

11.0 HYDROLOGY AND WATER QUALITY

This chapter summarizes the 2010 Hidden Falls Regional Park (HFRP) Certified Environmental Impact Report (EIR) hydrology and water quality findings; describes the existing HFRP and proposed trail network expansion project area (project area) environmental setting and pertinent regulations; evaluates project-related impacts associated with hydrology and water quality; and provides mitigation measures as necessary to reduce those impacts.

11.1 SUMMARY OF COUNTY FINDINGS ON THE 2010 HFRP CERTIFIED EIR

Chapter 6, “Hydrology and Water Quality” of the 2010 HFRP Certified EIR included a detailed discussion of the park environmental and regulatory setting, potential impacts associated with hydrology and water quality resulting from implementation of the park project, and any needed mitigation measures to reduce these impacts.

11.1.1 FINDINGS OF FACT

The following is a summary of the 2010 EIR findings.

- ▶ 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 park project area. Both of these mechanisms could carry soil and construction-related contaminants to on-site drainages before they are ultimately discharged to what is now known as Raccoon Creek. The finding was made by the County that preparing and implementing a grading and drainage plan would reduce the potentially significant impact to **less than significant**.
- ▶ The findings acknowledged that both the use of the proposed park 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 roads and parking areas had the potential to alter existing absorption rates and increase runoff of surface water into what is now known as Raccoon Creek and other drainages on-site. However, obtaining authorization for construction and operation activities from the Central Valley Regional Water Quality Control Board (RWQCB) and fulfilling all permit conditions, and implementing erosion and sediment control measures and a grading and drainage plan reduced the potentially significant impact to **less than significant**.
- ▶ The findings concluded that operation of two septic systems could change the quality of the groundwater in the HFRP if the septic systems were not sited properly. Although suitable soils were identified on-site, the potential still existed for changes in groundwater quality to occur. The finding was made that implementing a groundwater protection program through a transient non-community water system permit and fulfilling all permit conditions, would reduce the potentially significant impact to **less than significant**.
- ▶ The findings stated soil compaction from constructed facilities could slightly impede recharge in localized areas, but not to significant levels because less than 5 acres of the HFRP would be developed with impervious surfaces. It was noted that installation of groundwater wells for uses related to the proposed facilities could

increase the demand for groundwater; however, park-related groundwater demand would not be substantial and was similar to yield rates found in private wells in the park vicinity. The estimated water demand necessary for fire suppression was not considered by the *2009 Water Demand Calculation Report*. This potentially significant impact to groundwater quality and supply was found to be **less than significant** with implementation of groundwater protection measures through obtaining and fulfilling all permit conditions for a transient non-community water system permit and updating the 2009 Water Demand Calculation Report to include fire suppression water requirements and management.

11.1.2 HFRP MITIGATION MEASURES ADOPTED BY THE COUNTY IN 2010

Implementation of the following mitigation measures, which were adopted by Placer County when the HFRP EIR was certified in 2010, reduced impacts of the project on hydrology and water quality to less than significant.

- ▶ **Mitigation Measure 11-1:** Prepare and Implement a Grading and Drainage Plan.
- ▶ **Mitigation Measure 11-2:** Implement Groundwater Protection through a Transient Non-Community Water System Permit.
- ▶ **Mitigation Measure 11-3:** Calculate Water Demands for Fire Suppression.

11.2 2019 HFRP TRAILS EXPANSION PROJECT – ENVIRONMENTAL SETTING

The setting of this Subsequent EIR describes the physical environmental conditions of the proposed HFRP trails expansion project. See Chapter 11.0 “Hydrology and Water Quality” of the 2010 HFRP EIR for information about the existing park.

11.2.1 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).

11.2.2 DESCRIPTION OF THE LOCAL WATERSHED

RACCOON CREEK WATERSHED

The HFRP, Taylor Ranch, Kotomyan Preserve, Twilight Ride parcels, Garden Bar 40 parcel and Connectivity parcels (County-owned or easement areas linking the existing HFRP and the Taylor Ranch) are situated in the Raccoon Creek watershed. The Raccoon 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 Raccoon Creek. It includes a reach of Raccoon Creek that is in a steep canyon running east-west approximately 3 miles south of the Bear River. Raccoon Creek flows from the eastern boundary of the HFRP to the western boundary of Taylor Ranch. Several intermittent tributaries flow into Raccoon Creek from both the north and the south, and one perennial tributary, Deadman Creek, intersects Raccoon Creek on the eastern end of the HFRP. Adjacent land uses are rural residential home sites and agriculture, mostly in the form of cattle grazing. Both the Taylor Ranch and Kotomyan Preserve contain recreational trails currently utilized by the Placer Land Trust (PLT) for docent-led tours, and both Taylor Ranch and Kotomyan Preserve include undeveloped land used for cattle grazing. Exhibit 11-1 shows the local watershed and hydrology in the project vicinity.

The adjacent land is used for grazing and minimal infrastructure has been developed in this area. Vegetation associated with this reach of Raccoon 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. 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. The East Side Canal ultimately drains into the Natomas Cross Canal, which enters the Sacramento River just below the confluence with the Feather River.

West of the Taylor Ranch property, a diversion dam operated by the Nevada Irrigation District diverts water for irrigation from Raccoon Creek into Camp Far West Canal. Most of the water flows to the Bear River, 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 Raccoon Creek to the Sacramento River is approximately 30 miles.

BEAR RIVER WATERSHED

The Harvego, Outman Preserve, and Liberty Ranch property are situated in the Bear River watershed (Exhibit 11-1). The Bear River Watershed is located between two much larger watersheds, the Yuba to the north and American to the south. The watershed is heavily managed for water conveyance for agricultural water supply and hydropower development that serves the western foothills region (Sacramento Watershed Program 2010).

The Bear River borders the northern boundary of the Harvego. Harvego includes a working cattle ranch, an extensive network of existing dirt ranch roads, and trails developed by the PLT. The Auburn Valley Golf Club and residential neighborhood are located southeast of the Harvego. Outman Preserve and Liberty Ranch consist of undeveloped land used for cattle grazing. Most of the adjacent land is used for grazing and minimal infrastructure has been developed in this area.

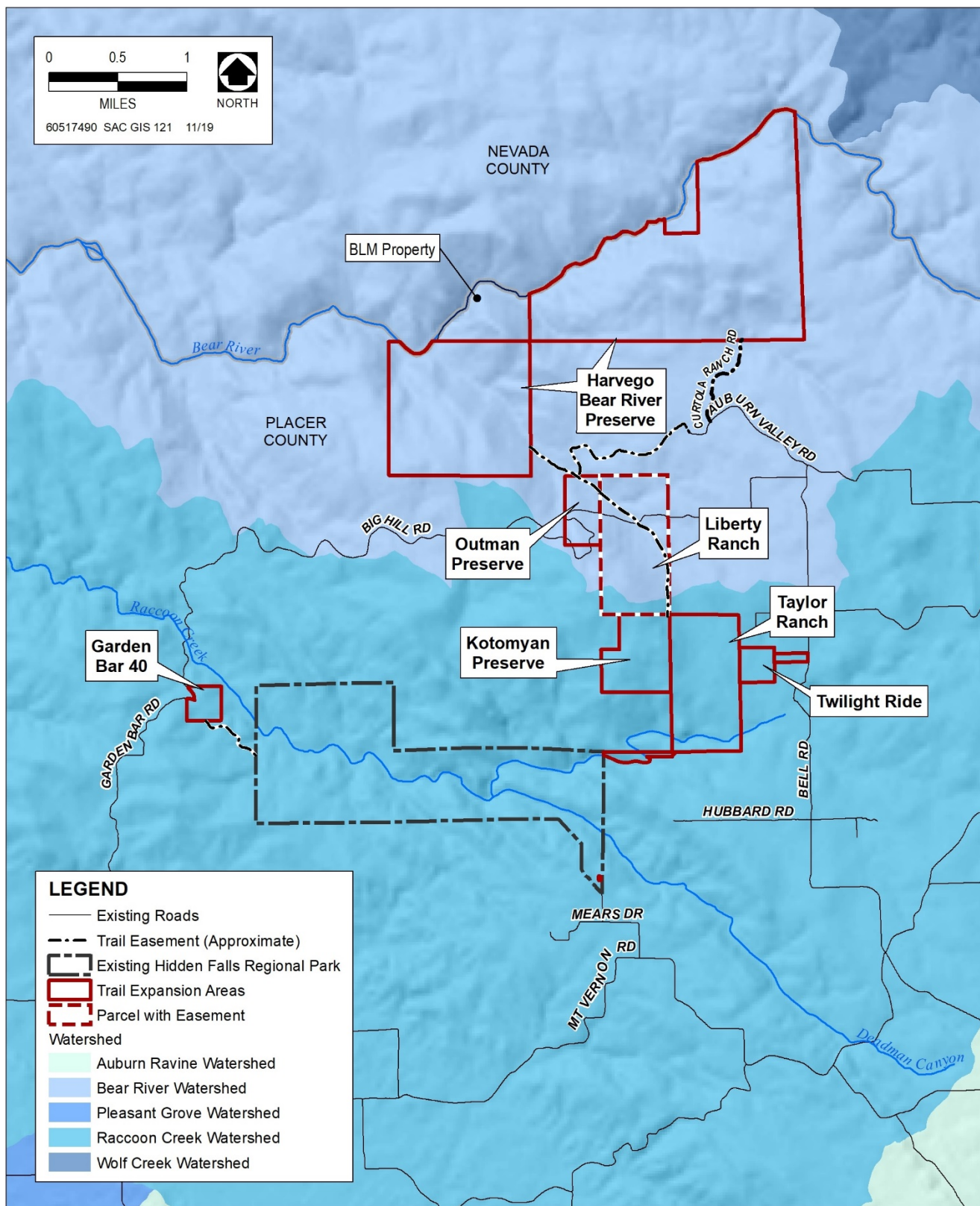


Exhibit 11-1. Local Watershed and Hydrology

Near the expansion area, the Bear River is fed by Wolf Creek and flows into Camp Far West Reservoir, the largest water body in the Bear River Watershed. Vegetation associated with this portion of the Bear River generally consists of blue oak woodlands, blue oak – foothill pine, montane hardwoods, riparian and riverine habitat. The Bear River contains a large volume of mining sediment stored in its main channel that is subject to continual erosion. The high volume of mining sediment, in combination with restricting levees, has caused the Lower Bear channel to become deeply incised.

Sewer Maintenance District 1 Wastewater Treatment Plant

At the time the 2010 HFRP EIR was certified, Raccoon Creek had continuous flow in the dry season and received discharge of treated effluent into Rock Creek from the Placer County Sewer Maintenance District 1 Wastewater Treatment Plant (WWTP). Rock Creek is a tributary of Dry Creek and the former discharge was 1.65 million gallons per day (mgd) (2.56 cubic feet per second) of daily inflow to Raccoon Creek. Nutrients in the effluent from Placer County Sewer Maintenance District 1's WWTP were found to increase nutrient load of and contribute to accelerated growth of algae, as well as depressed nighttime concentrations of dissolved oxygen. Cattle grazing along lower Raccoon Creek also contributes to the nutrient load and biological oxygen demand of the creek (RWCB 2015).

As part of the Mid-Western Placer Regional Sewer Project, the County and cities of Auburn and Lincoln agreed to plan, design, permit, finance and construct a regional wastewater treatment and disposal system. The project closed Sewer Maintenance District 1 and constructed pumping facilities and a conveyance line to transport the waste previously treated at the plant to the existing City of Lincoln Wastewater Treatment and Recycling Facility, which does not discharge to the Raccoon Creek watershed (Placer County 2015).

11.2.3 GROUNDWATER

The Sacramento River Hydrologic Region receives between 20 percent and 40 percent of its supply from groundwater. Groundwater quality in the region is generally considered to be excellent; however, there are small localized problems where brackish to saline water are near the surface (DWR 2003). The expansion 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 Raccoon 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. Review of Placer County well reports in the area indicator that depth to water ranges 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 HFRP contains a well at the Mears Place entrance as well as one at the ranch house on the western side of the existing park. The ranchhouse well was reconstructed to public standards in mid 2000s. The Mears Place well serves a public 2-stall restroom building, 12,000-gallon fiberglass, underground fire suppression storage tank with hydrant, public drinking fountain, and animal watering facilities. The system is owned and operated by Placer County Department of Facility Services. The well was originally constructed in April 2000, and was reconstructed to public well standards in July 2006. The well was drilled to a depth of 550 feet deep and constructed using a 55-foot bentonite annular seal and 60 feet of 6" class 125 PVC well casing. In 2015, the Placer County Health and Human Services Department declared the existing well at the Mears Place entrance could no longer

meet the needs of the public water system due to the low yield. Subsequently, the water system was shut down and the County had to find alternative water supplies through the periodic filling of the 12,000-gallon tank via a water truck. Construction of a new well at the Mears entrance (or reinstatement of the existing well) is expected to be completed in the near future.

A groundwater well operating on the Twilight Ride parcel currently pumps at a rate of 15 gpm, providing potable water to the residential dwelling on the property. A groundwater well is also located in the Harvego which is used for pasture irrigation.

11.3 REGULATORY SETTING UPDATE

11.3.1 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 Raccoon Creek. Several dams located on the Bear River upstream of the HFRP Trail Expansion area provide flood control and water supply storage for agricultural uses.

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 the 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, the 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 the 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, the EPA has granted the State Water Resources Control Board (SWRCB) and its nine 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 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, the 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. Raccoon Creek is not listed as a Section 303(d) impaired water body nor is the Bear River. 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 Raccoon Creek are not individually identified in the Basin Plan, but Raccoon 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 Raccoon 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 Raccoon Creek (and Rock and Dry Creeks) are municipal and domestic supply. Beneficial uses of the Bear River include municipal and domestic supply, agriculture, power, and recreation including contact and non-contact, fresh water habitat and wildlife habitat.

11.3.2 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

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 May 19, 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 Raccoon 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 3,000 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 Raccoon 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. No crossings of the Bear River are proposed by the HFRP Trail Extension project.

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, emergency response and landscape irrigation. Under the Safe Drinking Water Act (Public Law 93-523), passed in 1974, the 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 the 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.

The EPA has delegated to DHS the responsibility for administering California's drinking-water program. DHS is accountable to the EPA for program implementation and for adopting standards and regulations that are at least as stringent as those developed by the 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 a new groundwater well at each of the three proposed parking areas. 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." All wells proposed for the expansion areas will need to be permitted through the Placer County Environmental Health Department.

11.3.3 LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

PLACER COUNTY GENERAL PLAN

The County's General Plan describes assumptions, goals, and planning principles that provide a framework for land use decisions throughout the County. The following are the relevant goals and policies identified in the 2013 General Plan for hydrology and water quality.

Goal 6.A: To protect and enhance the natural qualities of Placer County’s rivers, 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.5.** The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff and to encourage the use of BMPs for agricultural activities.
- ▶ **Policy 6.A.6.** The County shall require development projects to comply with the municipal and construction stormwater permit requirements of the Federal Clean Water Act National Pollutant Discharge Elimination System (NPDES) Phase I and II programs and the State General Municipal and Construction permits. Municipal requirements affecting project design and construction practices are enacted through the County’s Stormwater Quality Ordinance. Separate construction permits may be required by and obtained through the State Water Resources Control Board.
- ▶ **Policy 6.A.7.** All new development and redevelopment projects shall be designed so as to minimize the introduction of pollutants into stormwater runoff, to the maximum extent practicable, as well as minimize the amount of runoff through the incorporation of appropriate Best Management Practices.
- ▶ **Policy 6.A.9.** The County shall require that natural watercourses be integrated into new development in such a way that they are accessible to the public and provide a positive visual element.
- ▶ **Policy 6.A.10.** The County shall discourage grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat.
- ▶ **Policy 6.A.13.** The County shall protect groundwater resources from contamination and further overdraft by pursuing the following efforts:
 - a. Identifying and controlling sources of potential contamination;
 - b. Protecting important groundwater recharge areas;
 - c. Encouraging the use of surface water to supply major municipal and industrial consumptive demands;
 - d. Encouraging the use of treated wastewater for groundwater recharge; and
 - e. Supporting major consumptive use of groundwater aquifer(s) in the western part of the County only where it can be demonstrated that this use does not exceed safe yield and is appropriately balanced with surface water supply to the same area.

11.4 IMPACTS

11.4.1 ANALYSIS METHODOLOGY

The focus of this analysis is hydrology and water quality impacts that would result from project implementation. This analysis also considers how the trails expansion project would or would not change the conclusions of the prior environmental review.

The environmental analysis for hydrology and water quality was based largely on background information included in the 2013 Placer County General Plan and California's Groundwater Bulletin 118 (DWR 2003), the hydraulic and hydrologic analysis prepared by Carlton Engineering (2012) 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).

11.4.2 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 or otherwise substantially degrade surface or ground water quality; substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- ▶ substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in a substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; 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; or impede or redirect flood flows;
- ▶ in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- ▶ conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

11.4.3 IMPACT ANALYSIS

IMPACT 11-1	Hydrology and Water Quality—Potential for Short-Term, Construction-Related Soil Erosion and Impairment of Water Quality. <i>The proposed trails expansion 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 Raccoon Creek.</i>
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Significance *Potentially Significant (No new significant impact from the 2010 HFRP Certified EIR)*

Mitigation Proposed *Mitigation Measure 11-1: Prepare and Implement a Grading and Drainage Plan; and Mitigation Measure S5-1 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*

Residual Significance *Less than Significant*

2010 HFRP CERTIFIED EIR IMPACT SUMMARY

The analysis in the 2010 HFRP Certified EIR found that construction activity would remove vegetation and disturb soil, including along Garden Bar Road, parking area and the trail system construction corridors. Some soils in the HFRP were identified as having moderate to high erosion potential. Removal of duff and vegetation would expose soil and could cause unstable conditions, resulting in soils that could easily be disturbed by rain, wind, and construction equipment. These conditions could affect surface water quality because of erosion and sedimentation entering waterways. Accidental spills of construction-related contaminants (e.g., fuels, oils, solvents) were also identified in the document as having the potential for degrading water quality. The implementation of Mitigation Measures 11-1 and 5-1 was found to reduce the potentially significant impact to **less than significant**.

2019 HFRP TRAILS EXPANSION PROJECT IMPACT ANALYSIS

Grading and vegetation removal during construction of access roads, parking areas, bridge and overlook footings, restrooms, and the trail system has the potential to result in soil erosion. Construction of activity would require total ground disturbance of approximately 41.8 acres (21.2 permanent acres and 20.6 temporary acres). Construction of the trail system would disturb approximately 23 acres (7.7 acres permanent and 15.5 acres temporary) of land in linear construction corridors distributed around the expansion area along the proposed trail alignments. Trailhead improvements including parking, access road and amenities would disturb 18.5 acres (13.5 permanent and 5.0 temporary). 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 Raccoon Creek, the Bear River 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 Raccoon Creek and abutting the Bear River 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 (see Section 5.0, "Soils, Geology, and Seismicity").

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 facilities could also result in sedimentation effects on intermittent

drainages, Raccoon Creek and the Bear River. This impact would be potentially significant, because the construction areas are close enough to the creeks and river that spills or eroded sediment could reach the waterways. Implementation of Mitigation Measures 11-1, requiring grading and drainage plans, and S5-1, requiring approval from the RWQCB, would reduce this impact to a **less-than-significant** level.

IMPACT 11-2 **Hydrology and Water Quality—Potential for Long-Term Soil Erosion and Impairment of Water Quality.** *Use of the proposed trail expansion 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 roads and parking areas has the potential to alter existing absorption rates and increase runoff of surface water into Raccoon Creek and other drainages on-site.*

Significance *Potentially Significant (Consistent with prior analysis in the 2010 HFRP Certified EIR)*

Mitigation Proposed *Mitigation Measure 11-1: Prepare and Implement a Grading and Drainage Plan; and Mitigation Measure S5-1 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*

Residual Significance *Less than Significant*

2010 HFRP CERTIFIED EIR IMPACT SUMMARY

As discussed in the 2010 Certified EIR, portions of the park project would be constructed in areas with steep slopes that have the potential for erosion. Areas from which vegetation has been removed could also be subject to erosion from rain and wind. The proposed trails would be maintained as an exposed dirt surface that would increase the amount of soil exposed to wind and water erosion. These activities along with extreme weather events could carry easily disturbed soil into intermittent drainages that would ultimately discharge into Raccoon Creek, decreasing water quality. However, long-term and on-going maintenance of the proposed park trails and trail crossings would repair weather-related damage to reduce impacts related to soil erosion. Implementation of Mitigation Measures 11-1 and 5-1 further reduced the potentially significant impact to **less than significant**.

2019 HFRP TRAILS EXPANSION PROJECT IMPACT ANALYSIS

Portions of the proposed project would be constructed in areas with some steep slopes that have the potential for erosion. Approximately 30 miles of trails, consisting of either already-constructed or new natural-surface trails for hikers, bikers, and equestrians—including bridge crossings over Raccoon Creek, Deadman Creek, and other intermittent streams—would be connected to the existing HFRP trail system. 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 Raccoon Creek or the Bear River. 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. Similar to the bridges proposed for the HFRP and considered in the prior EIR, new bridges and overlooks would be designed to minimize impacts on stream hydrology. 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 S5-1 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. <i>Operation of septic systems was proposed as part of the 2010 analysis and is also proposed for the proposed Trails Expansion project. There is the potential that installing on-site septic systems could change the quality of the groundwater in the expansion area if the septic systems are not sited properly. Although suitable soils have been identified at each of the new parking areas, the potential still exists for changes in groundwater quality to occur if on-site wells are not properly constructed and maintained.</i>
Significance	<i>Potentially Significant (Consistent with prior analysis in the 2010 HFRP Certified EIR)</i>
Mitigation Proposed	<i>Mitigation Measure 11-2: Implement Groundwater Protection through a Transient Non-community Water System Permit</i>
Residual Significance	<i>Less than Significant</i>

2010 HFRP CERTIFIED EIR IMPACT SUMMARY

The previous park project included construction/reconstruction and operation of two septic systems to dispose of effluent by restroom facilities and group-use facilities (e.g., conference center, nature center, caretaker facilities). Although on-site soils were capable of supporting a new septic system within the southwest portion of the park (in the facility development zone), there was still the potential for the new or existing/reconstructed septic system (at Ranch House) to change groundwater quality. However, Mitigation Measure 11-2 reduced the potentially significant impact to **less than significant**.

2019 HFRP TRAILS EXPANSION PROJECT IMPACT ANALYSIS

The project would include the construction and operation of 3 new septic systems to dispose of effluent generated by on-site restroom facilities in the new parking areas on the Harvego, at the Twilight Ride site, and at the Garden Bar entrance. 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 a standard septic system and 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 on-site septic systems could change the quality of the groundwater in the Harvego, Twilight Ride parcel and Garden Bar entrance if the septic systems are not sited and maintained properly. On-site soil testing completed at these sites in 2019 indicated soils in this portion of the expansion area are capable of supporting engineered septic systems that would be sized to

accommodate maximum daily use at those specific locations. In addition, the septic systems 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 to meet Central Valley Regional Water Control Board and Placer County Environmental Health Division standards (Placer County 2006).

Although on-site soils are capable of supporting engineered septic systems, there is still the potential for the new or existing septic systems to change groundwater quality if on-site wells are not properly installed and maintained. This impact would be potentially significant. Implementation of Mitigation Measure 11-2, which requires a well permit and would include associated conditions of approval to protect groundwater, would reduce this impact to a **less-than-significant** level.

The proposed Trails Expansion project would not result in new significant environmental effects or substantially increase the severity of previously identified significant effects on the quality of groundwater based on changes in the project, circumstances or new information.

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, only approximately 13.5 acres of the 2,765+/- acres of HFRP Trails Expansion project would be developed with impervious surfaces. Installation of groundwater wells for uses related to the park and proposed project 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. In addition, the demand for water is limited by the number of people permitted to visit under the reservation system. Proposed project-related water needs include water necessary for fire suppression but the 2009 water demand calculation report did not evaluate project requirements related to fire suppression. This impact would be potentially significant.*

Significance *Potentially Significant (Consistent with prior analysis in the 2010 HFRP Certified EIR)*

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*

2010 HFRP CERTIFIED EIR IMPACT SUMMARY

The HFRP Certified EIR found that construction activity would compact the soil and introduce pavement where none previously existed. These changes were identified as having the potential to affect groundwater recharge. However, because the amount of impervious surface was small relative to the amount of land preserved in the park and none of the property was designated as groundwater recharge zone, the 2010 HFRP Certified EIR found the impact to be **less than significant**.

The 2010 HFRP Certified EIR found that operation of HFRP would increase demand for potable water and required construction of a new groundwater well. The well was intended to serve the western parking area, drinking fountains, and restrooms. Water for irrigation of pasture would continue to be supplied by the Nevada Irrigation District canal and with the exception of reservation-based events, water supplies to meet project facility needs (most individuals visiting the park for dispersed passive recreation, mostly on the weekends) were estimated to be small, requiring a maximum day demand of 4.7 gpm. This estimated demand included the use of the ranch house area for overnight stays by groups for educational and/or meeting purposes, the expanded parking area, one maintenance yard and one caretaker residence. 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.

It was expected that raw surface irrigation water would be the primary source of emergency fire suppression water that would be stored in above ground tanks, although 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 was needed for fire suppression, this impact could have been potentially significant. Implementation of Mitigation Measures 11-2, which required a well permit, and 11-3, which required a water calculation for fire suppression demands, reduced this impact to a **less-than-significant** level.

2019 HFRP TRAILS EXPANSION PROJECT IMPACT ANALYSIS

Constructing access roads, parking areas, and the trail system would result in soil compaction, which has the potential to affect groundwater recharge. Parking areas and access roads would ultimately be paved with an impervious surface, which can also affect the potential for groundwater recharge. The amount of land to be covered by impervious surface to provide parking and access driveways is approximately 13.3 acres (parking and trailhead amenities) which is a small percentage relative to the approximately 2,765/- acres contained in the HFRP expansion area. Because the amount of impervious surfaces would be a very small percentage of the total land available for recharge, the Project would not have a significant impact on groundwater recharge and supply.

The project does not propose extensive water development. Water supplies to meet project facility needs would reflect typical patterns of recreation (i.e., most use by individuals visiting the expansion area for dispersed recreation, mostly on weekends). Three new groundwater wells, constructed under a Transient Non-community Water System Permit, would be installed to supply water for drinking fountains and restrooms, minimal landscaping, and the 12,000-gallon water tanks for emergency response at each parking area.

The reported maximum daily demand for groundwater at the existing Mears Place entrance was 917 gallons per day based on recorded meter readings when the existing well was actively producing. Maximum daily demand for each of the additional trailhead and parking areas are anticipated to be similar to those of the Mears Place entry. At minimum, Placer County requires a 1.0 gallon per minute yield for each new well unless a maximum daily demand calculation indicates a higher yield is necessary. The required well yield would be determined by a method approved by Placer County Environmental Health at the time the application for a domestic water supply permit is submitted. As part of this permit, the Health Department requires monitoring and testing to show new wells have capacity to meet the calculated demand and the water quality meets potable standards.

Water for fire suppression will be stored in 12,000-gallon tanks located either above or below ground at each of the parking lots. A significant impact to groundwater quality could occur if a groundwater well is used directly as a source of water for fire suppression. If public well(s) are 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.

The proposed trails expansion project would not result in new significant environmental effects or substantially increase the severity of previously identified significant effects with regards to groundwater supply based on changes in the project, circumstances or new information.

IMPACT **Hydrology and Water Quality—Exposure of People or Structures to Flooding.** *Constructing park 11-5 and proposed project facilities adjacent to or across Raccoon Creek or adjacent to the Bear River could expose people and structures to flooding. Facilities potentially exposed to flooding would be constructed to withstand scour and debris flow. 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 (Consistent with prior analysis in the 2010 HFRP Certified EIR)*

Mitigation *None Warranted*
Proposed

Residual *Less than Significant*
Significance

2010 HFRP CERTIFIED EIR IMPACT SUMMARY

The 2010 HFRP Certified EIR indicated that operation of the HFRP would introduce visitors to the Raccoon Creek floodplain because segments of the trail system would run parallel to and cross over the creek. Improvements such as the three planned bridges were also identified as being subject to damage from flooding. However, the 2010 HFRP Certified EIR concluded that the bridges would be designed and constructed to span the 100-year floodplain, removable during flood periods, or withstand 100-year flood events. Existing low-flow crossings along existing roads would also be maintained across Raccoon Creek but these are intended to be submerged in water. No housing or other structures would be constructed within the floodplain and Raccoon Creek bridge crossings would be temporarily closed during major flood events. If extensive flooding were to occur, the County may close all or portions of the Park if it is deemed unsafe for Park users. This impact was found to be **less than significant**.

2019 HFRP TRAILS EXPANSION PROJECT IMPACT ANALYSIS

Visitors to the HFRP Trail Expansion would have access to the Raccoon Creek floodplain within the Taylor Ranch and Connectivity properties and the Bear River floodplain on the Harvego Preserve property. Portions of the trail system would run parallel to and cross over the creek, and the proposed project could also include access to fishing locations along Raccoon Creek. Bridges 4 and 5 would be constructed across Raccoon Creek and a tributary of Raccoon Creek that lies between HFRP and Taylor Ranch. Trail expansion would require spanning the creek with multiple culverts, box culverts, or a bridge. Future bridges would be similar to existing bridges (see Exhibit 3-9 in Chapter 3, “Project Description”). No housing or other structures would be constructed within the floodplain.

Bridge 4 is located at an elevation above the 3-foot minimum freeboard as measured from the 100 year peak water surface and placement would not alter the velocity or depth of the creek. Bridge 5 is planned as a premanufactured steel truss bridge approximately 100 feet long and 12 feet wide. It will be accessible to emergency services, County staff and County contracted staff vehicles, Placer Land Trust staff, pedestrians, bicyclists and equestrians. Concrete abutments will be constructed outside the high water mark on either side of Raccoon Creek, but the south abutment would be located within the 100-year floodplain. A hydrologic analysis for Raccoon Creek was conducted using the United States Army Corps of Engineers Hydrologic Engineering Center HEC-1 modeling program to evaluate the impact of the bridges during a 100 year storm event. The modeling showed that there was no difference in water depth between the 100 year water surface flow regime in the existing condition and post project condition. Water velocity is estimated to decrease by 0.1 ft/s which does not represent a substantial change from current conditions. Given that the introduction of bridges crossing Raccoon Creek would not influence water depth or velocity during a 100 year event, and that the southern abutment of Bridge 5 will be designed to withstand the water velocity and scour during 100-year storm events, **no impact** is anticipated (Carlton Engineering 2012).

Patrons visiting both the existing park and Trail Expansion areas could be exposed to flooding if they were near Raccoon Creek during a major (i.e., >100-year) flood event. However, the Raccoon 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 and trail expansion areas if it is deemed unsafe for users.

Because no housing or other facilities would be constructed within the 100-year floodplain, Bridge 5 would be constructed to withstand flood events, and access would be restricted to Raccoon Creek in the event of a flood, this impact would be **less than significant**. The proposed HFRP Trails Expansion project would not result in new significant environmental effects or substantially increase the severity of previously identified significant effects based on changes in the project, circumstances or new information.

11.5 MITIGATION MEASURES

Mitigation Measure S5-1 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 (*applies to Impacts 11-1 and 11-2*)

Mitigation Measure 11-1: Prepare and Implement a Grading and Drainage Plan (*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 proposed trails expansion project, including access roads, parking areas, overlooks, bridges and trails 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. In addition, routine maintenance shall be performed on trails expansion facilities to reduce erosion to the extent possible and to repair weather-related damage that could contribute to erosion.

Mitigation Measure 11-2: Implement Groundwater Protection through a Transient Non-community Water System Permit (*applies to Impacts 11-3 and 11-4*)

A HFRP Groundwater Systems Operation Procedure is in place for the existing well serving the restroom and facilities at the Mears Place parking area as well as the existing well at the ranch house. 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 Public Works, operates the well and distribution system serving the public facilities at the existing Mears Place parking area under a Transient Non-community Water System Permit administered by the Placer County Environmental Health Department.

A separate permit would be obtained to include any additional wells that serve public facilities within the existing HFRP or trails expansion areas, 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 a public well and a septic tank shall be a minimum of 100 feet and between a public well and sewage disposal field shall be a minimum of 150 feet. If seepage pits are required, a minimum setback of 200 feet from a public well shall be maintained. Any other setbacks deemed necessary by Environmental Health will be met.
- 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 Department 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 (*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.