

## 2.9 Water Quality

### 2.9.1 Regulatory Setting

#### 2.9.1.1 Federal

##### **Clean Water Act**

In 1972, Congress amended the federal Water Pollution Control Act, making the addition of pollutants to waters of the United States from any point source<sup>1</sup> unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections.

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the United States. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The USACE issues two types of 404 permits: General and Standard Permits. There are two types of General Permits: Regional Permits and Nationwide Permits. Regional permits are issued for a general category of activities when they are similar and cause minimal environmental effect. Nationwide Permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of the USACE’s Standard Permits. There are two types of Standard Permits: Individual Permits and Letters of Permission. For Standard Permits, the USACE decision to approve is

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<sup>1</sup> A *point source* is any discrete conveyance such as a pipe or a man-made ditch.

based on compliance with EPA’s Section 404 (b)(1) Guidelines (Guidelines) (40 CFR 230), and whether the permit approval is in the public interest. The Guidelines were developed by EPA in conjunction with the USACE and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if no practicable alternative exists that would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects to waters of the United States and not cause any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent<sup>2</sup> standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to waters of the United States. In addition, every permit from the USACE, even if not subject to the Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

### 2.9.1.2 State

#### **Porter-Cologne Water Quality Control Act**

California’s Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a “Report of Waste Discharge” for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the State include more than just waters of the United States, such as groundwater and surface waters not considered waters of the United States. Additionally, it prohibits discharges of “waste” as defined and this definition is broader than the CWA definition of “pollutant.” Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (State Water Board) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA, and for regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, the RWQCBs designate beneficial uses for all water body segments and then set the criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the State Water Board identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and that the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

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<sup>2</sup> The EPA defines effluent as “wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall.”

### **State Water Resources Control Board and Regional Water Quality Control Boards**

The State Water Board administers water rights; sets water pollution control policy; issues water board orders on matters of statewide application; and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

### **National Pollutant Discharge Elimination System Program**

#### **Municipal Separate Storm Sewer Systems (MS4)**

Section 402(p) of the CWA requires issuance of NPDES permits for five categories of storm water discharges, including MS4s. An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The State Water Board has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans’ MS4 Permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The State Water Board or the RWQCB issues NPDES permits for 5 years, and permit requirements remain active until a new permit has been adopted.

Caltrans’ MS4 Permit (Order No. 2012-0011-DWQ) was adopted on September 19, 2012 and became effective on July 1, 2013. The permit has three basic requirements.

1. Caltrans must comply with the requirements of the Construction General Permit (see below);
2. Caltrans must implement a year-round program in all parts of the state to effectively control storm water and non-storm water discharges; and
3. Caltrans’ storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) BMPs, to the maximum extent practicable, and other measures the State Water Board determines necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including selection and implementation of BMPs. Further, in recent years, hydromodification control requirements and measures to encourage low impact development have been included as a component of new development permit requirements. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

### **Construction General Permit**

Construction General Permit (Order No. 2009-009-DWQ) (CGP), adopted on September 2, 2009, became effective on July 1, 2010. The CGP was amended by 2010-0014-DWQ and 2012-0006-DWQ on February 14, 2011 and July 17, 2012 respectively. The permit regulates storm water discharges from construction sites that result in a disturbed soil area (DSA) of 1 acre or greater and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the Construction General Permit. Construction activity that results in soil disturbances of less than 1 acre is subject to this Construction General Permit if the activity has the potential to result in significant water quality impairment, as determined by the RWQCB. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the risk level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with Caltrans' Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with a DSA of less than 1 acre.

### **Section 401 Permitting**

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 Certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

## **2.9.1.3 Regional**

### ***Placer County Stormwater Quality Program***

Placer County is a designated municipal permittee under the U.S. Environmental Protection Agency's NPDES, which regulates stormwater flows into natural water bodies. The NPDES regulations require permitted areas to implement specific activities and actions to eliminate or control stormwater pollution. Under the Phase I NPDES program, Placer County shares a permit

with El Dorado County and the City of South Lake Tahoe for the Lake Tahoe watershed area. Under the Phase II NPDES program Placer County is permitted in the western county area and in the Truckee River Basin.

#### **2.9.1.4 Local**

##### ***City of Rocklin Stormwater Management Program***

Rocklin has prepared a SWMP in order to comply with the requirements of the EPA's NPDES. The SWMP provides the frame works for public outreach, public involvement, illicit discharge and detection, management of construction site runoff, new development and redevelopment, and municipal operation.

##### ***City of Roseville Stormwater Management Program***

Similarly, Roseville has prepared a SWMP in order to comply with the requirements of the EPA's NPDES. The SWMP provides the frame works for public outreach, public involvement, illicit discharge and detection, management of construction site runoff, new development and redevelopment, and municipal operation.

#### **2.9.2 Affected Environment**

The proposed project is located within the jurisdictional boundaries of the Central Valley RWQCB.

The analysis in this section is based on the following reports.

- *Appendix E Long Form Storm Water Data Report* (WRECO 2014)
- *Water Quality Assessment Report* (WRECO 2015)

##### **2.9.2.1 Climate, Topography, and Soils**

The project site has a Mediterranean climate characterized by cool, wet winters and hot, dry summers. Average daily high temperatures range from 54°F in January to 95°F in July and 94°F in August. Daily low temperatures range from 39°F in winter to 60°F in summer. Average yearly precipitation in the site vicinity (Roseville) is 25 inches.

The project site can be characterized by rolling hills with southwest-trending ridges and relatively gentle slope gradients. In the project area, I-80 is constructed at near-natural grade, with some cuts through ridges and fills across low-lying areas. SR 65 is mostly elevated by fills and bridges above natural grade from the interchange area to the northwest side of Antelope Creek near PM 5.4. Northwest of Antelope Creek to Pleasant Grove Boulevard, SR 65 is constructed at near-natural grade with some cuts and fills.

According to the Natural Resources Conservation Service Web Soil Survey, the soils in the project area primarily consist of soils with high runoff potential when thoroughly wet and soils with a moderate to slow infiltration rate, respectively, when thoroughly wet.

In the project vicinity, erosion from stormwater is the dominant erosion process rather than wind. Erosion potential from stormwater runoff is a function of three processes. The first involves the creation of runoff water by poor soil infiltration. The second is detachment of soil particles by raindrop impact or running water. The third involves the movement of soil particles by running water. Soil erosion potential is considered to be moderate for the majority soils (67%) in the project vicinity due to the rolling hill topography of the vicinity which increases runoff velocity, and the high runoff potential of the soil.

### 2.9.2.2 Surface Hydrology

The project site falls within the Sacramento River hydrologic region, and the project limits cross two hydrologic subareas (HSAs), Lower American (HSA #519.21) and Pleasant Grove (HSA #519.22) within the hydrologic unit: Valley-American. Valley American-Lower American includes Antelope Creek, Miners Ravine, Secret Ravine, and Sucker Ravine. Pleasant Grove includes Highland Ravine and the tributary to the south branch of Pleasant Grove Creek.

The project crosses or is adjacent to several water bodies. Table 2.9-1 presents a cumulative list of streams and creeks that cross or flow adjacent to I-80 and SR 65 within the project limits.

**Table 2.9-1. Streams Crossing the Project Site**

Stream Name	Crossing Type	Crossing Location
Antelope Creek	Bridge	SR 65 at the East Roseville Viaduct bridge immediately west of the Taylor Road and I-80/SR 65 interchange.
Highland Ravine	Culvert	SR 65 approximately 0.4 mile southeast of Pleasant Grove Boulevard (toward the I-80/SR 65 Interchange) as a double 72-inch culvert.
Miners Ravine	Bridge	I-80 immediately south of Atlantic Street near the Taylor Road off-ramp.
Secret Ravine	Longitudinal	Flows parallel to I-80 within the project limits, from the Taylor Road overcrossing (located 0.2 mile north of Roseville Parkway on I-80) to the project's northern limits at Rocklin Road.
Tributary to South Branch of Pleasant Grove Creek	Culvert	SR 65 farther southeast of Highland Ravine just before the Galleria Boulevard overcrossing.
Sucker Ravine	Culvert	Beneath Rocklin Road between Granite Drive and Shaw Court and beneath Lake Side Drive and Oakridge Street before being conveyed in a culvert beneath I-80 toward Secret Ravine. This culvert is located about 0.61 mile southwest of the Rocklin Road undercrossing.

### 2.9.2.3 Groundwater

The project site is within the North American sub-basin of the Sacramento Valley groundwater basin. The sub-basin is bounded by the Bear River to the north, the Feather River to the west, and the Sacramento River to the south. The eastern boundary represents the approximate edge of the alluvial basin, where little or no groundwater flows into or out of the groundwater basin from the rock of the Sierra Nevada. Groundwater generally flows southwesterly toward the Feather and Sacramento Rivers.

Regionally, groundwater levels range from approximately 45 feet above mean sea level (amsl) at the west end of the project to approximately 65 feet amsl at the east end. However, preliminary geotechnical data for the project site indicate that groundwater depth below the site is variable for the following reasons.

- Presence of several creek beds.
- Presence of alluvial sediments that extend through the central portion of the area.
- Hard, well consolidated sediments and hard rock at project perimeter.
- Significant changes in ground surface elevation across the site.

Groundwater should be expected near the elevation of water in the adjacent creeks. Depth to groundwater at the east-central portion of the project (adjacent to Secret Ravine) is from 10 to 25 feet, from 2 to 5 feet at the west end (at Miners Ravine), and from 0.5 to 9 feet at the northwest portion (East Roseville Viaduct [near Antelope Creek]).

#### **2.9.2.4 Water Quality**

##### **Surface Water Quality**

The existing quality of stormwater runoff from the project vicinity is likely typical of urban watersheds with similar land uses and may contain constituents such as landscaping chemicals (e.g., nitrates, phosphates, herbicides, and pesticides), automotive and traffic pollutants (e.g., oil, grease, metal brake dust, metal wear), trash and debris, pathogens (e.g., pet and wildlife waste), sediment with associated attached pollutants from soil erosion and aerial deposition of dust, and chemicals leaching from structures (e.g., calcium from limestone, metal from metal roofs and architectural features).

The *Central Valley RWQCB's Water Quality Control Plan (Basin Plan)* has designated the following beneficial uses<sup>3</sup> for the Lower American HSA (519.21).

- MUN—Municipal & Domestic Water Supply
- AGR—Agricultural Supply
- IND—Industrial Service Supply
- REC-1—Water Contact Recreation
- REC-2—Non-contact Water Recreation
- WARM—Warm Freshwater Habitat
- COLD—Cold Freshwater Habitat
- MIGR—Fish Migration
- SPWN—Fish Spawning
- WILD—Wildlife Habitat

Miners Ravine is the only project receiving body listed on the 303(d) List of Impaired Water Bodies. This list identifies all waters where required pollution controls are not sufficient to attain or maintain applicable water quality standards and the development of a TMDL is required. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards. However, the unnamed tributary drains to Pleasant

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<sup>3</sup> Beneficial uses are designated by the RWQCB as uses that provide the maximum benefit to the people of the state and are used to establish water quality objectives and discharge prohibitions

Grove Creek, which is listed on the 303(d) list and thus is included below. Impairments for these streams are listed below (Table 2.9-2).

**Table 2.9-2. 303(d) Impairments for Streams Crossing the Project Site**

Stream Name	Pollutant/Stressor	Source	TMDL Completion Date
Miners Ravine	Dissolved oxygen	Unknown	Estimated 2021
Pleasant Grove Creek	Dissolved oxygen	Unknown	Estimated 2021
	Pyrethroids	Urban runoff/storm sewers	Estimated 2021
	Sediment toxicity	Source unknown	Estimated 2021

TMDL = total maximum daily load.

Source: California 303(d) List and TMDL Priority Schedule (State Water Resources Control Board 2011).

### **Groundwater Quality**

The Basin Plan has identified narrative and numerical groundwater objectives for the region including bacteria, chemical constituents, radioactivity, taste and odors, and toxicity. Unless otherwise stated, all groundwaters have the beneficial uses: at a minimum, for municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO).

Groundwater quality in the North American sub-basin varies from good to marginal. Analysis of groundwater quality data with respect to applicable water quality standards and guidelines for drinking and irrigation shows that elevated levels of total dissolved solids (TDS)/specific conductance, chloride, sodium, bicarbonate, boron, fluoride, nitrate, iron manganese, and arsenic may be of concern in some areas. Significant groundwater contamination issues exist at three sites within the sub-basin: the former McClellan Air Force Base (7 miles northeast of Sacramento, California), the UPRR rail yard in Roseville, and the Aerojet Superfund Site (near Rancho Cordova, 15 miles east of Sacramento). The closest of these sites to the project is the UPRR rail yard.

## **2.9.3 Environmental Consequences**

### **2.9.3.1 Build Alternatives**

The extent of effects associated with the build alternatives is shown in Table 2.9-3.

**Table 2.9-3. Ground Disturbance and Impervious Surfaces Associated with Build Alternatives (acres)**

Description	Alternative 1	Alternative 2	Alternative 3
Ground disturbance	147	151	156
Added impervious surface area	30	28	26

### **Construction**

Construction of all build alternatives would involve land-disturbing activities, stockpiling, equipment use and storage, and potential spills that could result in temporary impacts on water resources within the project site or nearby. These activities have the potential to violate water quality standards or WDRs if sediment- or contaminant-laden runoff from disturbed work areas enters storm drains or other pathways leading to receiving waters, or if fuel or other construction chemicals are accidentally spilled or leaked into the water. Sources of sediment include earthwork, excavation, embankment/fill construction, in-water work, uncovered or improperly covered stockpiles, unstabilized slopes, and construction equipment not properly cleaned or maintained.

The delivery, handling, and storage of construction materials and wastes (e.g., concrete debris), as well as the use of heavy construction equipment, could result in stormwater contamination and thereby affect water quality. Construction activities may involve the use of chemicals and operation of heavy equipment that could result in accidental spills of hazardous materials (e.g., fuel and oil) during construction activities that could enter the groundwater aquifer or nearby surface water bodies via runoff or storm drains. Constituents in fuel, oil, and grease can be acutely toxic to aquatic organisms and/or bioaccumulate in the environment. Staging areas or building sites can be sources of pollution because of the use of paints, solvents, cleaning agents, and metals during construction. Impacts associated with metals in stormwater include toxicity to aquatic organisms, such as bioaccumulation, and potential contamination of drinking supplies.

Construction for all build alternatives could include dewatering. The Basin Plan and Section 401 Water Quality Certification prohibits the discharge waste that exceed water quality objectives/standards. Therefore, treatment is required if water quality objectives or discharge requirements stated in the 401 WQC are exceeded. For low threat discharge to land, dewatering must meet the conditions of Resolution R5-2013-0145 or, the State Water Resource Control Boards Water Quality Order No. 2003-0003-DWQ (WDRs). For low threat discharges to surface waters, the Central Valley RWQCB's (WDRs) may apply. Discharges covered by this General Order are either 4 months or less in duration or have a daily average discharge flow less than 0.25 million gallons per day. A project specific WDRs is required if either Order No. 2003-0003-DWQ or Order R5-2013-0074 is needed. However, dewatering discharge is not anticipated to be greater than 0.25 million gallons per day or last more than 4 months and thus would not require treatment before discharge or be associated with significant impacts. Therefore, a project-specific WDR is not required and construction site BMPs, such as those in Caltrans' Standard Specifications, would be considered sufficient to address any project impacts from the dewatering activities.

Temporary impacts related to construction would be lessened through compliance with applicable regulations. All build alternatives would disturb more than 1 acre of ground (Table 2.9-3). Therefore, preparation and implementation of a SWPPP will be required to comply with the NPDES Construction General Permit. The SWPPP would include BMPs to prevent or minimize stormwater pollution during construction activities and post construction.

## **Operations and Maintenance**

### **Turbidity/Suspended Sediment**

All build alternatives would add impervious surface area (Table 2.9-3). This increases the volume of unfiltered runoff not infiltrated or dispersed onto pervious surfaces. Additional runoff could result in direct discharge of sediment-laden stormwater from the roadway to receiving water bodies. However, permanent design pollution prevention BMPs would be implemented to reduce operations impacts related to sediment.

### **Oil, Grease, and Chemical Pollutants**

All build alternatives could result in increased deposition of heavy metals due to increased traffic loads throughout the corridor. Heavy metals associated with vehicle tire and brake wear, oil and grease, and exhaust emissions are the primary pollutants associated with transportation corridors. Generally, highway stormwater runoff has the following pollutants: total suspended solids, nitrates, total nitrogen, phosphorus, ortho-phosphate, copper, lead, and zinc. These pollutants are dispersed from combustion products from fossil fuels, and the wearing of brake pads and tires. Impacts would be lessened through implementation of permanent design pollution prevention BMPs.

### **Erosion and Accretion Patterns**

All build alternatives would add impervious surface area. This increase in impervious surface area could result in modification of existing receiving water body hydrographs by increasing the flow volumes and rates and peak durations from the loss of unpaved overland flow and native infiltration (hydromodification). These changes have the potential to cause bed and bank erosion, increased sediment transport and deposition, loss of habitat, and increased flooding. Impacts would be lessened through implementation of permanent design pollution prevention BMPs.

### **Groundwater Recharge**

All build alternatives would add impervious surface area. This increase in impervious surface has the potential to reduce groundwater recharge to local aquifers by reducing the available area for infiltration. This reduction in local aquifer and groundwater recharge also has the potential to impact the beneficial uses of groundwater basins.

Of the three build alternatives, Build Alternative 1 would have the largest impact with an estimated new impervious area of 30 acres. The North American groundwater subbasin of the Sacramento Valley groundwater basin is 548 square miles, therefore the Project would only increase the impervious area by 0.009%. While this minimal increase in impervious area would reduce the available area for infiltration of stormwater, groundwater impacts would be minimal.

### **2.9.3.2 No Build Alternative**

The No Build Alternative would not add capacity or reduce congestion. This alternative could result in permanent water quality impacts from increasing congestion. Greater congestion would lead to increased deposition of particulates from exhaust and heavy metals from braking. The build alternatives also may increase deposition from increased traffic loads. It is unclear which alternative would result in greater deposition.

## 2.9.4 Avoidance, Minimization, and/or Mitigation Measures

The State Water Board has issued Caltrans a Statewide NPDES Permit (Order No. 2012-0011-DWQ). This permit regulates the storm water and non-storm water discharges associated with project construction activities and discharges associated with normal maintenance and operations of Caltrans facilities. The permit also serves as a State of California WDR. Compliance with this permit requires implementation of BMPs that achieve the performance standards of best available technology economically achievable/best conventional pollutant control technology to reduce or eliminate storm water pollution. BMPs will be implemented during construction and operations to limit sediments and pollutants from affecting drainages and to diminish erosion in the project area. BMPs are described further below.

### Water Quality Protection During Construction

The CGP (Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ and 2012-0006-DWQ) is applicable to all entities disturbing more than an acre of soil. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least 1 acre of total land area (such as this project) must comply with the provisions of the CGP and develop and implement an effective SWPPP. Caltrans' requires submission of a Notice of Intent to the RWQCB at least 30 days prior to construction and preparation of the SWPPP prior to the beginning of construction. Implementation of the SWPPP starts with the commencement of construction and continues through the completion of the project. Upon completion of the project, Caltrans must submit a Notice of Completion of Construction to the RWQCB, to indicate that construction is complete.

The SWPPP would include the following elements:

- Project Description – The Project description includes maps and other information related to construction activities and potential sources of pollutants.
- Minimum Construction Control Measures – These measures may include limiting construction access routes, stabilization of areas denuded by construction, and using sediment controls and filtration.
- Erosion and Sediment Control – The SWPPP is required to contain a description of soil stabilization practices, control measures to prevent a net increase in sediment load in stormwater, controls to reduce tracking sediment onto roads, and controls to reduce wind erosion.
- Non-Stormwater Management – The SWPPP includes provisions to reduce and control discharges other than stormwater.
- Post-Construction Stormwater Management – The SWPPP includes a list of stormwater control measures that provide ongoing (permanent) protection for water resources.
- Waste Management and Disposal – The SWPPP includes a waste management section including equipment maintenance waste, used oil, batteries, etc. All waste must be disposed of as required by state and federal law.

- Maintenance, Inspection, and Repair – The SWPPP requires an ongoing program to ensure that all controls are in place and operating as designed.
- Monitoring – This provision requires documented inspections of the control measures.
- Reports – The contractor will prepare an annual report on the construction project and submit this report on July 15 each year. This report will be submitted on the Storm Water Multiple Application and Report Tracking System website to the SWRCB.
- Training – The SWPPP provides documentation on the training and qualifications of the designated Qualified SWPPP Developer and Qualified SWPPP Practitioner. Trained personnel must do inspections, maintenance, and repair of construction site BMPs.
- Construction Site Monitoring Program – The SWPPP includes a Construction Site Monitoring Program detailing the procedures and methods related to the visual monitoring and sampling and analysis plans for non-visible pollutants, sediment and turbidity, pH and bioassessment.

The following minimum BMPS would be necessary for the project to comply with the CGP:

- Soil Stabilization
  - Hydroseeding
  - Geotextiles, Mats, Plastic Covers, and Erosion Control Blankets,
  - Hydraulic Mulch
- Sediment Control
  - Fiber Rolls
  - Silt Fence
  - Sediment Trap
  - Gravel Bag Berm
  - Check Dams
  - Storm Drain Inlet Protection
- Tracking Control Practices
  - Temporary Construction Entrance
- Non-stormwater Controls
  - Dewatering Operations
  - Material and Equipment Use over Water
  - Clear Water Diversion
  - Temporary Stream Crossing
  - Potable Water/Irrigation
- Water Management and Materials Pollution Control

- Concrete Waste Management
- Hazardous Waste Management and Contaminated Soil Management

Because Caltrans and the construction contractor must comply with conditions stipulated in water quality permits for the project, no additional measures are required.

### **Water Quality Protection During Project Operation and Maintenance**

The Caltrans MS4 permit contains provisions to reduce, to the maximum extent practicable, pollutant loadings from the facility once construction is complete. Thus, design features or BMPs would be developed and incorporated into the project design and operations prior to the project construction. These measures would reduce the suspended particulate loads, and thus pollutants associated with the particles, from entering waterways. Additionally, an operation and maintenance program would be implemented for permanent control measures.

Low impact development measures are proposed to reduce the rate of runoff, filter pollutants, and allow infiltration into the ground. The proposed measures would address peak flow attenuation impacts can include structural measures, such as detention, underground storage, and non-structural measures, through the modification of proposed treatment BMPs to accommodate flow and volume control.

Caltrans approved treatment BMPs/low impact development measures that have been studied and verified to remove targeted design constituents and provide general pollutant removal include:

- Biofiltration Systems
- Infiltration Devices
- Detention Devices
- Dry Weather Flow Division
- Gross Solids Removal devices (GSRDs)
- Media Filters
- Multi-Chamber Treatment Train
- Wet Basins

The Caltrans Maintenance Unit would be responsible for maintaining the treatment BMPs discussed above. The Maintenance Stormwater Coordinator would be involved in the design review of any permanent stormwater treatment BMPs and would need to approve any such devices at the end of the plans, specifications, and estimate phase. The Caltrans Maintenance Unit would be able to provide guidance on the following project-related issues to ensure BMPs function as needed:

- Drainage patterns (particularly known areas of flooding, debris, etc.)
- Stability of slopes and roadbed (help determine if the Project can be built and maintained economically)

- Possible material borrow or spoil sites
- Concerns of the local residents
- Existing and potential erosion problems
- Facilities within the right-of-way that will affect alternative designs
- Special problems such as deer crossings, endangered species, etc.
- Whether facilities are safe to maintain
- Known environmentally sensitive areas
- Frequency of traction sand use and estimate of sand quantity applied annually

Also see the measure to *Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Other Waters* in Section 2.17, “Wetlands and Other Waters.”

### 2.9.5 References Cited

WRECO. 2014. Appendix E – Long Form Storm Water Data Report. October.

———. 2015. Water Quality Assessment Report – I-80/SR 65 Interchange Project, Placer County, California. Prepared for Placer County Transportation Planning Agency and CH2M HILL. Sacramento, CA. January.