

Water Quality Technical Study

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12-ORA-74
PM 1.0/1.9
(KP 1.6/3.0)**

**SR-74 LOWER ORTEGA HIGHWAY
WIDENING PROJECT**

**Water Resources and Water Quality
Technical Study**

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1.0 Introduction

1.1 ROUTE DESCRIPTION

State Route 74 (SR-74), commonly known as Ortega Highway, currently provides interregional access between the employment centers of South Orange County and the residential centers of Riverside County. The west to east highway begins at Interstate 5 (I-5) in the City of San Juan Capistrano, and runs parallel to San Juan Creek through the Santa Ana Mountains, in the Cleveland National Forest. Ortega Highway ends in Riverside County. San Juan Creek meanders and crosses the highway along the northern section of the corridor as well as the southern section of the corridor. Along the San Juan Canyon area, the route is filled with sharp curves and steep slopes. Currently, Ortega Highway has a high volume of truck and commuter traffic during weekdays and recreational travelers on the weekend.

1.2 PURPOSE AND NEED OF TECHNICAL REPORT

The objectives of the *Water Resources and Water Quality Technical Report* are to describe the existing water resources, to determine if the potential impacts of the project on the water resources would be significant based on preliminary project information, and to identify feasible mitigation measures to address any potentially significant impacts. This report will discuss how the project would increase the amount of impervious surface area and potentially increase runoff volumes and the amount of water percolating into the local groundwater basin. It will also discuss how the project may generate additional vehicle pollutants, such as oil and grease, which could be carried by surface flows into local surface drainages and groundwater basins. This technical study is prepared for the SR-74 Lower Ortega Highway Widening Project Draft Initial Study/ Environmental Assessment. Caltrans is the Lead Agency for CEQA and the Federal Highway Administration is the Lead Agency for NEPA.

1.3 PROJECT DESCRIPTION

This project proposes to widen SR-74 from Calle Entradero Kilopost (PM) 1.0 (Kilopost (KP) 1.6) to the City/County line PM 1.9 (KP 3.0) . The existing two-lane facility (single lanes in each direction) would be widened to accommodate four 3.6-meter lanes (two lanes in each direction) with a 3.6-meter (11.8-foot) painted median. One build alternative and a no-build alternative are being considered for the project.

The proposed project is located on a section of Ortega Highway within the City of San Juan Capistrano from Calle Entradero to the City / County Line.

A typical section within the City reach would consist of four through lanes with a painted median. Additionally, a five-foot paved shoulder would be provided on each side of the roadway to accommodate Class II bicycle facilities. The edge of pavement would be lined with concrete curbs on each side of the roadway. No new intersections would be added along Ortega Highway within the City limits. All of the existing intersections

within the City limits would be widened and improved to accommodate the four through lanes and five-foot shoulders.

Since most of the widening will occur on the north side of the highway, all existing drainages would be modified and extended to intercept runoff at the proposed edge of pavement. An additional ten drainages would be added on the north side of the highway throughout the project limits. There would be no drainages added to the south side of the highway. However, existing drainages on the south side from Avenida Siega, where widening will occur, to the City/County line would be modified to intercept runoff at the proposed edge of pavement.

Three sound walls would be required along the south side of Ortega Highway, adjacent to the existing residential development located within the City limits. All walls would follow the alignment of the existing garden wall. Exact soundwall heights are still to be determined but will be from 14ft to 16ft.

Five retaining walls would be required to accommodate the widening improvements on the north side of Ortega Highway. The walls will be constructed to meet the aesthetic requirements of the City. Extensive landscaping would be incorporated to blend the wall structures into the natural environment where feasible. The final design of the retaining walls will be decided at a later date.

1.3.1 Project Alternatives

- **Alternative 1- “No Build” Alternative**

This alternative would only require routine highway maintenance, with no additional roadway improvements. The existing highway deficiencies would not be addressed under this alternative, and this portion of SR-74 will continue to experience Level of Service (LOS) F operating conditions. LOS F would indicate that the Intersection Capacity Utilization (ICU - A measure of the volume to capacity ratio for an intersection) is greater than 1.0.

- **Alternative 2- “Build” Alternative**

The Build Alternative proposes improvements to the existing two lanes of Ortega Highway to improve traffic flow. The proposed additional lanes, shoulders, drainages, driveways and sidewalks have been developed in consistency with the Department’s Highway Design Manual standards. The project features would be built on both the north and south sides of the highway. This alternative would result in the roadbed changing from the current varying width of 19m at Calle Entradero and 7.5m at the County Line to a maximum width of 21.3 m (70 ft.) including lanes, shoulders and median. Project features are described in detail below. Should this alternative be selected as the preferred

alternative, construction of the proposed Build Alternative would span roughly 18 months beginning as early as February 2008.

Highway Widening

Currently there are two 3.6m (12 ft.) lanes in each direction and no median throughout the project area. The Build Alternative would provide one additional 3.6 meter wide (12 ft) lane in each direction as well as a 3.6 meter wide (12 ft) painted median.

Intersection Improvements

There are five intersections within the project study area: Calle Entradero, Via Cordova, Via Cristal, Via Erracarte and Avenida Siega. Each intersection would be modified to account for the additional lanes and median. At the intersections where there are existing right turn pockets (Via Cordova and Via Cristal), the right turn pocket would remain. At Via Cordova the right turn pocket would be modified and the sidewalk would be reconstructed. No new intersections would be added.

Driveways

On the north side of Ortega Highway within the project limits there are 11 existing driveways. Each of the eleven driveways would be modified to include reconstruction of the curb return to ADA standards. Along the south side there are currently two unpaved dirt driveways. These would be paved and modified to ADA standards. No new driveways would be added.

Pedestrian and Bicycle Facilities

There are existing sidewalks on the north and south sides of the highway which begin outside of the project limits to the west. These sidewalks continue partially through the project area with the north sidewalk currently terminating at Palm Hill Drive and the south sidewalk currently terminating just east of Avenida Siega. In order to provide sidewalk continuity between the City and County, Caltrans and FHWA agreed to eliminate the north sidewalk and provide a new sidewalk on the south.

The south sidewalk would be maintained in the current position with the exception of a portion of sidewalk at the intersection of Via Cordova, where the sidewalk would be shifted to the south and reconstructed to provide for the right turn pocket. A new sidewalk would be constructed to connect to the existing sidewalk in the City and beyond to the County sidewalk system.

Cut and Fill

The vast majority of the widening would occur on the north side of the highway, thus, the cut would occur on the north side. There would be no fill on the north side. Fill will take place on the south side from Avenida Siega to the City/County line.

Drainage Improvements

Since most of the widening will occur on the north side of the highway, all existing drainages would be modified and extended to intercept runoff at the proposed edge of pavement. An additional ten drainages would be added on the north side of the highway throughout the project limits. There would be no drainages added to the south side of the highway, however, existing drainages on the south side from Avenida Siega, where widening will occur on the south side to the City/County line, would be modified to intercept runoff at the proposed edge of pavement.

Walls

Five retaining walls would be located on the north side of the highway.

Three soundwalls are proposed on the south side of the highway, spanning for three consecutive blocks. The first soundwall would start at Calle Entradero and end at Via Cordova. The second soundwall would start at Via Cordova and end at Via Cristal and the third soundwall would start at Via Cristal and end at Via Erracarte. All walls would follow the alignment of the existing garden wall. Exact soundwall heights are still to be determined but will be from 14 ft. to 16 ft. Figure 1.3 shows the locations of the three proposed soundwalls.

Signals and Lighting

Currently, there are no signals within the project limits. This project does not warrant any signals at the existing intersections.

All streetlights affected by the widening of the highway would be relocated and replaced in kind.

Utilities

All utilities as impacted by this project would be relocated or placed underground within the project limits.

The build project alternative would require acquiring additional right of way due to cut or fill slopes. Construction of retaining walls may be required to minimize the right of way acquisition. In addition, the project would require drainage improvements along the highway. Construction of the project is expected to disturb at least 4.54-acres (1.84-hectares) of soil for roadway widening, drainage, and staging areas. The exact acreage would be provided once the final designs for the project are completed.

2.1.2 Regional and Local Climate and Precipitation

Orange County's climate is classified as Mediterranean, characterized by cool, dry summers and mild, wet winters. The major contributors to the climate are the Eastern Pacific High and the moderating effects of the Pacific Ocean.

The current rainy season in the project area, as defined by the San Diego Regional Water Quality Control Board (RWQCB), is from October 1st through May 1st. However, most rainfall occurs during the winter season, December through February (Department of Water Resources, 1971). Rainfall in the project area averages approximately 13 inches (33 centimeters) annually. The peak monthly rainfall in the project vicinity generally occurs between January and February, with an average peak rainfall intensity of approximately 5.5-inches (14 centimeters) in 24 hours.

2.1.3 Surface Water and Floodplain Features

The San Juan Creek has a drainage area of approximately 176 square miles (456 square kilometers). The creek originates in the Santa Ana Mountains of the Cleveland National Forest and flows approximately 27-miles (43.4-kilometers) to the Pacific Ocean (OCFCD, 1970). The creek contains six reaches. The upper reaches of the creek (Reaches 1 and 2) contain exceptionally rugged terrain with steep slopes and generally sparse vegetative cover. The middle reaches of the creek (Reaches 3 and 4) are characterized by considerably more dense vegetation, rolling foothills, agricultural lands, and various other developments. In the lower reaches (Reaches 5 and 6), the San Juan Creek flows through a floodplain of increased development and decreased vegetative cover. The last segment, which contains the confluence with Trabuco Creek before discharging into the Pacific Ocean, is channelized within sloped concrete banks and lacks any significant vegetation. The floodplain is highly developed, encompassing residential, commercial, and industrial uses and degraded open space (USACOE, 1997).

The proposed project is located within reach 5 of San Juan Creek. The portion of the project area located west of the City/County Line is composed mainly of developed land with extensive areas of impervious surface and has few remaining natural drainage features. Runoff from the project site is currently discharged into the San Juan Creek via natural surface drainage and underground storm drains.

2.1.4 Groundwater

Groundwater in the San Juan Creek Watershed exists unconfined in a generally narrow, shallow, alluvium-filled valley in the San Juan Canyon area and its tributaries. The depths of the alluvial fill range from 200-feet (61-meters) at the coast to zero feet at the end of the main canyon tributaries in the Santa Ana Mountains.

The Cristianitos Fault is the main physical feature influencing the movement of groundwater within the watershed. The fault travels through the watershed in a north-south direction about 3.5-miles (5.6-kilometers) upstream from the confluence of San Juan and Trabuco Creeks. The fault separates the groundwater alluvium into an upper and lower basin. Current total groundwater storage capacity is estimated at 63,220 acre-feet: 21,620 acre-feet for the Upper San Juan Basin and 41,600 acre-feet for the Lower San Juan Basin (CBCWD, 1994).

A study conducted for the San Juan Basin Authority (SJBA), by NBS/Lowry (1994), revealed that the major inflow and outflow components to the San Juan Basin are subsurface flow and well extractions, respectively. Recharge for the groundwater basins consists of subsurface inflow from the tributary alluvial riverbed areas, streambed percolation from San Juan and Trabuco Creeks, rainfall infiltration and percolation, and percolation from landscape and agricultural irrigation. The total basin inflow is estimated at 4,284 acre-feet per year. Outflow from the basins consists of well extractions, extractions from deep-rooted plants, and subterranean outflow at the river mouth. The total basin outflow of groundwater is estimated at 4,819 acre-feet per year. The study indicated that the basin's sustained yield was approximately 5,200 acre-feet per year and that the watershed may have been overdrafted by an average of 2,000 acre-feet per year during the 1979 to 1990 study period.

Currently, only two water districts are actively pumping groundwater for supplemental domestic use. The Capistrano Valley Water District receives approximately 30 percent of their total water supply via groundwater and the Trabuco Creek Water District receives approximately 15 percent of their total water supply via groundwater (USACOE, 1997).

2.2 EXISTING WATER QUALITY

2.2.1 Surface Waters

The San Juan Creek has been documented as having poor surface water quality (USACOE, 1997). The lower portion of the creek, including the creek mouth, is currently designated as impaired for bacteriological indicators (coliform) under Section 303(d) of the Clean Water Act (CWA) by the State Water Resources Control Board (SWRCB). Currently, the creek does not appear to be contaminated with heavy metals or other pollutants.

Surface water quality in the San Juan Creek watershed is primarily influenced by non-point sources of storm water runoff from urban and residential developments. Contaminants affecting the watershed include various vehicle-related pollutants such as oil, grease, and other petroleum products from roadways. Other pollutants that also affect the watershed include illicit dumping, pesticides, herbicides, and fertilizers from parks, residential homes, and golf courses. Contaminated runoff from irrigated agricultural lands in the watershed also contributes to the poor surface water quality in San Juan Creek. Currently, wastewater treatment facilities do not contribute pollutants to the

watershed because all effluents from these facilities are discharged into the Pacific Ocean.

2.2.2 Groundwater

Groundwater in the San Juan Basin is considered poor due to the high levels of dissolved solids and salt. The problem is primarily related to the high salt content in the water-bearing sediments and not pollution from human sources. Therefore, local water agencies tend to favor the use of imported water for domestic needs, with pumped groundwater as the supplemental source (USACOE, 1997).

2.2.3 Erosion and Siltation

In general, bank erosion has not been a large problem in most of the unmodified reaches of the San Juan Creek. However, the creek is currently undergoing drastic geomorphic changes due to downcutting along the mainstream channel and channel bank erosion in selected reaches. Both of these factors may be expected to continue at an accelerated rate depending on the frequency and magnitude of rain and runoff events. The erosion is limited to selected areas along the unchannelized reaches downstream from the Santa Ana Mountains and upstream from the concrete protected reaches. The highest erosion rates occur in reaches 3 through 5.

2.3 APPLICABLE REGULATIONS, PLANS, AND POLICIES

2.3.1 Federal

U.S. Environmental Protection Agency (USEPA)

The primary federal law governing water quality is the Clean Water Act (CWA) of 1972. This act provides for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. The CWA emphasizes technology-based (end-of-pipe) control strategies and requires discharge permits to use public resources for waste discharge. The Act also limits the amount of pollutants that may be discharged and requires wastewater to be treated with the best treatment technology economically achievable regardless of receiving water conditions.

The 1987 amendments to the Clean Water Act included Section 402(p), which establishes a framework for regulating municipal and industrial storm water discharges. The amendment also provides a framework for regulating storm water runoff from construction sites. On November 16, 1990, the USEPA published final regulations that established requirements for storm water permits.

In 1998, Section 303(d) was amended to the CWA, requiring the state to identify and maintain a list of waterbodies that do not meet water quality standards and also implement a Total Maximum Daily Load (TMDL) program for impaired waterbodies.

2.3.2 State

State Water Resources Control Board (SWRCB)

The Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) is the basic water quality control law for California. The Act authorizes the state to implement the provisions of the Clean Water Act. The Porter-Cologne Act establishes a regulatory program to protect the water quality of the state and the beneficial uses of state waters. Under this act, the State Water Resources Control Board (SWRCB) provides policy guidance and review for the Regional Water Quality Control Boards (RWQCBs), and the RWQCBs implement and enforce the provisions of the Act.

The establishment of the NPDES regulations in 1987, under Section 402(p) of the Clean Water Act, required that the USEPA delegate the responsibility of the National Pollutant Discharge Elimination System (NPDES) program to the State. The SWRCB was given the responsibility to enforce the regulations of the NPDES program and did so in the form of the *NPDES Permit for General Construction Activities* (Order No. 99-08-DWQ), adopted in 1992 and amended in August of 1999 and 2001. On December 2, 2002, the SWRCB approved the "*Modification of Water Quality Order 99-08-DWQ State Water Resources Control Board (SWRCB) NPDES General Permit for Construction Activity (One to Five Acres)*". The Permit requires that all owners of land within the State with construction activities resulting in more than 0.4 hectares (1 acre) of soil disturbance (clearing, grubbing, grading, trenching, stockpile, utility relocation, temporary haul roads, etc.), apply for the General Permit. The purpose of the Permit is to ensure that the land owners:

1. Eliminate or reduce non-storm water discharges to storm drains and receiving waters of the U.S.;
2. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP);
3. Inspect the Water Pollution Controls (WPC) specified in the SWPPP; and
4. Monitor storm water runoff from construction sites to ensure that the BMPs specified in the SWPPP are effective.

Regional Water Quality Control Board (RWQCB)

The proposed project is located within the jurisdiction of the San Diego RWQCB (Region 9). All projects within the San Diego Region are subject to the requirements of the San Diego RWQCB. The San Diego RWQCB has prepared the *1994 Water Quality Control Plan for the San Diego Basin (9)* to help preserve and enhance water quality and to protect the beneficial uses of state waters. The Plan designates beneficial uses for surface and ground waters and sets qualitative and quantitative objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's antidegradation policy. The Plan also describes implementation programs to protect the beneficial uses of all waters in the Region and surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan (SDRWQCB, 1994).

2.3.3 Applicable Permits

Currently the California Department of Transportation (Caltrans) has a statewide NPDES permit that covers all Caltrans' work and projects within the State. All projects within Caltrans jurisdiction must conform to the requirements of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Storm Water Permit, Order No. 99-06-DWQ, and NPDES No. CAS000003, adopted by the SWRCB on July 15, 1999. This permit allows Caltrans to operate, maintain, and construct on State right of way without applying for individual General Permits for each construction project. The Permit requires Caltrans to adhere to the provisions of the Statewide General NPDES Permit for Construction Activities, Order No. 99-08-DWQ, and NPDES No. CAS000002. The Permit also requires that a Storm Water Pollution Prevention Plan (SWPPP) be prepared for all projects greater than 1 acre (0.4 hectares) of soil disturbance and a Notice of Construction (NOC) be filed with the RWQCB at least 30 days prior to any soil-disturbing activities. In addition, all projects are subject to the Best Management Practices (BMPs) specified in the Caltrans Storm Water Management Plan (SWMP). The provisions and requirements of the Permit are enforced by the RWQCBs.

The proposed "build" alternative would disturb more than one acre of soil. Therefore, a SWPPP would be required and a NOC must be filed with the San Diego Regional Water Quality Control Board for this project.

In addition to the Caltrans NPDES Storm Water Permit, the project would require a 401 Water Quality Certification from the SWRCB, a 404 Permit from the Army Corps of Engineers, and should comply with any applicable conditions of the Draft Environmental Impact Statement (EIS) for San Juan Creek and Western San Mateo Creek Watershed Special Area Management Plan (SAMP), Draft Natural Communities Conservation Plan (NCCP)/Master Streambed Alteration Agreement (MSAA)/Habitat Conservation Plan (HCP), along with any relevant local ordinances or guidelines. If dewatering is needed, a dewatering permit (*Order No. 2001-96, General Waste Discharge Requirements for Groundwater Extraction and Similar Waste Discharges from Construction, Remediation, and Permanent Groundwater Extraction Projects to Surface Waters within the San Diego Region Except for San Diego Bay*) must be obtained from the San Diego Regional Water Quality Control Board. Additional information regarding dewatering is included in this report in *Section 3.2.4, Construction Site Dewatering*.

3.0 Environmental Evaluation

3.1 SIGNIFICANCE THRESHOLDS AND CRITERIA

The proposed project would be considered to have a substantial impact on water resources if it considerably affected the overall amount of runoff, the amount of discharge into natural surface drainages, or the existing pattern of natural surface drainage in the project vicinity. The proposed project would be considered to have a substantial impact on water quality if it substantially contributed to the exceedance of any adopted water quality standard or conflicted with the objectives, plans, goals, policies, or implementation of the San Diego RWQCB's *Basin Water Quality Control Plan (1994)*.

3.2 POTENTIAL PROJECT IMPACTS

Each of the Alternatives are analyzed in the same manner regarding potential impacts except where noted.

3.2.1 No Build

The No Build Alternative would not result in the construction or operation of any major transportation improvements on this segment of SR-74. All planned and approved maintenance work is included in the No Build Alternative. Currently, areas adjacent to the highway in the western portion of the project limits (Via Cordova to Avenida Siega) are covered mostly by impervious surfaces such as asphalt and concrete, with some natural drainage features and little natural vegetation. As traffic increases, the length of time vehicles are stationary or moving slowly grows. This will lead to greater amounts of fluids from vehicles on the roadway. Therefore, slightly increasing the amount of pollution in storm water runoff and a minor reduction in water quality. Slopes would not be cut or altered therefore an increase in erosion and siltation would not occur. The rate of erosion would remain consistent with current conditions. This alternative would not implement any type of BMPs.

3.2.2 Build

Runoff and Drainage

The proposed project would involve some changes to the existing Ortega Highway right of way. Construction of the project would involve approximately 4.54 acres (1.84 hectares) of soil disturbance. The overall increase in road surface would be about 2.3 acres (.93 hectares). Currently, areas adjacent to the highway in the western portion of the project limits (Via Cordova to Avenida Siega) are covered mostly by impervious surfaces such as asphalt and concrete, with some natural drainage features and little natural vegetation.

Based on preliminary design, Alternative 1 would increase the percentage of impervious area in the western portion of the project limits by 42%. The average runoff coefficient for the project limits would increase from 0.87 pre-construction to .88 post-construction.

Water Quality Degradation

Traffic projections conducted by Caltrans during the scoping phase indicate that motor vehicle volume on Ortega Highway is expected to increase substantially in the future. In addition, the proposed highway widening is also expected to increase traffic volume. Consequently, the amount of motor vehicle related pollutants discharged into the watershed and drainage channels from the highway is expected to increase with or without implementation of the proposed project. The increase in the amount of motor vehicle related pollutants is expected to have a minimal impact on surface water quality with temporary and/or permanent measures incorporated into the project plans. The relief in current traffic congestion that the proposed project is expected to provide may decrease the amount of pollutants derived from traffic congestion during peak periods.

The increased areas of impervious surface associated with the proposed highway improvements would divert runoff from previous areas of natural drainages into constructed drainages. Less runoff would be allowed to percolate into the local portion of the groundwater basin. Although this amount may be available for recharge into the groundwater basin via streambed percolation during storm events, it is unlikely that this would occur due to the increased rate of streamflow. In addition, the recharge rate of streambed percolation in comparison to the rate of streamflow would ensure that only an insignificant amount of runoff reaches the groundwater basin. As the increased area of impervious surface is small in comparison to the local watershed, the proposed project is not expected to have a significant impact on local groundwater resources and quality.

Erosion and Siltation

Erosion and siltation in the drainage area could be increased during construction of the proposed project. Detailed construction plans for the proposed highway improvements have not been prepared. Therefore, the exact amounts of increased erosion and siltation can not be determined in this report.

The amount of sediments entering the San Juan Creek watershed in the project area is expected to be minimal with implementation of the Storm Water Pollution Prevention Plan (SWPPP). This would include the development of a SWPPP and implementation of construction site Best Management Practices (Caltrans Storm Water Handbooks, Construction Site Best Management Practices (BMPs) Manual, March 2003).

Post construction erosion is can possibly occur from cut slopes. Loose sediment from these slopes may be carried to drainages and streams during a rain event or strong winds. The proposed cut slopes are small and are not very steep, therefore the amount of erosion and sediment from the slopes would be minimal. Vegetating the slopes will greatly reduce the amount of erosion and siltation. Long-term impacts will be minimal. The City of San Juan Capistrano will be maintaining all landscaping.

Construction Site Dewatering

During construction, dewatering discharge could adversely impact surface water quality if the effluent is rich in sediment or contaminated with chemicals. Extracted groundwater may contain pollutants which may be a result of the decomposition of organic materials (e.g., hydrogen sulfide), leaking underground storage tanks and fuel lines, surface spills, sewage, past use of liquid waste impoundments, or the potential presence of nutrients (phosphorous and nitrogen compounds). If construction related dewatering discharge is encountered, the project will be subject to the General Waste Discharge Requirements for Groundwater Extraction Waste Discharges from Construction, Remediation, and Permanent Groundwater Extraction Projects to Surface Waters within the San Diego Region, Permit (Order No. 2001-96, NPDES No. CAG919002). Results from soil boring samples will determine if dewatering is required for other areas within the proposed project limits.

The permit governs dewatering operations and prohibits the discharge of sediment-laden effluent and/or contaminated effluent (e.g. oil and grease) into receiving waterbodies. Current projects requiring this permit (Order No. 2001-96, NPDES No. CAG919002) must apply to obtain authorization to discharge under the Statewide General NPDES Permit for Construction Activities (Order No. 99-08-DWQ, NPDES No. CAS000002), and any other applicable permit at the time of design and/or construction. After obtaining the permit, the RWQCB must be notified at least 60 days prior to the discharge of any dewatering effluents. This is also discussed in *Section 2.3.3, Applicable Permits*.

All effluents from dewatering operations must be tested in an Environmental Protection Agency (EPA) certified laboratory for trace pollutants and approved by the RWQCB before being discharged into receiving waters., Sediment is the primary pollutant of concern in most dewatering operations. However, discharges must also be tested for oil and grease, total suspended solids (TSS), total nitrogen (TN), total petroleum hydrocarbons, and sulfides. If the discharge effluent is not visibly clear, then sediment control BMPs such as the Baker Tanks, must be employed to treat the effluent prior to discharge. The specific discharge requirements, limits, and amounts are determined by the permit and may vary for individual projects.

4.0 Recommended Measures

4.1 CONSTRUCTION PERIOD (Short-Term)

- The Contractor shall conform to the requirements of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Storm Water Permit, Order No. 99-06-DWQ, and NPDES No. CAS000003, adopted by the State Water Resources Control Board (SWRCB) on July 15, 1999, in addition to the BMPs specified in the Caltrans *Storm Water Management Plan* (SWMP). When applicable, the Contractor shall also conform to the requirements of the General NPDES Permit for Construction Activities, Order No. 99-08-DWQ, and NPDES No. CAS000002, and any subsequent General Permit in effect at the time of project construction.
- A Storm Water Pollution Prevent Plan (SWPPP) shall be prepared by the Contractor and reviewed by Caltrans for approval prior to the commencement of any soil-disturbing activities. The SWPPP shall address all state and federal stormwater control requirements and regulations. The SWPPP shall address all construction-related activities, equipment, and materials that have the potential to impact water quality. The SWPPP shall include BMPs to control pollutants, sediment from erosion, storm water runoff, and other construction related impacts. In addition, the SWPPP shall include the provisions of *SWRCB Resolution No. 2001-046* which requires implementation of specific Sampling Analysis Procedures (SAP) to ensure that the implemented BMPs are effective in preventing exceedance of any water quality standards.
- Caltrans shall file a Notification of Construction (NOC) with the San Diego Regional Water Quality Control Board at least 30 days prior to any soil-disturbing activities.
- All work would conform to the Construction Site BMPs (Category II) requirements specified in the latest edition of the Caltrans *Storm Water Management Plan* (SWMP) to control and minimize the impacts of construction and construction-related activities, materials, and pollutants on the watershed. These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-stormwater BMPs. For a complete list, refer to section 2 of the Caltrans SWMP (May 2003) and section 4 of the Caltrans Statewide Storm Water Quality Practice Guidelines (May 2003).
- Construction activities will give special attention to storm water pollution control during the “Rainy Season” (defined by the RWQCB as October 1st through May 1st). No work will be conducted whenever rain is predicted. Water Pollution Control BMPs will be used to minimize impact to receiving waters. Measures will be incorporated to contain all vehicle loads and avoid any tracking of materials, which may fall or blow onto Caltrans Right of Way.

- If dewatering were required, Caltrans would fully conform to the requirements of the San Diego RWQCB. A Dewatering Permit would be obtained and the RWQCB would be notified at least 60 days prior to any dewatering discharges. Dewatering BMPs would be used to control sediments and pollutants. An EPA certified laboratory would test and monitor the discharge for compliance with the requirements of the RWQCB.

4.2 POST-CONSTRUCTION PERIOD (Long-Term)

The Caltrans Storm Water Management Plan describes BMPs and practices to reduce the discharge of pollutants associated with the storm water drainage systems of State highways, facilities, and activities. The District 12 Storm Water Advisory Team would evaluate the project plans for the Ortega Highway widening before considering any BMP requirements. The completed project plans would incorporate all necessary Maintenance BMPs (Category IA), Design Pollution BMPs (Category IB), and Treatment BMPs (Category III) to meet the Maximum Extent Practical (MEP) requirements.

- Maintenance BMPs - This category includes routine maintenance work such as litter pickup, toxics control, street sweeping, drainage, and channel cleaning.
- Design Pollution Prevention BMPs - This category includes all permanent soil stabilization systems such as preservation of existing vegetation, concentrated flow conveyance systems (e.g., drainage ditches, dikes, berms, swales etc.), and slope/surface protection systems that utilize either vegetated or hard surfaces. Final determination regarding the selection of Design Pollution Prevention BMPs would occur during the Plans Specifications & Estimates (PS&E) Process.
- Treatment BMPs - This category includes all permanent treatment devices and facilities such as biofiltration strips/swales, infiltration basins, detention devices, traction sand traps, dry weather flow diversion, and Gross Solids Removal Devices (GSRDs). Final determination regarding the selection of Treatment BMPs would occur during the Plans Specifications & Estimates (PS&E) Process.

A complete list of all applicable BMPs is provided in the latest version of the Caltrans *Storm Water Management Plan* (May 2003).