transmission line heading southwest through the project site. Towers previously installed for the 230kV line will also be used to carry the new 69kV line to supply the project. No new substations within the project area will be required (Angeja, 2005).

SMUD currently has approximately 2,386 MW of electricity for distribution per day. Additionally, the proposed project would require less than one percent of the total generating capacity of SMUD at full build out. It is expected that adequate power supplies would be available to serve the proposed project. Electrical distribution lines in the project area would need to be extended and improved to SMUD standards. SMUD has prepared a Mitigated Negative Declaration for the electrical facilities in the Sunrise Douglas Community Plan Area, which analyzes the physical effects of extending and expanding service to the area. The SDCP/SRSP FEIR provided further analysis of environmental impacts due to infrastructure installation for the project area. Impacts and mitigation identified under the SDCP/SRSP FEIR (see Previous Environmental Review, above) require that the applicant coordinate with SMUD to ensure that any impacts are minimized or eliminated. The project would not result in any physical effects to electrical service that were not previously analyzed.

Mitigation Measures

None required.

Natural Gas, Telephone, and Cable Television Infrastructure

Impact 4.12.8.2 Implementation of the proposed project would require the extension of natural gas, telephone, and cable infrastructure to serve the proposed project. This would be a **Less than significant** impact.

Natural Gas service, telephone service, and cable television service exist in adjoining properties and will be extended into the project area. As indicated in the SDCP/SRSP FIER (p. 6.19), service

cabinets and other infrastructure would be constructed and placed as needed in each development as directed by the individual service providers. Coordination between the service providers and the developer will preclude any adverse impacts associated with the provision of natural gas, telephone, and cable related services; therefore, this impact is considered less than significant. New natural gas supply lines are typically located within new road right-of-ways. Physical effects of the installation of new lines to serve the proposed project were analyzed in section 4.0 of this EIR.

Mitigation Measure

No mitigation is required. However, mitigation measures from the SDCP/SRSP EIR still apply to this project. The following mitigation measures are based on the previously adopted Mitigation Measure PS-2, and PS-8 from the SDCP/SRSP FEIR (SDCP/SRSP FEIR, pp. 6.14 and 6.19) and are applicable to the proposed project.

MM 4.12.8.2a To promote the safe and reliable maintenance and operation of utility facilities, the California Public Utilities Commission (PUC) has mandated specific clearance requirements between utility facilities and surrounding objects or construction activities. To ensure compliance with these standards, future development project applicant(s) shall coordinate with PG&E early in the development of their plans. Any proposed development plans shall provide for unrestricted utility access and prevent encroachments that might impair the safe and reliable maintenance and operations of PG&E facilities.

Timing / Implementation: *Prior to approval of improvement plans.*

Enforcement / Monitoring: *City of Rancho Cordova Planning Department and PG&E.*

MM 4.12.8.2b The project applicant shall address and resolve issues related to the provision of telephone and cable services through close coordination with the applicable service provider during project planning and development.

Timing / Implementation: *Prior to approval of improvement plans.*

Enforcement / Monitoring: *City of Rancho Cordova Planning Department and the City of Rancho Cordova Police Department.*

Implementation of Mitigation Measures MM 4.12.7.2a and MM 4.12.7.2b would ensure that the project's potential telephone and cable service impacts remain **less than significant**.

4.12.8.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for electrical energy includes the California energy market and possibly the Nevada energy market. As growth in the western United States continues, demands on the energy market could become cumulatively considerable for SMUD and the Rancho Cordova Planning Area. The California electrical industry was deregulated in March 1998. Since the summer of 2000, the State has been experiencing a shortage of electrical generation. This shortage has been caused by several factors including, but not limited to, substantial statewide

population and industry growth, complications associated with deregulation, increases in power and natural gas costs, decreases in power generation capacity of the Pacific Northwest (Oregon and Washington), and inadequate power generation capacity within the State. Sacramento County, along with surrounding counties such as San Joaquin, Amador, and El Dorado are all continuously being developed.

The cumulative setting for natural gas includes the northern and central portions of California from Eureka in the north to Bakersfield in the south. Currently PG&E serves 14 million customers in that area (PG&E, April 2005). Development within PG&E's service area continues and is planned well into the future.

Further development is planned in Rancho Cordova and includes development in the region surrounding the project. Reader is referred to Section 4.0for a list and locations of proposed and approved projects in the vicinity of the proposed project. The cumulative setting also takes into account existing development in the City's Planning Area.

CUMULATIVE IMPACTS

Cumulative Electrical, Telephone, and Cable Services

Impact 4.12.8.3 Implementation of the proposed project as well as potential development in the surrounding areas would result in cumulative utility service impacts. The project's contribution would be **less than cumulatively considerable**.

The proposed project is located in the jurisdiction of SMUD, an independent operator of power. SMUD is not a California investor-owned utility and is therefore not subject to deregulation. SMUD has arrangements with the California Power Exchange, Automated Power exchange, the California Independent System Operator, Western Systems Power Tool and Northern California Power Tool to purchase and sell short-term power based on current market conditions. Additionally, SMUD is in the process of constructing the Consumnes Power Plant, which is a 1,000-megawatt natural gas power plant at the Rancho Seco site. Every year the Business Planning and Budget Group at SMUD publishes a Load Forecast and Economic Outlook. This document analyzes estimated power usage over the next ten years and plans for electrical generation and purchase to cover this usage (Angeja, May 2005). In the latest such report, SMUD has indicated that it would have adequate supply and infrastructure to serve the electricity demands generated from the Rancho Cordova Interim General Plan under buildout conditions, which is estimated at approximately 150,540 kV.

PG&E has also indicated that it has adequate natural gas supply and would extend infrastructure, as needed, to serve the growth anticipated under cumulative conditions. Potential cumulative environmental effects of providing utility service to the Planning Area would be mitigated through implementation of MM 4.12.8.2.1. As indicated above, fee-based utilities and services, such as gas, electric, and telephone would provide for additional development through capital improvements based on service fees.

Cumulative environmental impacts due to construction of facilities and transmission infrastructure to serve the project as well as cumulative conditions were analyzed under the SDCP/SRSP EIR. Additionally, the expansion and construction of new utility infrastructure is subject to CEQA review and requirements. The physical effects of extending service and infrastructure to serve cumulative conditions will be analyzed on a project-by-project basis. This project's impacts on utility services would not be cumulatively considerable.

Mitigation Measures

None required.

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