

# 11.0 HYDROLOGY AND WATER QUALITY

This chapter evaluates the potential impacts of the proposed project on hydrology and water quality. It describes the existing hydrologic conditions in the project area; presents a summary of the federal, state, and local regulatory context; analyzes the impacts of the proposed project facilities on hydrology and water quality; and provides feasible mitigation measures needed to reduce those impacts.

## 11.1 ENVIRONMENTAL SETTING

### 11.1.1 REGIONAL HYDROLOGY

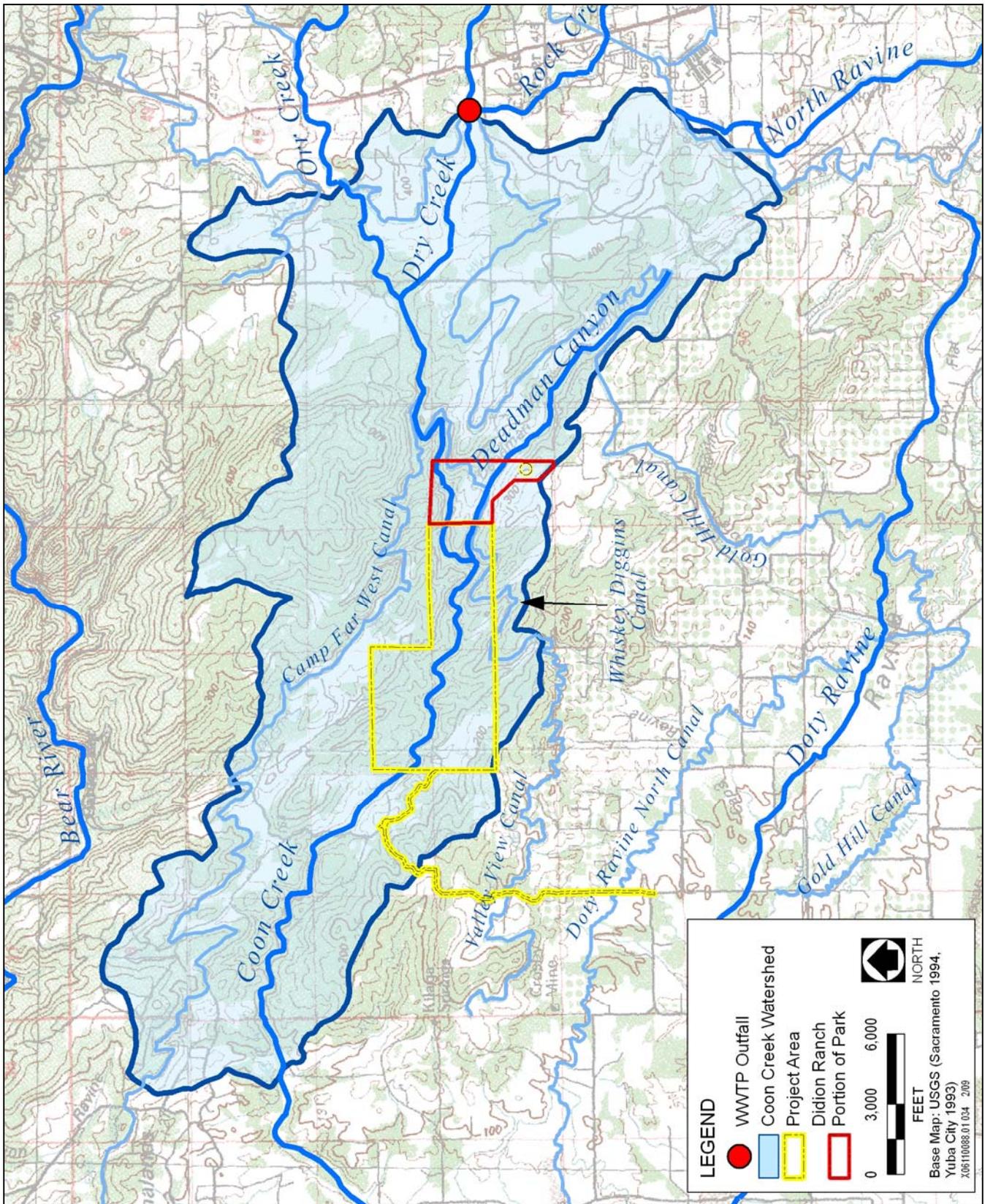
The project area is located within the south-central portion of the Sacramento River Hydrologic Region, as defined by the California Department of Water Resources (DWR). The Sacramento River Hydrologic Region covers approximately 17.4 million acres (27,200 square miles). The region includes all or large portions of Modoc, Siskiyou, Lassen, Shasta, Tehama, Glenn, Plumas, Butte, Colusa, Sutter, Yuba, Sierra, Nevada, Placer, Sacramento, El Dorado, Yolo, Solano, Lake, and Napa Counties. Small areas of Alpine and Amador Counties are also within the region. Geographically, the region extends south from the Modoc Plateau and Cascade Range, at the Oregon border, to the Sacramento–San Joaquin River Delta.

The Sacramento Valley, which forms the core of the region, is bounded to the east by the crest of the Sierra Nevada and southern Cascades and to the west by the crest of the Coast Range and Klamath Mountains. Other significant features include Mount Shasta and Lassen Peak in the southern Cascades; the Sutter Buttes in the south-central portion of the valley; and the Sacramento River and its major tributaries, the Pit, Feather, Yuba, Bear, and American Rivers (DWR 2003).

### 11.1.2 DESCRIPTION OF THE LOCAL WATERSHED

The project area is situated in the Coon Creek watershed. It includes a reach of Coon Creek that is in a steep canyon running east-west approximately 3 miles south of the Bear River. Coon Creek flows from the eastern portion of the Spears Ranch portion of the Park to the westernmost property boundary. Several intermittent tributaries flow into Coon Creek from both the north and the south, and one perennial tributary, Deadman Creek, intersects Coon Creek on the eastern end of the property. Adjacent land uses are rural residential home sites and agriculture, mostly in the form of cattle grazing and recreational uses on the Didion Ranch portion of the Park. Exhibit 11-1 shows the local watershed and hydrology in the project vicinity.

The Coon Creek watershed originates in the foothills northeast of the town of Auburn. The upper watershed (east of State Route 49) is composed mainly of two intermittent tributaries, Dry Creek and Orr Creek, which merge approximately 6 miles upstream of the project area to form Coon Creek. Downstream of this confluence, Coon Creek has continuous flow in the dry season and receives discharge of treated effluent into Rock Creek from the Placer County Department of Facility Services Wastewater Treatment Plant (WWTP) operated by Placer County Sewer Maintenance District 1 near State Route 49 (Waste Discharge Requirements [WDR] Order No. R5-2005-0074, NPDES No. CA0079502). Rock Creek is a tributary of Dry Creek (Bailey and Buell 2005) and the discharge results in approximately 1.65 million gallons per day (mgd) (2.56 cubic feet per second [cfs]) of daily inflow to Coon Creek. The WDR regulates the treatment of up to 2.18 mgd of design dry weather flow wastewater, and the discharge of the treated wastewater. In addition, 5 cfs of dilution water purchased from Nevada Irrigation District is added to the Rock Creek flow and proceeds into Coon Creek during the summer and fall months. Coon Creek then flows west through a rural residential area and into the project area. Exhibit 11-1 shows the existing WWTP outfall location.



Source: CalWaters 1999, Placer County 2006

### Watershed Hydrology Topo Map

### Exhibit 11-1

The WWTP currently provides tertiary treatment when influent flows are 3.5 mgd or less, and when flows are above 3.5 mgd a combination of secondary and tertiary treated wastewater is released as stipulated in the WDR. The WDR assumes that the worst-case dilution in Rock Creek and Dry Creek (which drains to Coon Creek) is zero in order to provide protection for the beneficial uses. This means that discharge limitations based on acute and chronic toxicity are end-of-pipe limits, with no dilution credit provided by the receiving water.

The adjacent land is used for grazing and minimal infrastructure has been developed in this area. Vegetation associated with this reach of Coon Creek consists of a combination of oak and riparian woodlands and some open wetland floodplain terraces. The stream channel is dominated by basalt and granite bedrock and large cobble. West (downstream) of the Spears Ranch portion of the Park, for approximately 5 miles, the channel and riparian corridor are heavily affected by cattle grazing, which can result in consumption of new vegetation, trampling of vegetation, compaction of soils, acceleration of bank erosion, and contribution of nutrients to streams via excretion. As a result, water quality within these downstream reaches of the stream deteriorates precipitously. The remainder of the stream channel (down to its confluence with the East Side Canal) is narrow and generally shallowly incised as it meanders through intensively farmed floodplains (Placer County 2002). The East Side Canal ultimately drains into the Natomas Cross Canal, which enters the Sacramento River just below the confluence with the Feather River.

Nutrients in the effluent from Placer County Sewer Maintenance District 1's WWTP contribute significantly to the nutrient load of Coon Creek and may cause accelerated growth of algae, as well as depressed nighttime concentrations of dissolved oxygen. Cattle grazing along lower Coon Creek downstream of the Park also contributes to the nutrient load and biological oxygen demand of the creek (Placer County 2002).

Approximately 1 mile east of the eastern border of the Spears Ranch portion of the Park, a diversion dam operated by the Nevada Irrigation District diverts water for irrigation from Coon Creek into Camp Far West Canal. Most of the water flows to the Bear River (approximately 2.5 miles north of the project area), just upstream of the confluence with the Feather River. A small portion flows into Camp Far West Reservoir approximately 4 miles northwest of the project area. The distance from Coon Creek to the Sacramento River is approximately 30 miles.

Deadman Creek, Whiskey Diggins Canal, and associated tributaries also transect the Spears Ranch portion of the Park. The Whiskey Diggins Canal passes through the southern portion of the Spears Ranch property and crosses Deadman Creek within the Didion Ranch portion of the Park. The canal was constructed in the 1850s by the Gold Hill and Bear River Water Company to divert water from Deadman Creek. The canal is now maintained and utilized by the Nevada Irrigation District, and flows to the canal are seasonal depending upon water diversion practices. The water is used for irrigation. A maintenance road parallels the canal on the downslope side. Deadman Creek flows into Coon Creek near the eastern boundary of the Spears Ranch portion of the Park.

### **11.1.3 GROUNDWATER**

The Sacramento River Hydrologic Region receives between 20% and 40% of its supply from groundwater. Groundwater quality in the region is generally considered to be excellent; however, there are small localized problems (DWR 2003). The project area does not lie within an area defined by DWR as a discrete groundwater basin. Local groundwater conditions consist of fractured rock substrate and recharge from Coon Creek, and regional groundwater levels are expected to be greater than 50 feet in depth. Groundwater supplies from fractured rock sources are highly variable in terms of water quantity, as well as water quality because of historic mining practices in the region. Current water development in the project vicinity is in the form of individual private wells that provide drinking water for residences and irrigation. Based on Placer County well reports in the area, wells range in depth from 250 to 900 feet. Where static water levels were noted, they ranged between 50 and 240 feet and well yields ranged from 1.3 to 7 gallons per minute (gpm). The nearest private well is approximately 0.2-mile from the facility development zone.

The existing groundwater well on-site is capable of producing 2.1 gallons per minute and was constructed to serve the existing ranch house within the Spears Ranch portion of the Park. A groundwater well is also located within the Didion Ranch portion of the Park that provides water for the drinking fountains, restroom, and irrigation within that portion of the Park. The water demand calculation prepared for the proposed project requires a minimum maximum day demand (MDD) of 4.7 gpm and a peak hour demand (PHD) of 7.1 gpm; that includes a 20% contingency for the entire project (Appendix F). The water demand calculation needs were based on wastewater usage and proposed project facilities, including existing facilities being supported by the existing well. The proposed facility needs include:

- ▶ one parking area of similar size to the Didion Ranch parking area,
- ▶ existing house to provide service for 60 overnight campers, five staff members and one commercial kitchen. No shower or laundry facilities,
- ▶ one maintenance yard,
- ▶ one caretaker residence.

## **11.2 REGULATORY SETTING**

### **11.2.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS**

#### **FEDERAL EMERGENCY MANAGEMENT AGENCY**

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA; the minimum level of flood protection for new development has been determined to be protection against the flood with a 1-in-100 chance of occurring in a given year (i.e., the 100-year flood event). The proposed project is not located within a FEMA 100-year flood zone; however, portions of the project area are within the 100-year floodplain of Coon Creek.

#### **FEDERAL CLEAN WATER ACT OF 1972**

The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) is the primary federal law that governs and authorizes water quality control activities by EPA and the states. Various elements of the CWA, discussed below, address water quality. Wetland protection elements administered by the U.S. Army Corps of Engineers under Section 404 of the CWA, including permits to dredge or fill wetlands, are discussed in Chapter 12.0, “Biological Resources.”

#### **WATER QUALITY CRITERIA AND STANDARDS**

Under federal law, EPA has published water quality regulations under Title 40 of the Code of Federal Regulations (40 CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: identified designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. In California, EPA has granted the State Water Resources Control Board (SWRCB) and its nine regional water quality control boards (RWQCBs) the authority to identify beneficial uses and adopt applicable water quality objectives.

## **NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT PROGRAM**

The National Pollutant Discharge Elimination System (NPDES) permit program was established to regulate municipal and industrial discharges to surface waters of the United States. The discharge of wastewater to surface waters is prohibited unless an NPDES permit issued by the applicable RWQCB allows that discharge. NPDES permit regulations have been established for broad categories of discharges—point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify allowable concentrations of effluent in receiving waters or limits on pollutant emissions contained in discharges, or both; prohibit discharges not specifically allowed under the permit; and describe required actions by the discharger, including industrial pretreatment, pollution prevention, and self-monitoring.

In November 1990, EPA published regulations establishing NPDES permit requirements for municipal and industrial stormwater discharges. Phase 1 of the permitting program applies to municipal discharges of stormwater in urban areas where the population exceeds 100,000 persons. Phase 1 also applies to stormwater discharges from a large variety of industrial activities, including general construction activities if the project would disturb more than 5 acres. Phase 2 of the NPDES stormwater permit regulations, which became effective in March 2003, require that NPDES permits be issued for construction activities for projects that disturb between 1 and 5 acres. The RWQCBs in California are responsible for implementing the NPDES permit system (see additional information under “NPDES Permit System and Waste Discharge Requirements” below).

### **SECTION 401 WATER QUALITY CERTIFICATION OR WAIVER**

Under Section 401 of the CWA, an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) must first obtain a certificate from the appropriate state agency stating that the fill is consistent with the state’s water quality standards and criteria. In California, the authority to either grant water quality certification or waive the requirement is delegated by the SWRCB to the nine RWQCBs.

### **SECTION 303(D) IMPAIRED WATERS LIST**

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives for specific pollutants after point-source dischargers (municipalities and industries) implement required levels of treatment. Coon Creek is not listed as a Section 303(d) impaired water body. The Central Valley Basin Plan states at page II-2.00 that the “...beneficial uses of any specifically identified water body generally apply to its tributary streams.” The beneficial uses of Coon Creek are not individually identified in the Basin Plan, but Coon Creek is a tributary to Natomas East Main Drainage Canal, which flows into the Sacramento River immediately north of the confluence with the American River. Existing beneficial uses for these receiving waters, and therefore Coon Creek, are municipal and domestic supply, agricultural irrigation, water contact recreation, canoeing and rafting recreation, other non-contact water recreation, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, cold fish migration habitat, warm and cold spawning habitat, wildlife habitat, and navigation. In addition, pursuant to SWRCB Resolution No. 88-63 described below, the beneficial uses of Coon Creek (and Rock and Dry Creeks) are municipal and domestic supply.

## **11.2.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

In California, the SWRCB has broad authority over water quality control issues for the state. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the state by the federal government under the CWA. Other state agencies with jurisdiction over water quality regulation in California include the California Department of Health Services (DHS) (for drinking-water regulations), the California Department of Pesticide Regulation, the California Department of Fish and Game, and the Office of Environmental Health Hazard Assessment.

Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The regional boards are required to formulate and adopt water quality control plans (Basin Plans) for all areas in the region and establish water quality objectives in the plans. The Central Valley RWQCB is responsible for the water bodies in the project vicinity.

### **PORTER-COLOGNE WATER QUALITY CONTROL ACT OF 1969**

Both surface and groundwater in the Spears Ranch portion of the Park could potentially be affected by implementation of the project. The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is California's statutory authority for the protection of water quality. Under the act, the state must adopt water quality policies, plans, and objectives that protect the state's waters for the use and enjoyment of the people. The act sets forth the obligations of the SWRCB and RWQCBs to adopt and periodically update Basin Plans. Basin Plans are the regional water quality control plans required by both the CWA and Porter-Cologne Act in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The act also requires waste dischargers to notify the RWQCBs of their activities through the filing of reports of waste discharge (RWDs) and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements (WDRs), NPDES permits, Section 401 water quality certifications, or other approvals. The RWQCBs also have authority to issue waivers to RWD/WDRs for broad categories of "low threat" discharge activities that have minimal potential for adverse water quality effects when implemented according to prescribed terms and conditions.

### **STATE WATER RESOURCES CONTROL BOARD RESOLUTION NO. 88-63**

Resolution No. 88-63, Sources of Drinking Water Policy, adopted on 19 May 1988, specifies that, except under specifically defined exceptions, all surface and ground waters of the state are to be protected as existing or potential sources of municipal and domestic supply, including those within the proposed Project. Because Coon Creek is not identified in Table II-1 of the Basin Plan, this resolution applies. The specific exceptions include waters with:

- ▶ existing high total dissolved solids concentrations (greater than 3000 mg/l),
- ▶ low sustainable yield (less than 200 gpd for a single well),
- ▶ contamination that cannot be treated for domestic use using best management practices or best economically achievable treatment practices,
- ▶ waters within particular municipal, industrial and agricultural wastewater conveyance and holding facilities, and
- ▶ regulated geothermal ground waters.

Where the SWRCB or RWQCBs determines that one of the exceptions applies for a particular waterbody, it may remove the municipal and domestic supply beneficial use designation through a formal Basin Plan amendment and a public hearing, followed by approval of the amendment by the SWRCB and the Office of Administrative Law.

### **NPDES PERMIT SYSTEM AND WASTE DISCHARGE REQUIREMENTS**

The SWRCB and Central Valley RWQCB have adopted specific NPDES permits or WDRs, or both, for a variety of activities that have the potential to discharge wastes to waters of the state or to land. Dischargers are required to eliminate or reduce nonstormwater discharges to storm sewer systems and other waters. The SWRCB's statewide stormwater permit for general construction activity (Order 99-08-DWQ, as amended) is applicable to all land-

disturbing construction activities that would disturb more than 1 acre, including the proposed project. Construction activities such as clearing, grading, stockpiling, and excavation are subject to the statewide general construction activity NPDES permit. The proposed project would expose more than 1 acre of area to stormwater runoff and thus would require an NPDES stormwater permit for general construction activity.

The NPDES permit requires that a notice of intent be filed with the RWQCB to discharge stormwater and that a storm water pollution prevention plan be prepared and implemented to control contaminated runoff from temporary construction activities. The plan provides specifications for erosion and sediment best management practices (BMPs), means of waste disposal, methods for implementing approved local plans, postconstruction sediment and erosion control BMPs and maintenance responsibilities, nonstormwater management BMPs, and requirements for inspecting the performance of BMPs.

NPDES permits require that design and operational BMPs be implemented to reduce the level of contaminant runoff during construction. The permit also requires dischargers to consider the use of permanent postconstruction BMPs that will remain in service to protect water quality throughout the life of the project. Types of BMPs include source controls, treatment controls, and site planning measures.

The NPDES regulations also require that appropriate hazardous materials management practices be implemented to reduce the possibility of chemical spills or release of contaminants, including any nonstormwater discharge to drainage channels.

In the event that water discharges occur in Coon Creek crossing areas during construction, construction dewatering activities that discharge to surface waters require NPDES authorization under the RWQCB's General Order for Dewatering and Other Low-Threat Discharges to Surface Waters (Order No. 5-00-175). This permit requires the applicant to submit a notice of intent before the activity verifying that the dewatering will occur in compliance with applicable water quality objectives. It contains terms and conditions for discharge prohibitions, specific effluent and receiving-water-quality limits, solids disposal activities, and water quality monitoring protocols. The permit authorizes direct discharges to surface waters of up to 250,000 gpd for no more than a 4-month period each year.

The Central Valley RWQCB may also issue site-specific WDRs, or waivers to WDRs, for certain waste discharges to land or waters of the state. In particular, RWQCB Resolution R5-2003-0008 identifies activities subject to waivers of RWDs or WDRs, or both, for a variety of activities, including minor dredging activities and construction dewatering activities that discharge to land.

All NPDES permits have inspection, monitoring, and reporting requirements. In Resolution 2001-046, the Central Valley RWQCB responded to a court decision by implementing mandatory water-quality sampling requirements for visible and nonvisible contaminants in discharges from construction activities. Water-quality sampling is now required if the activity could result in the discharge of turbid water or sediment to a water body that is listed as impaired under Section 303(d) because of sediment or siltation, or if a release of a nonvisible contaminant occurs. Where such pollutants are known or should be known to be present and have the potential to contact runoff, sampling and analysis are required.

## **SAFE DRINKING WATER ACT**

Proposed project features include groundwater wells for domestic supplies and landscape irrigation. Under the Safe Drinking Water Act (Public Law 93-523), passed in 1974, EPA regulates contaminants of concern to domestic water supplies. Contaminants of concern that are relevant to domestic water supplies are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by EPA national primary and national secondary drinking water regulations. Maximum contaminant levels (MCLs) are set for all contaminants of concern. MCLs and the process for setting

these standards are reviewed triennially. Amendments to the Safe Drinking Water Act enacted in 1986 established an accelerated schedule for setting drinking-water MCLs.

EPA has delegated to DHS the responsibility for administering California’s drinking-water program. DHS is accountable to EPA for program implementation and for adopting standards and regulations that are at least as stringent as those developed by EPA.

Title 22 of the California Code of Regulations (Article 16, Section 64449) defines secondary drinking-water standards that are established primarily for reasons of consumer acceptance (i.e., taste), rather than because of health issues. For mineralization (i.e., total dissolved solids and chloride), the secondary standards are expressed in the form of recommended, upper, and short-term MCLs. The recommended, upper, and short-term MCLs for total dissolved solids are 500, 1,000, and 1,500 milligrams per liter, respectively.

## **GROUNDWATER WELLS**

Proposed project features include new groundwater wells for domestic supplies and landscape irrigation. Section 13801 of the California Water Code requires the SWRCB to adopt a model ordinance and each county, city, or water agency to adopt ordinances for well placement, construction, and abandonment that meet or exceed DWR standards (California Water Code Section 231). Standards for wells in California are found in DWR Bulletins No. 74-81 and No. 74-90, entitled “Water Well Standards, State of California.”

### **11.2.3 LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES**

#### **PLACER COUNTY GENERAL PLAN**

The following are the relevant goals and policies identified by the *Placer County General Plan* (General Plan) (Placer County 1994) for hydrology and water quality.

**Goal 6.A:** To protect and enhance the natural qualities of Placer County’s streams, creeks and groundwater.

- ▶ **Policy 6.A.4.e.** Where creek protection is required or proposed, the County should require public and private development to: use design, construction, and maintenance techniques that ensure development near a creek will not cause or worsen natural hazards (such as erosion, sedimentation, flooding, or water pollution) and will include erosion and sediment control practices such as: 1) turbidity screens and other management practices, which shall be used as necessary to minimize siltation, sedimentation, and erosion, and shall be left in place until disturbed areas; and/or are stabilized with permanent vegetation that will prevent the transport of sediment off site; and 2) temporary vegetation sufficient to stabilize disturbed areas.
- ▶ **Policy 6.A.7.** The County shall discourage grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat.

## **11.3 IMPACTS**

### **11.3.1 ANALYSIS METHODOLOGY**

The environmental analysis for hydrology and water quality was based largely on background information included in the General Plan and California’s Groundwater Bulletin 118 (DWR 2003), as well as a review of existing conditions of the project vicinity. The effects of the proposed project were compared to environmental baseline conditions (i.e., existing setting at the time of the NOP) to determine impacts.

### 11.3.2 THRESHOLDS OF SIGNIFICANCE

Based on the Placer County CEQA checklist and the State CEQA Guidelines, the proposed project would result in a potentially significant impact on hydrology or water quality if it would:

- ▶ violate any water quality standards or waste discharge requirements;
- ▶ 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;
- ▶ substantially alter the existing drainage pattern of the site or area;
- ▶ create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- ▶ otherwise substantially degrade water quality;
- ▶ 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;
- ▶ expose people to unsafe water quality from contact recreation;
- ▶ expose people or structures to a significant risk of loss, injury, or death involving flooding; or
- ▶ expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow.

### 11.3.3 IMPACT ANALYSIS

<b>IMPACT</b> 11-1	<b>Hydrology and Water Quality—Potential for Short-Term, Construction-Related Soil Erosion and Impairment of Water Quality.</b> <i>Project construction could cause short-term degradation of water quality. Areas where vegetation would be removed and topography altered could be subject to erosion from rain and wind. In addition, accidental spills of construction-related contaminants could occur during construction in the project area. Both of these mechanisms could carry soil and construction-related contaminants to on-site drainages before they are ultimately discharged to Coon Creek.</i>
<b>Significance</b>	<i>Potentially Significant</i>
<b>Mitigation Proposed</b>	<i>Mitigation Measure 11-1: Prepare and Implement a Grading and Drainage Plan; and Mitigation Measure 5-1 in Chapter 5.0, "Soils, Geology, and Seismicity": Obtain Authorization for Construction and Operation Activities with the Central Valley Regional Water Quality Control Board and Implement Erosion and Sediment Control Measures as Required</i>
<b>Residual Significance</b>	<i>Less than Significant</i>

Construction of the proposed project would remove vegetation and disturb soil at some locations within the project area, including along Garden Bar Road. Grading of the access road, parking areas, and bridge footings would disturb a total estimated area of approximately 4.5 acres. Grading of the trail system would disturb approximately 10 acres of land in linear construction corridors distributed around the Park along the proposed trail alignments. Vegetation removed during construction would be chipped or lopped and broadcast in the

immediate area. Vegetation removed at parking areas would be stockpiled and following construction, used as mulch on exposed areas.

Removal of duff and vegetation would expose bare soil and could cause unstable conditions, resulting in soils that are easily disturbed by equipment and eroded by rain and wind. This could affect surface water quality in Coon and Deadman Creeks and other drainages because of erosion and sedimentation from project construction. Although the majority of gradients in the project area never exceed 20%, the gradients of some areas of the canyon straddling Coon Creek approach 50%. In addition, some soils in the project area have moderate to high erosion potential, which could result in erosion of surface soils during construction.

Accidental spills of construction-related contaminants such as fuels, oils, solvents, and cleaners could also occur during construction activities in the project area, resulting in degradation of water quality. Runoff from the areas disturbed by construction of the proposed Park facilities could also result in sedimentation effects on intermittent drainages and Coon Creek. This impact would be potentially significant, because the construction areas are close enough to the creeks, that spills or eroded sediment could reach the waterways. Implementation of Mitigation Measures 11-1 and 5-1 would reduce this impact to a less-than-significant level.

<b>IMPACT</b> 11-2	<b>Hydrology and Water Quality—Potential for Long-Term Soil Erosion and Impairment of Water Quality.</b> <i>Use of the proposed trail system and extreme weather events could cause long-term degradation of water quality from soil erosion and creek sedimentation. The introduction of impervious surfaces on-site such as the access road and parking areas has the potential to alter existing absorption rates and increase runoff of surface water into Coon Creek and other drainages on-site.</i>
<b>Significance</b>	<i>Potentially Significant</i>
<b>Mitigation Proposed</b>	<i>Mitigation Measure 11-1: Prepare and Implement a Grading and Drainage Plan; and Mitigation Measure 5-1 in Chapter 5.0, "Soils, Geology, and Seismicity": Obtain Authorization for Construction and Operation Activities from the Central Valley Regional Water Quality Control Board and Implement Erosion and Sediment Control Measures as Required</i>
<b>Residual Significance</b>	<i>Less than Significant</i>

Portions of the proposed project would be constructed in areas with some steep slopes that have the potential for erosion. Approximately 14 miles of new natural-surface trails for hikers, bikers, and equestrians—including bridge crossings over Coon Creek, Deadman Creek, and other streams—would be in place. Areas from which vegetation has been removed could be subject to erosion from rain and wind. These mechanisms could carry soil into intermittent drainages before they are ultimately discharged to Coon Creek. The proposed trails would be maintained as an exposed dirt surface that would increase the amount of soil exposed to wind and water erosion. Extreme weather events in combination with the disturbed areas could increase erosion and decrease water quality. This impact is considered potentially significant.

The proposed trail alignments would generally follow contours to minimize grades, discourage erosion from water velocity on steep profiles, and protect natural resources. Long-term and ongoing maintenance activities, as described in Chapter 3.0, "Project Description," would also be performed on the trails and trail crossings to reduce erosion to the extent possible and to repair weather-related damage that could contribute to erosion. Implementation of Mitigation Measures 5-1 and 11-1 would further reduce this impact to a less-than-significant level.

**IMPACT 11-3**      **Hydrology and Water Quality—Change in the Quality of Groundwater related to Installation of a Septic System.** *Operation of two septic systems is proposed as part of the project. There is the potential that installing an on-site septic system could change the quality of the groundwater in the Spears Ranch portion of the Park, if the septic system is not sited properly. Although suitable soils have been identified on-site, the potential still exists for changes in groundwater quality to occur.*

**Significance**      *Potentially Significant*

**Mitigation Proposed**      *Mitigation Measure 11-2: Implement Groundwater Protection through a Transient Non-community Water System Permit*

**Residual Significance**      *Less than Significant*

The project proposes to construct and operate two septic systems (use and/or upgrade of the existing septic system at ranch house and a new septic system to serve the western parking area) to dispose of effluent generated by on-site restroom facilities and group-use facilities (e.g., conference center, nature center, caretaker facilities). The new septic system(s) would be located in the southwest portion of the Park within the facility development zone. The existing septic system would remain operational without changes, if the ranch house is used as a one dwelling unit or equivalent. If the ranch house is used for other more extensive purposes, the existing septic system would be upgraded to meet sewage treatment demand.

As discussed in Chapter 5.0 “Soils, Geology, and Seismicity,” soil data provided by the U.S. Geological Survey indicate limitations on the ability of project area soils to support the use of septic tank absorption fields (i.e., leachfields), in which effluent from a septic tank is distributed into the soil through subsurface or perforated pipe. There is the potential that installing an on-site septic system could change the quality of the groundwater in the Spears Ranch portion of the Park if the septic system is not sited properly. On-site soil testing completed as part of the project indicated soils in the southwest portion of the Park are capable of supporting a conventional septic system that would be sized to accommodate maximum daily use. In addition, the septic system would be designed to have a 5-foot separation to groundwater or impermeable layer from leach lines, 150-foot setback from public wells, and 100-foot setback from any creeks (Placer County 2006).

Although on-site soils are capable of supporting a septic system, there is still the potential for the new or existing septic systems to change groundwater quality. This impact would be potentially significant. Implementation of Mitigation Measure 11-2 would reduce this impact to a less-than-significant level.

**IMPACT 11-4**      **Hydrology and Water Quality—Change in the Supply and Availability of Groundwater through Withdrawals, Interception, or Loss of Recharge Capacity.** *While soil compaction from constructed facilities could slightly impede recharge in localized areas, less than 5 acres of the project area would be developed with impervious surfaces. Installation of groundwater wells for uses related to the proposed facilities could increase the demand for groundwater; however, project-related groundwater demand would not be substantial and is similar to yield rates found in private wells in the project vicinity. However, the proposed project-related water needs include water necessary for fire suppression and the 2009 water demand calculation report did not evaluate project requirements related to fire suppression. This impact would be potentially significant.*

**Significance**      *Potentially Significant*

**Mitigation Proposed** *Mitigation Measure 11-2: Implement Groundwater Protection through a Transient Non-community Water System Permit; and Mitigation Measure 11- 3: Calculate Water Demands for Fire Suppression.*

**Residual Significance** *Less than Significant*

Constructing access roads, parking areas, and the trail system would result in soil compaction, which has the potential to affect groundwater recharge. In addition, parking areas and access roads would ultimately be paved with an impervious surface, which can also affect the potential for groundwater recharge. The total estimated acreage of impervious surface would be 4.5 acres within the project area. Because the amount of impervious surfaces would be a very small percentage of the total recharge area, this would not have a significant impact on groundwater recharge and supply.

The proposed project would include installation of up to two groundwater wells to support proposed facilities. If all of the proposed facilities are to be installed, the proposed project requires a MMD of 4.7 gpm and a PHD of 7.1 gpm (including 20% contingency). A new well would be constructed in the western portion of the Park to serve the western parking area, drinking fountains, and restrooms. Project-related needs in this area is an estimated MDD of 0.25 gpm and a PHD of 0.37 gpm, much lower than well yields found in project vicinity wells (between 1.3 and 7 gpm). Project-related water needs in the area of the existing ranch house are estimated to be a MDD of 3.61 gpm and a PHD of 5.41 gpm. An existing groundwater well in this location produces approximately 2.1 gpm; therefore, it is expected that an additional well would be needed to support all proposed project-related water needs in this area. The expected water demand for large events (i.e., 200 or more individuals) would vary depending on the number of users; however, the County would require large event groups that would exceed the on-site water supplies to supply (i.e., carry in) potable water to serve the group as a term of the Temporary Event Permits and undergo separate environmental review. Water for irrigation would continue to be supplied by the Nevada Irrigation District canal on the property, and irrigation needs are expected to be similar to or less than past irrigation patterns.

The project does not propose extensive water development. Except for reservation-based events, water supplies to meet project facility needs are expected to be small because the most common uses of the Park would reflect typical patterns of passive recreation (i.e., infrequent use of the Park by large groups, with most use by individuals visiting the Park for dispersed recreation, mostly on weekends). Although, the exact location of the new well is not known, it would be sited within the facility development zone (see Exhibit 3-4 in Chapter 3.0, "Project Description), and the nearest private well is approximately 0.2-mile from the facility development zone. A new well in this area would not be expected to have any water supply or drawdown effects on nearby private wells based on the calculations in the water demand report being consistent with private well yields in the area (Appendix F). The 2009 water demand calculation report did not evaluate project requirements related to fire suppression. Although it is expected that raw surface irrigation water would be the primary source of emergency fire suppression water storage and that any combination of surface irrigation water, water from stock ponds, and/or groundwater could be used to accommodate water demands for fire suppression, if groundwater is needed for fire suppression, this impact could be potentially significant. If public well(s) would be used to supply emergency storage tanks, appropriate backflow prevention devices would be used to prevent cross contamination of public potable water sources. Implementation of Mitigation Measures 11-2 and 11-3 would reduce this impact to a less-than-significant level.

**IMPACT 11-5**      **Hydrology and Water Quality—Exposure of People or Structures to Flooding.** *Constructing Park facilities adjacent to or across Coon Creek could expose people and structures to flooding. Park facilities potentially exposed to flooding would be constructed to weather the flows. No housing would be constructed in the floodplain, and access to the floodplain would be restricted in the event of a flood.*

**Significance**      *Less than Significant*

**Mitigation Proposed**      *None Warranted*

**Residual Significance**      *Less than Significant*

Park visitors would have access to the Coon Creek floodplain in the Spears Ranch portion of the Park. Portions of the trail system would run parallel to and cross over the creek. Three bridges with architectural features potentially including suspension and/or covered bridge that would provide access for pedestrians, equestrians, and emergency vehicles—would be constructed across Coon Creek. Bridges would be constructed of weathered steel, fiberglass, or other materials with concrete abutments, and potentially (if a suspension bridge is constructed) steel cables, and they would be constructed to span the 100-year floodplain, be removable during flood periods, or withstand 100-year flood events. Existing low-flow crossings along existing roads would also be maintained across Coon Creek. No housing or other structures would be constructed within the floodplain.

Park users could be exposed to flooding if they were near Coon Creek during a major (i.e., >100-year) flood event. However, the Coon Creek bridge crossings would be temporarily closed during such an event to reduce potential hazards. If extensive flooding were to occur, the County may close all or portions of the Park if it is deemed unsafe for Park users.

Because no housing or other facilities would be constructed within the floodplain, bridges would be constructed to withstand flood events, and access would be restricted to Coon Creek in the event of a flood, this impact would be less than significant.

**IMPACT 11-6**      **Hydrology and Water Quality—Exposure of People or Structures to WWTP Effluent.** *Proposed Park facilities would allow people to come into contact with Coon Creek and Whiskey Diggins Canal, which receive effluent (indirectly) from the Placer County SMD 1 WWTP. However, the WWTP operates under an NPDES Permit requiring tertiary treatment protective of beneficial uses including contact and noncontact recreation. Therefore, this impact is less than significant.*

**Significance**      *Less than Significant*

**Mitigation Proposed**      *None Warranted*

**Residual Significance**      *Less than Significant*

Park visitors would have access to Coon Creek and Whiskey Diggins Canal via the trails and crossings described in Impact 11-5. The flow of these watercourses contains effluent from the Placer County SMD 1 WWTP upstream of the Park. Pursuant to the WWTP discharge requirements (NPDES No. CA0079316), the RWQCB requires a level of treatment protective of all receiving and groundwater beneficial uses, including domestic, agricultural, and contact and non-contact recreation, equivalent to the California Department of Health Services

(DHS) reclamation criteria. In assessing the discharge standards necessary to protect the site-specific beneficial uses of Rock Creek and Dry Creek, the direct receiving waters of the WWTP effluent, and Coon Creek and Whiskey Diggins Canal, the indirect receiving waterbodies, the RWQCB compared Title 22 (Division 4, Chapter 3) standards to the level of treatment required to protect public health when in contact with treated wastewater or when directly using undiluted effluent for food crop irrigation, and requires this level of treatment for the WWTP effluent.

Title 22 requires that wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered for uses of wastewater including spray irrigation of food crops, parks, playgrounds, schoolyards, other areas of similar public access, and unrestricted contact recreation. Total coliform organism levels in the effluent must not exceed 2.2 Most Probable Number per 100 milliliters as a 7-Day Median. The 30-Day Average biochemical oxygen demand (BOD) and total suspended solids (TSS) effluent limits for secondary treatment have been revised in the permit to 10 mg/l, which is technically based on the capability of a tertiary system. Because the WWTP effluent must meet the standards of the WWTP NPDES permit protective of the receiving and groundwater beneficial uses including contact and non-contact recreation, this impact would be less than significant.

## 11.4 MITIGATION MEASURES

Mitigation Measure 11-1: Prepare and Implement a Grading and Drainage Plan.

*Mitigation Measure 11-1 applies to Impacts 11-1 and 11-2.*

The County shall prepare and submit Grading and Drainage Plans (Plans) and specifications (per the requirements of Section II of the Land Development Manual that are in effect at the time of submittal) for review and approval of work associated with structural design, hydrology associated with the bridges, and grading/drainage associated with the facility development zone. The Plans shall show all conditions affecting those facilities as well as pertinent topographical features. All existing and proposed utilities and easements, on-site and adjacent to those facilities, which may be affected by planned construction, shall be shown on the plans. The County shall pay plan check and inspection fees as applicable.

All proposed grading, drainage improvements, vegetation, tree impacts, and tree removal associated with the Park access road, parking areas, and bridges shall be shown on the Plans and all work shall conform to provisions of the County Grading Ordinance (Section 15.48, formerly Chapter 29, Placer County Code) and the Placer County Flood Control District's Stormwater Management Manual. No grading, clearing, or tree disturbance shall occur until the Plans are approved and any required temporary construction fencing has been installed and inspected by a member of the Design Review Committee. All cut/fill slopes included in the Plans shall be at 2:1 (horizontal:vertical) maximum unless a soils report supports a steeper slope and Design Review Committee concurs with said recommendation.

In addition, a drainage report in conformance with the requirements of Section 5 of the Land Development Manual and the Placer County Storm Water Management Manual that are in effect at the time of submittal shall be prepared and submitted with the Plans. The report shall be prepared by a Registered Civil Engineer and shall, at a minimum, include: written text addressing existing conditions, the effects of the improvements, all appropriate calculations, a watershed map, increases in downstream flows, proposed on- and off-site improvements and drainage easements to accommodate flows from this project. The report shall identify water quality protection features and methods to be used both during construction and for long-term post-construction water quality protection. Best Management Practice (BMP) measures shall be provided to reduce erosion, water quality degradation, and prevent the discharge of pollutants to stormwater to the maximum extent practicable.

Although the facility development zone is generally in the southwestern portion of the Park, including the previously disturbed area surrounding the existing ranch house and the proposed parking areas, the exact location of individual facilities could vary within this zone. Therefore, it is not practical to prepare the drainage plan prior

to project approval. In addition, routine maintenance shall be performed on Park facilities to reduce erosion to the extent possible and to repair weather-related damage that could contribute to erosion.

Implementation of Mitigation Measure 11-1 would reduce the potentially significant impact related to short-term and long-term soil erosion and water quality impairment to a less-than-significant level.

#### **Mitigation Measure 11-2: Implement Groundwater Protection through a Transient Non-community Water System Permit.**

*Mitigation Measure 11-2 applies to Impacts 11-3.*

A Hidden Falls Regional Park Groundwater Systems Operation Procedure is in place for the existing well serving the restroom and facilities at the Didion Ranch parking area. Pump performance and system leakage inspections are part of the regular maintenance routine under this procedure. One Park staff member is trained and tasked with water sampling at monthly intervals. The County employs qualified plumbers and electricians to correct any system failures. The Placer County Parks Division, which is a division of the Department of Facility Services, operates the well and distribution system serving the public facilities at the existing Didion Ranch parking area under a Transient Non-community Water System Permit administered by the Placer County Environmental Health Division.

A separate permit would be obtained to include any additional wells that serve public facilities within Spears Ranch portion of the Park, and the conditions of the permit would be implemented to protect groundwater. The siting of any additional wells shall comply with the Placer County Water Well Construction Ordinance (Placer County Code Subchapter 8, effective July 19, 1990), and California Well Standards, Department of Water Resources Bulletin 74-90, June 1991.

A Groundwater Systems Operation Procedure or applicable equivalent would be prepared for any additional wells and adhered to as part of the permit conditions and ongoing operation. The objectives of the procedure shall be to ensure that:

- ▶ Water sources are not at risk of contamination from either tampering, pollutant discharge into the well head area, or latent groundwater contaminants.
- ▶ The responsible management agency has the technical capacity to operate the system to public health standards.

The procedure would include the following elements:

- ▶ The minimum horizontal distance between any additional wells and any sewer line or storm drain main or lateral shall be 50 feet. The minimum horizontal distance between any additional wells and septic tanks or leach fields shall be 100 feet.
- ▶ A Bacteriological and Chemical Monitoring and Reporting Program, approved by the Placer County Environmental Health Division.
- ▶ An operations and maintenance program including inspection of the distribution system and well head assembly.
- ▶ An emergency operations and repair program.

If well-monitoring samples show that groundwater quality is deteriorating, prompt actions shall be initiated to remedy problems, as specified by the Placer County Environmental Health Division and/or Central Valley RWQCB. These actions could include but would not be limited to the use of injection wells or other recharge

methods, closing the well and chlorinating the water, decommissioning the well and re-siting, or other water treatment alternatives such as construction of an on- or off-site water treatment plant. Some of these actions may be subject to additional CEQA analysis and other regulatory compliance. Implementation of Mitigation Measure 11-2 would reduce the potentially significant impact related to groundwater quality impairment to a less-than-significant level, because the Groundwater Systems Operation Procedure would enable the project applicant(s) to acquire the data and information necessary to manage the groundwater resource such that adverse impacts do not occur. This would enable detection of any negative changes to groundwater quality or quantity. If necessary, additional strategies to maintain the quality of groundwater at the project site and downgradient would be implemented following additional CEQA review.

### **Mitigation Measure 11-3: Calculate Water Demands for Fire Suppression.**

*Mitigation Measure 11-3 applies to Impact 11-4.*

If groundwater is to be used for emergency fire suppression water, the County shall amend the April 7, 2009, Water Demand Calculation Report (Placer County 2009) to include fire suppression water requirements. If it is found that fire suppression requirements combined with water demands for other proposed uses is consistent with yields found in nearby private wells (1.3 to 7 gpm) then no further mitigation is required. If fire suppression requirement surpasses yields found in nearby private wells, one of the following shall be done:

- ▶ modify proposed uses at each well location to be consistent with available water that would not surpass similar yields of nearby wells;
- ▶ utilize Nevada Irrigation District raw irrigation water sources including but not limited to existing canals and ponds, new ponds, and/or irrigation fed underground storage tanks;
- ▶ fill storage tanks during off-peak periods when use is limited (i.e. winter and nighttime periods);
- ▶ import water needed to meet fire suppression requirements for emergency storage tanks via water trucks so that this water is not being pulled from the wells.

Implementation of Mitigation Measures 11-2 and 11-3 would reduce this impact to a less-than-significant level because proposed water demands would not be developed beyond the available groundwater capacity.