California Regional Water Quality Control Board
San Francisco Bay Region

Linda S. Adams
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Arnold Schwarzenegger
Governor

Date: JUL 17 2006
File No. 2179.7186 (BT)
WDID No. 2 417186001

Certified Mail No. 70042890000400474856

Skip Sowko
California Department of Transportation
P.O. Box 23660
Oakland, CA 94623-0660

Subject: Transmittal of Final Order No. R2-2006-0049, NPDES Permit No. CA0038831 for the Devil's Slide Tunnel Project, San Mateo County

Dear Mr. Sowko:

Attached is a copy of the Final Order No. R2-2006-0049 adopted by the Board on July 12, 2006. The requirements of this Order are effective starting on October 1, 2006.

You may contact Brendan Thompson at (510) 622-2506, or BThompson@waterboards.ca.gov if you have any questions.

Sincerely,

Bruce Wolfe
Executive Officer

Attachments: Order No. R2-2006-0049

Copy to:

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ORDER NO. R2-2006-0049
NPDES NO. CA0038831

WASTE DISCHARGE REQUIREMENTS FOR THE CALIFORNIA DEPARTMENT OF TRANSPORTATION, DEVIL'S SLIDE TUNNEL PROJECT

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1: Discharger Information

Discharger	**California Department of Transportation**
Name of Facility	**Devil's Slide Tunnel Project**
Facility Address	**State Route 1 (Post Miles 38.0 – 40.4)**
	San Mateo County, California

The Discharge by the California Department of Transportation from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2: Discharge Locations

Discharge Point	Effluent Description	State Plane Coordinate X (meters)*	State Plane Coordinate Y (meters)*	Receiving Water
001	Tunnel construction dewatering	1821882.8	620826.3	Pacific Ocean
002	Post-Construction pH-treated groundwater	1822062.5	620396.7	Pacific Ocean

* The X-Y coordinates are based on the standard Zone 3W, horizontal datum reference NAD 1983, and vertical datum reference NGVD 1929.

Table 3: Order Information

This Order was adopted by the Regional Water Quality Control Board on:	July 12, 2006
This Order shall become effective on:	October 1, 2006
This Order shall expire on:	September 30, 2011
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of the Order expiration date as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that in order to meet the provisions contained in Division 7 of the Water Code (commencing with Section 13000) and regulations adopted thereunder and the

provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Bruce Wolfe, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 12, 2006.

Bruce H. Wolfe, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
REGION 2, SAN FRANCISCO BAY REGION

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Attachment G – The following documents are part of this Permit, but are not physically attached due to volume. They are available on the internet at: www.waterboards.ca.gov/sanfranciscobay//Download.htm
- Self-Monitoring Program, Part A, adopted August 1993
- Standard Provisions and Reporting Requirements, August 1993

I. FACILITY INFORMATION

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

Table 4: Facility Information

Discharger	California Department of Transportation
Name of Facility	Devil's Slide Tunnel Project
Facility Address	Devil's Slide Tunnel Project
	State Route 1 (Post Miles 38.0 – 40.4)
	San Mateo County, California
Facility Contact, Title, and Phone	Skip Sowko, Project Manager, (510) 622-0814
Mailing Address	P.O. Box 23660 Oakland, CA 94623-0660
Type of Facility	Tunnel construction and operations facility
Facility Design Flow	Maximum flow of 1.15 million gallons per day (MGD)

II. FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Regional Water Board), finds:

A. **Background.** The California Department of Transportation (hereinafter Discharger) submitted a Report of Waste Discharge, dated January 27, 2006, and applied for a National Pollutant Discharge Elimination System (NPDES) permit authorization to discharge up to 1.15 MGD of treated groundwater from the Devil's Slide Tunnel Project, hereinafter Facility. The application was deemed complete on April 3, 2006.

B. **Facility Description.** The Discharger owns and operates State Route One and the surrounding right of way. The treatment system consists of mechanical separators, pH adjustment systems, coagulation and flocculation processes, and granular activated carbon devices. Wastewater is to be discharged from Discharge Points 001 and 002 (see table on cover page) to the Pacific Ocean, a water of the United States. Attachment B provides a map of the area around the facility. Attachment C provides a Facility flow schematic.

C. **Legal Authorities.** This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

D. **Background and Rationale for Requirements**. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E are also incorporated into this Order.

E. **California Environmental Quality Act (CEQA).** New sources as defined by the CWA must meet CEQA requirements specified in CWC 13389. The Discharger prepared and certified a final environmental impact report (EIR) for the Devil's Slide Tunnel Project on June 13, 2003. The Regional Water Board has considered the Final EIR and concurs that there are no significant impacts on water quality.

F. **Technology-based Effluent Limitations.** Title 40 of the Code of Federal Regulations, at section 122.44(a) requires that permits include applicable technology-based limitations and standards. No technology-based limits have been established for this category of discharge.

G. **Water Quality-based Effluent Limitations.** Section 122.44(d) of 40 CFR requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a

water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) may be established: (1) using USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) on an indicator parameter for the pollutant of concern; or (3) using a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

H. **Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the San Francisco Bay Basin (hereinafter Basin Plan) on April 16, 1997, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean. In addition, the Basin Plan implements the State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Pacific Ocean are as follows:

Table 5: Basin Plan Beneficial Uses of the Pacific Ocean

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Existing: Industrial water supply (IND); water contact and non-contact recreation (REC1, REC2); navigation (NAV); ocean, commercial and sport fishing (COMM); rare and endangered species (RARE); marine habitat (MAR); and, shellfish harvesting (SHELL).
002	Pacific Ocean	Same as above

I. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21, 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table 6: Ocean Plan Beneficial Uses of the Pacific Ocean

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial Water Supply; Water Contact and Non-Contact Recreation, Including Aesthetic Enjoyment; Navigation; Commercial and Sport Fishing; Mariculture; Rare and Endangered Species; Marine Habitat; Fish Migration; Fish Spawning; and, Shellfish Harvesting
002	Pacific Ocean	Same as above.

In order to protect beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

J. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR §131.21; 65 Fed. Reg. 24641; (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000 must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

K. **Antidegradation Policy.** 40 CFR §131.12 requires that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution No. 68-16.

L. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed.

M. **Monitoring and Reporting.** 40 CFR §122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the California Water Code authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

   Additional monitoring and reporting requirements have been established to evaluate the Discharger's effluent quality for priority pollutants and determine if the new discharge meets water quality objectives established in Table B of the Ocean Plan (all references to Table B hereafter refer to Table B of the Ocean Plan).

N. **Standard and Special Provisions.** Standard Provisions, which apply to all NPDES discharges in accordance with 40 CFR §122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR §122.42, are provided in Attachment D. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet (Attachment F).

O. **Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.C and VI.C of this Order are included to

implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

P. **Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

Q. **Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

III. DISCHARGE PROHIBITIONS

A. Compliance with Discharge Prohibitions contained in Section III.H of the Ocean Plan is a requirement of this Order.

B. Compliance with applicable Discharge Prohibitions contained in the Basin Plan is a requirement of this Order.

C. Discharges of wastes in a manner or to a location that has not been specifically authorized by this Order and for which valid waste discharge requirements are not in force are prohibited.

D. The discharge of wastewater at a rate exceeding 1.15 mgd is prohibited unless the Discharger obtains revised waste discharge requirements authorizing an increased discharge.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points 001 and 002

1. Final Effluent Limitations – Discharge Points 001 and 002

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Points 001 and 002 with compliance measured at Monitoring Locations M-001 and M-002 as described in the attached Monitoring and Reporting Program (Attachment E):

Table 7: Limitations for Wastes (Discharge Locations 001 and 002)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Instantaneous Minimum	Maximum Daily	Instantaneous Maximum
Total Suspended Solids[i]	mg/L	60				
pH	standard units			6.0		9.0
Oil and Grease	mg/L	25	40			75
	lbs/day					
Settleable Solids	ml/L	1.0	1.5			3.0
Turbidity	NTU	75	100			225
Chronic Toxicity	TUc				(ii)	

Notes for Table:

i. **Suspended Solids**: The Discharger shall, as a 30-day average, remove 75% of suspended solids from the influent stream before discharging wastewaters to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/l.

ii. The chronic toxicity effluent limitation shall be 1, unless the Discharger completes a dilution study in accordance with Provision VI.C.2.c., approved by the Executive Officer, whereupon the limitation shall be calculated as described below:

1) **Chronic toxicity:** Using the implementation provisions for Table B, specified in Section III.C.4.a of the 2005 Ocean Plan, the effluent limitation for chronic toxicity shall be calculated using the following equation:

$$Ce = Co + Dm\ (Co - Cs)$$

where:

Ce = the effluent concentration limit

Co = the concentration (water quality objective) to be met at the completion of initial dilution (1 TUc)

Cs = background seawater concentration (0 TUc)

Dm = minimum probable initial dilution expressed as parts seawater per part wastewater.

2. Interim Effluent Limitations

This section is not applicable to this Order.

B. Land Discharge Specifications

This section is not applicable to this Order.

C. Reclamation Specifications

1. Water reclaimed for beneficial reuse as applied shall not runoff into the Ocean or its tributaries, unless the reclaimed water first meets the requirements in Section IV.A-Final Effluent Limitations.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Ocean Plan and are a required part of this Order. The discharge shall comply with the following in the Pacific Ocean:

1. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.

2. Floating particulates and grease and oil shall not be visible.

3. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

4. Natural light shall not be significantly reduced at any point in ocean waters as the result of the discharge of waste.

5. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

6. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

7. The concentration of substances set forth in Chapter II, Table B, of the Ocean Plan, in marine sediments shall not be increased to levels that would degrade indigenous biota.

8. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally as the result of the discharge of oxygen demanding waste materials.

B. Groundwater Limitations

This section is not applicable to this Order.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. The Discharger shall comply with the following provisions:

   a. The Discharger shall comply with all applicable items of the *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993* (Attachment G) (Items A.7, A.8, B.1-B.4, C.1, C.2, D.2, and D.3 are not applicable). Where provisions or reporting requirements specified in this Order are different from equivalent or related provisions or reporting requirements given in the Standard Provisions, the specifications of this Order shall apply.

   b. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this Facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

B. Monitoring and Reporting Program Requirements

The Discharger shall comply with the Monitoring and Reporting Program (MRP) in Attachment E of this Order, and future revisions thereto. The MRP includes monitoring at M-001 and M-002 for pollutants found in Tables A and B of the Ocean Plan.

C. Special Provisions

1. Reopener Provisions

The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances or as authorized by law:

a. If present or future investigations demonstrate that the discharge(s) governed by this Order will, or cease to, have adverse impacts on water quality and/or beneficial uses of the receiving waters.

b. If monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above an Ocean Plan Table B water quality objective.

c. As new or revised Water Quality Objectives (WQOs) come into effect for the Pacific Ocean (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order will be modified as necessary to reflect updated WQOs.

d. If water quality studies provide a basis for determining that a permit condition(s) should be modified.

e. If an administrative or judicial decision on a separate NPDES permit or WDR that addresses requirements similar to this discharge arises.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Toxicity Reduction Requirements.

If the discharge exceeds an effluent limitation based on an Ocean Plan Table B water quality objective on two consecutive occasions, based on the routine and accelerated test events, the Discharger shall conduct a Toxicity Reduction Evaluation (TRE) defined in Attachment A. The TRE shall include all reasonable steps to identify the source of toxicity. The Discharger shall take all reasonable steps to reduce toxicity to the required level once the source of toxicity is identified.

b. Operations Plan Requirements.

No later than 30 days prior to construction stage discharge operations, the Discharger shall submit an operations plan, subject to approval of the Executive Officer, describing the adjusting and testing procedures that will be used to calibrate the treatment system. The operations plan shall identify procedures designed to prevent violations and the shortest time period necessary for adjusting and testing, not to exceed 30 days. Unless the Executive Officer disapproves the operations plan, the Discharger shall implement the plan.

c. Dilution Credit Determination Study

For purposes of determining the chronic toxicity daily maximum effluent limitation, the Discharger may demonstrate that a dilution credit is appropriate by performing a dilution study, such as a dye or salinity tracer study, to characterize the extent of actual dilution. The study shall include a point of initial dilution that is no greater than 50 feet from the point of discharge and the number of samples obtained shall be sufficient to ensure that dilution is accurately represented.

3. Best Management Practices (BMPs) and Pollution Prevention

a. No later than 30 days prior to the commencement of construction stage dewatering treatment activities, the Discharger must submit a coagulant pollution prevention plan, acceptable to the Water Board Executive Officer, that includes:

1) BMPs to prevent accidental spillage, overfeeding into the treatment system, or other mishandling of coagulant agents; and,

2) A monitoring plan for all coagulants to be used by the Facility.

4. Other Special Provisions

a. The Discharger shall notify the Regional Water Board no later than 30 days prior to commencement of discharge activities.

b. The Discharger shall submit a blasting plan, identifying the type of explosives to be used and appropriate pollution prevention and monitoring measures to be employed, subject to approval of the Executive Officer, no later than 30 days prior to initiation of blasting activities.

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. General.

Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

B. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

C. Average Weekly Effluent Limitation (AWEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

D. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge (or when applicable, determined by subsection B above for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

E. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

F. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

G. Six-month Median Effluent Limitation.

If the median of daily discharges over any 180-day period exceeds the six-month median effluent limitation for a given parameter, the Discharger will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 180-day period and the analytical result for that sample exceeds the six-month median, the Discharger will be considered out of compliance for the 180-day period. For any 180-period during which no sample is taken, no compliance determination can be made for the six-month median limitation.

H. Multiple Sample Data.

When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

ATTACHMENT A – DEFINITIONS

Acute Toxicity:

a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{\text{96-hr LC}_{50\%}}$$

b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Ocean Plan Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

Areas of Special Biological Significance (ASBS): are those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Chronic Toxicity: This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix II.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

DDT shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

Degrade: Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

Detected, but Not Quantified (DNQ) are those sample results less than the reported Minimum Level, but greater than or equal to the laboratory's MDL.

Dichlorobenzenes shall mean the sum of 1,2- and 1,3-dichlorobenzene.

Downstream Ocean Waters shall mean waters downstream with respect to ocean currents.

Dredged Material: Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil".

Enclosed Bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Endosulfan shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.

Estuaries and Coastal Lagoons are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

Initial Dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Water Board, whichever results in the lower estimate for initial dilution.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Kelp Beds, for purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

Mariculture is the culture of plants and animals in marine waters independent of any pollution source.

Material: (a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

Maximum Daily Effluent Limitation (MDEL): the highest allowable daily discharge of a pollutant.

MDL (Method Detection Limit) is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, PART 136, Appendix B.

Minimum Level (ML) is the concentrations at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed.

Natural Light: Reduction of natural light may be determined by the Regional Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Water Board.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Ocean Waters are the territorial marine waters of the state as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table B pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Reported Minimum Level is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Shellfish are organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

Significant Difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Six-month Median Effluent Limitation: the highest allowable moving median of all daily discharges for any 180-day period.

State Water Quality Protection Areas (SWQPAs) are non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution No.s 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A TOXICITY IDENTIFICATION EVALUATION (TIE) may be required as part of the TRE, if appropriate (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Waste: As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

Water Reclamation: The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

ATTACHMENT B – FACILITY MAP

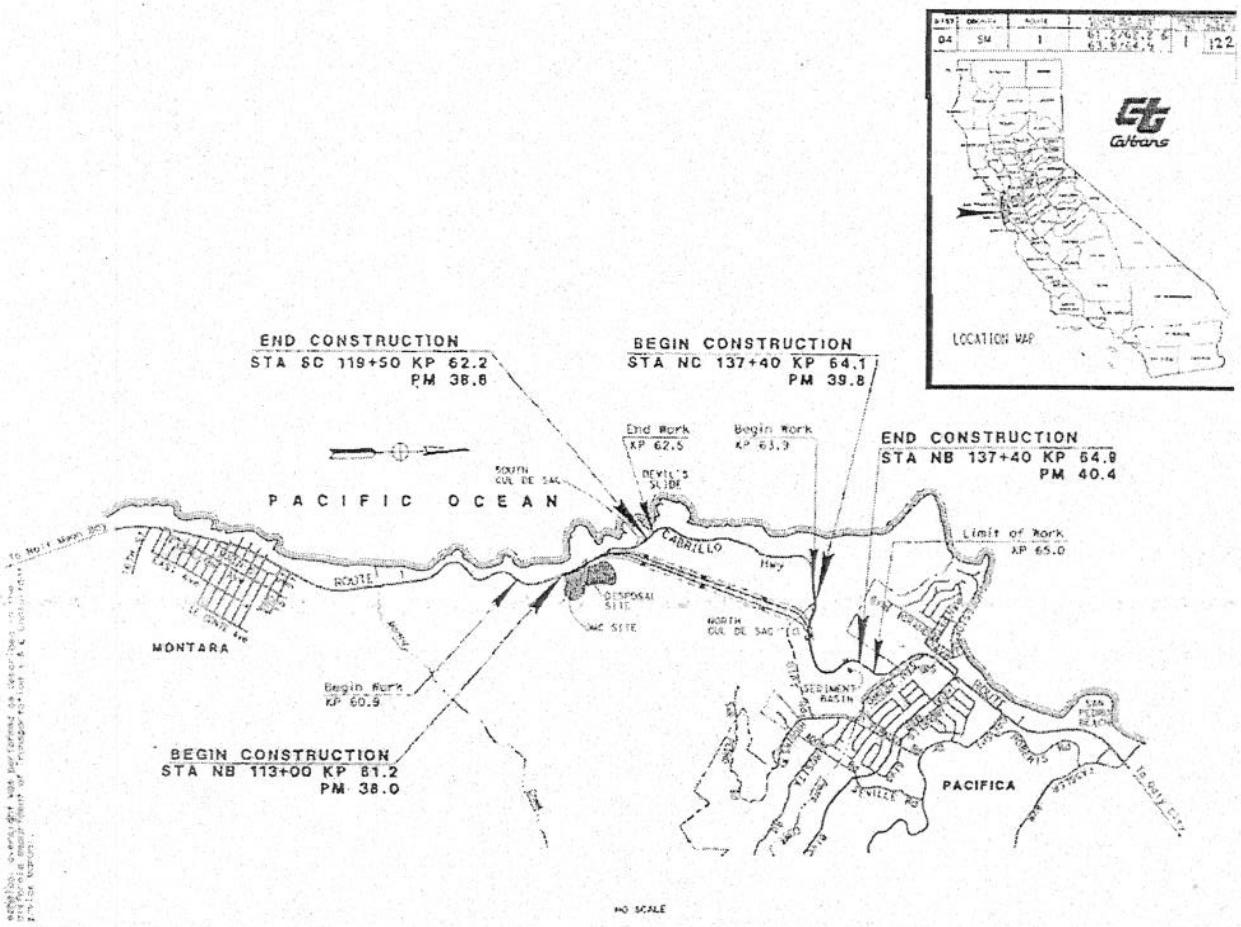

Figure 1: Project location. The Devil's Slide Tunnel Project is located between the cities of Montara and Pacifica, along Highway One and the Pacific Ocean in San Mateo County. Tunneling activities will commence at the southern portion of the project site, and continue northward. All groundwater and construction dewatering flows will drain outward through the southern tunnel opening, and be routed to an on-site treatment facility prior to being discharged to the Pacific Ocean.

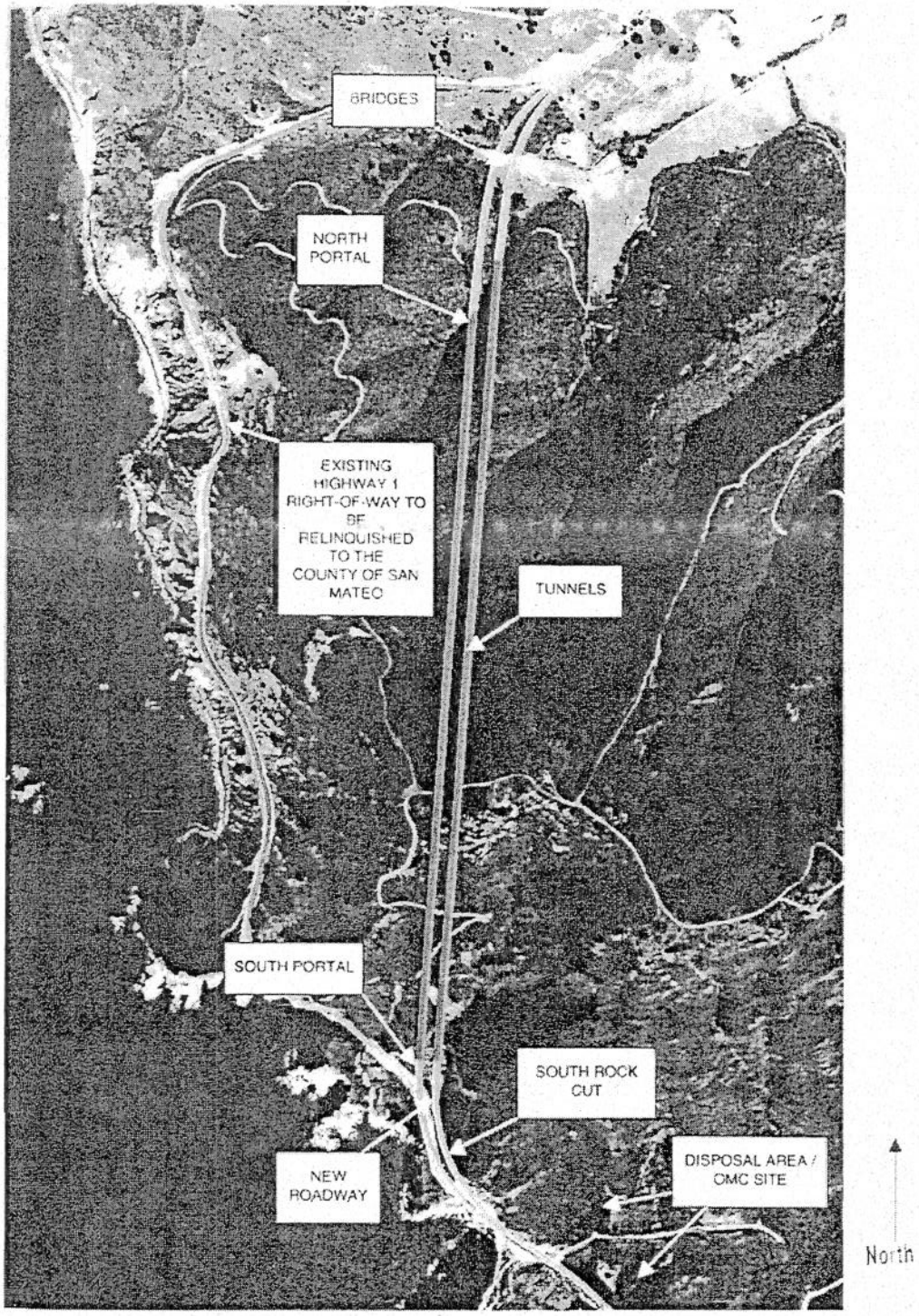

Figure 2: Aerial photo showing the tunneling route. During the construction phase of the project, tunnel groundwater and construction dewatering flows will be conveyed to a treatment facility at the southern portion of the project site, in the vicinity of the two yellow lines and immediately to the right of the "NEW ROADWAY" text block. During the post-construction tunnel groundwater pH treatment phase, water will be routed south to the "OMC Site" at the lower right hand corner of the picture. Upon treatment, the water will be discharged into the Pacific Ocean.

ATTACHMENT C – WASTEWATER FLOW SCHEMATIC

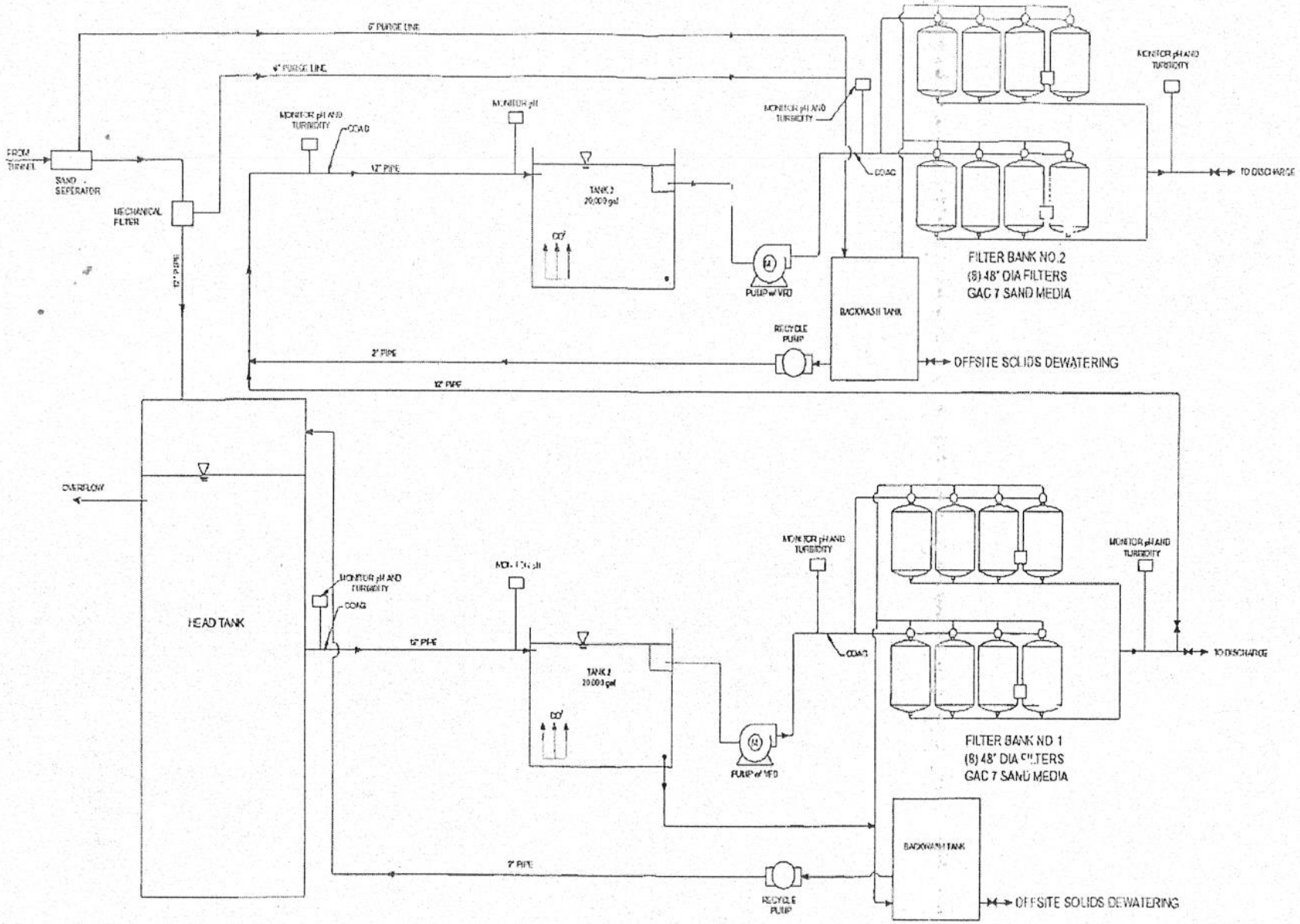

Figure 3: Construction-Phase Treatment System Schematic

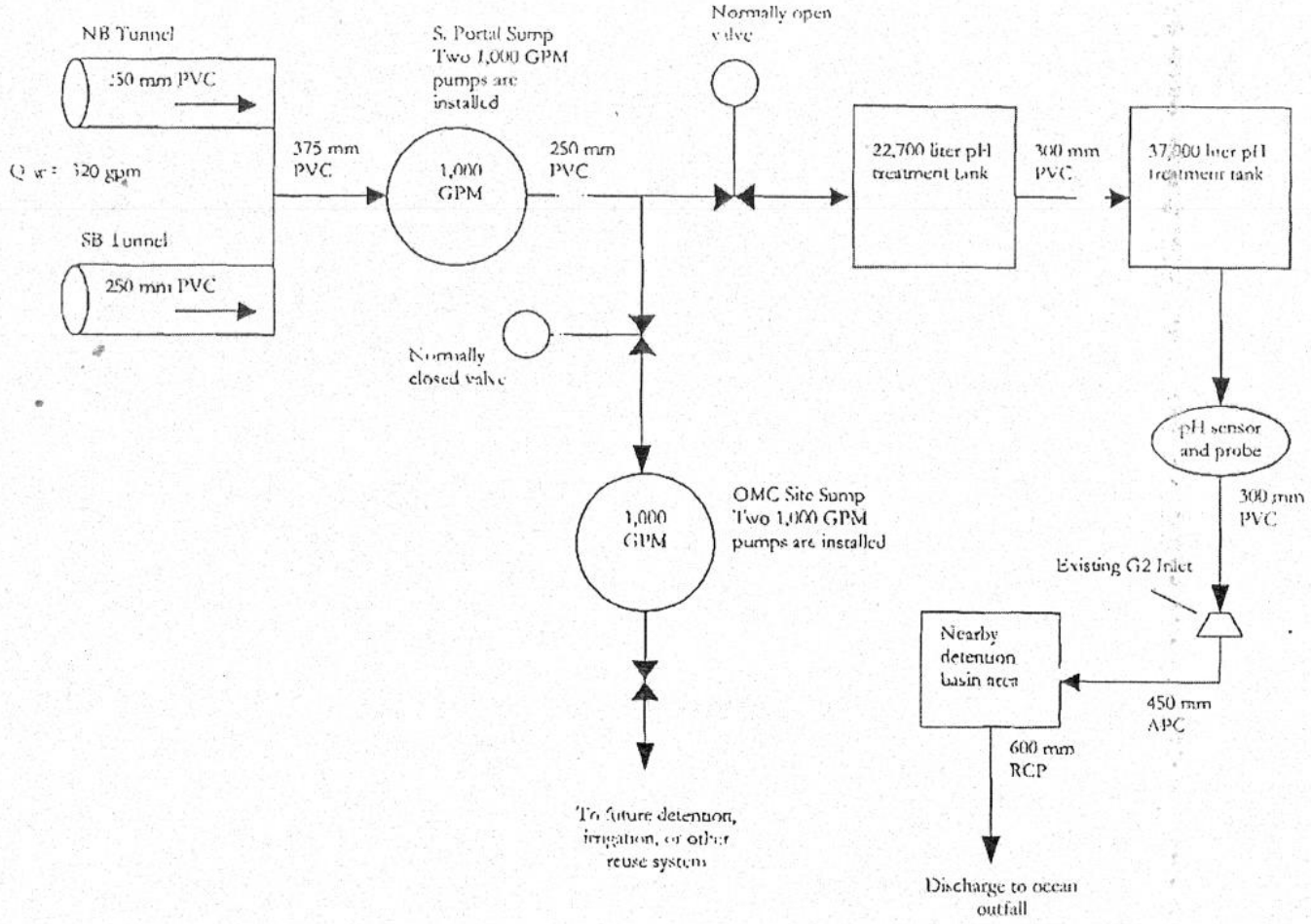

Figure 4: Post-Construction Phase Treatment System Schematic

ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [*40 CFR §122.41(a)*].

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not been modified to incorporate the requirement [*40 CFR §122.41(a)(1)*].

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order [*40 CFR §122.41(c)*].

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment [*40 CFR §122.41(d)*].

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order [*40 CFR §122.41(e)*].

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [*40 CFR §122.41(g)*].

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations [*40 CFR §122.5(c)*].

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to [*40 CFR §122.41(i)*] [*CWC 13383(c)*]:

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order [*40 CFR §122.41(i)(1)*];

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [*40 CFR §122.41(i)(2)*];

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [*40 CFR §122.41(i)(3)*];

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location [*40 CFR §122.41(i)(4)*].

G. Bypass

1. Definitions

   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility [*40 CFR §122.41(m)(1)(i)*].

   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [*40 CFR §122.41(m)(1)(ii)*].

2. Bypass not exceeding limitations – The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below [*40 CFR §122.41(m)(2)*].

3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [*40 CFR §122.41(m)(4)(i)*]:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [*40 CFR §122.41(m)(4)(A)*];

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [*40 CFR §122.41(m)(4)(i)(B)*]; and,

c. The Discharger submitted notice to the Regional Water Board as required under Standard Provision – Permit Compliance I.G.5 below [*40 CFR §122.41(m)(4)(C)*].

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above [*40 CFR §122.41(m)(4)(ii)*].

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass [*40 CFR §122.41(m)(3)(i)*].

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice) [*40 CFR §122.41(m)(3)(ii)*].

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation [*40 CFR §122.41(n)(1)*].

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review [*40 CFR §122.41(n)(2)*].

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly

signed, contemporaneous operating logs or other relevant evidence that [*40 CFR §122.41(n)(3)*]:

a. An upset occurred and that the Discharger can identify the cause(s) of the upset [*40 CFR §122.41(n)(3)(i)*];

b. The permitted facility was, at the time, being properly operated [*40 CFR §122.41(n)(3)(i)*];

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b (24-hour notice) [*40 CFR §122.41(n)(3)(iii)*]; and

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [*40 CFR §122.41(n)(3)(iv)*].

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [*40 CFR §122.41(n)(4)*].

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition [*40 CFR §122.41(f)*].

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit [*40 CFR §122.41(b)*].

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the CWC [*40 CFR §122.41(l)(3)*] [*40 CFR §122.61*].

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [*40 CFR §122.41(j)(1)*].

B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless

otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [*40 CFR §122.41(j)(4)*] [*40 CFR §122.44(i)(1)(iv)*].

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [*40 CFR §122.41(j)(2)*].

B. **Records of monitoring information shall include:**

1. The date, exact place, and time of sampling or measurements [*40 CFR §122.41(j)(3)(i)*];
2. The individual(s) who performed the sampling or measurements [*40 CFR §122.41(j)(3)(ii)*];
3. The date(s) analyses were performed [*40 CFR §122.41(j)(3)(iii)*];
4. The individual(s) who performed the analyses [*40 CFR §122.41(j)(3)(iv)*];
5. The analytical techniques or methods used [*40 CFR §122.41(j)(3)(v)*]; and
6. The results of such analyses [*40 CFR §122.41(j)(3)(vi)*].

C. **Claims of confidentiality for the following information will be denied [*40 CFR §122.7(b)*]:**

1. The name and address of any permit applicant or Discharger [*40 CFR §122.7(b)(1)*]; and,
2. Permit applications and attachments, permits and effluent data [*40 CFR §122.7(b)(2)*].

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance

with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order [*40 CFR §122.41(h)*] [*CWC 13267*].

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below (40 CFR §122.41(k)).

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA) [*40 CFR §122.22(a)(3)*].

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR §122.22(b)(1));

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR §122.22(b)(2)); and

   c. The written authorization is submitted to the Regional Water Board and State Water Board (40 CFR §122.22(b)(3)).

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative (40 CFR §122.22(c)).

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure

that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 CFR §122.22(d)).

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order [*40 CFR §122.41(l)(4)*].

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices (40 CFR §122.41(l)(4)(i)).

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board (40 CFR §122.41(l)(4)(ii)).

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order (40 CFR §122.41(l)(4)(iii)).

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date [*40 CFR §122.41(l)(5)*].

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [*40 CFR §122.41(l)(6)(i)*].

2. The following shall be included as information that must be reported within 24 hours under this paragraph [*40 CFR §122.41(l)(6)(ii)*]:

a. Any unanticipated bypass that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(A)*].

b. Any upset that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(B)*].

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours [*40 CFR §122.41(l)(6)(iii)*].

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when [*40 CFR §122.41(l)(1)*]:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b) [*40 CFR §122.41(l)(1)(i)*];

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order (40 CFR §122.41(l)(1)(ii)); or,

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan [*40 CFR §122.41(l)(1)(iii)*].

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements [*40 CFR §122.41(l)(2)].*

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above (40 CFR §122.41(l)(7)).

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any

report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information (40 CFR §122.41(l)(8)).

VI. STANDARD PROVISIONS – ENFORCEMENT

The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [*40 CFR §122.42(a)*]:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [*40 CFR §122.42(a)(1)*]:

   a. 100 micrograms per liter (µg/L) [*40 CFR §122.42(a)(1)(i)*];

   b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [*40 CFR §122.42(a)(1)(ii)*];

   c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR §122.42(a)(1)(iii)*]; or

   d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [*40 CFR §122.42(a)(1)(iv)*].

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [*40 CFR §122.42(a)(2)*]:

   a. 500 micrograms per liter (µg/L) [*40 CFR §122.42(a)(2)(i)*];

   b. 1 milligram per liter (mg/L) for antimony [*40 CFR §122.42(a)(2)(ii)*];

   c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [*40 CFR §122.42(a)(2)(iii)*]; or

   d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [*40 CFR §122.42(a)(2)(iv)*].

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR §122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.

B. The Discharger shall comply with the MRP for this Order as adopted by the Regional Water Board, and with all of the Self-Monitoring Program, Part A, dated August 1993 (SMP). The MRP and SMP may be amended by the Executive Officer pursuant to USEPA regulations 40 CFR122.62, 122.63, and 124.5. If any discrepancies exist between the MRP and SMP, the MRP prevails.

C. Sampling is required during the entire year when discharging. All analyses shall be conducted using current USEPA methods, or methods that have been approved by the USEPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5, or equivalent methods that are commercially and reasonably available, and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits. The Regional Water Board will find the Discharger in violation of the limitation if the discharge concentration exceeds the effluent limitation and the Reporting Level for the analysis for that constituent.

D. Laboratory Certification. Laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table 1: Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	Influent: Beginning of system prior to treatment
--	INF-002	Influent: Beginning of system prior to treatment
001	M-001	Effluent: End of treatment system prior to discharge
002	M-002	Effluent: End of treatment system prior to discharge

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor untreated construction wastewater at INF-001 as follows:

Table 2: Construction Stage Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
suspended solids	mg/l	24-hour composite	monthly	n/a

B. Monitoring Location INF-002

1. The Discharger shall monitor untreated post-construction wastewater at INF-002 as follows:

Table 3: Post-Construction Stage Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
suspended solids	mg/l	24-hour composite	monthly	n/a

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations M-001

1. The Discharger shall monitor treated construction stage tunnel dewatering flows at **M-001** as follows:

Table 4: Construction Stage Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
turbidity	NTU	continuous	continuous	n/a
pH	Standard units	continuous	continuous	n/a
flow rate	mgd	continuous	continuous	n/a
grease and oil	mg/l	Grab	weekly	n/a
suspended solids	mg/l	24-hour composite	monthly	n/a
settleable solids	Ml/l	Grab	monthly	n/a
chronic toxicity[a]	TUc			

a. See Section V, Whole Effluent Toxicity Requirements, for chronic toxicity monitoring requirements.

B. Monitoring Location M-002

1. The Discharger shall monitor post-construction groundwater flows at **M-002** as follows:

Table 5: Post-Construction Stage Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
turbidity	NTU	Grab	monthly	n/a
pH	Standard units	continuous	continuous	n/a
flow rate	mgd	continuous	continuous	n/a
grease and oil	mg/l	Grab	quarterly	n/a
suspended solids	mg/l	24-hour composite	annually	n/a
settleable solids	Ml/l	Grab	annually	n/a
chronic toxicity[a]	TUc			

a. See Section V, Whole Effluent Toxicity Requirements, for chronic toxicity monitoring requirements.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity Monitoring

Coincident with each Table B monitoring event (see Section IX below), critical life stage toxicity tests shall be performed to measure chronic toxicity (TUc). Additionally, in the event that a coagulant is used in the treatment process, with the exception of ferric chloride and alum, critical life stage toxicity tests shall be performed quarterly, for two years, and semiannually thereafter. Finally, in accordance with C.2.e. of the Self-Monitoring Program Part A, August 1993 (which is a part of this Order), the Discharger shall accelerate monitoring to monthly, as opposed to daily, if there is a violation of the effluent limit.

Each sampling event shall comprise of three separate test species, and must include a fish, an invertebrate, and an aquatic plant. After three such events, monitoring may be reduced to the most sensitive of the three test species subject to approval by the Executive Officer. Multi-day tests must be conducted as static renewals with renewals made up of grab samples collected freshly the previous day during the most recent discharge day. Testing shall be performed using methods outlined in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (Chapman, G.A., D.L. Denton, and J.M. Lazorchak, 1995) or *Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project* (SWRCB, 1996).

Chronic toxicity is to be calculated using the following formula:

$$TUc = \frac{100}{NOEL}$$

Where: No Observed Effect Level (NOEL) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test as listed in Appendix III of the 2005 Ocean Plan.

Other tests may be used, if they have been approved for such testing by the State Water Board. Dilution and control water should be obtained from an unaffected area of the receiving waters. The chronic toxicity test species and corresponding tests are listed in Table III-1, Appendix III of the 2005 Ocean Plan.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

This section is not applicable to this Order.

VII. RECLAMATION MONITORING REQUIREMENTS

This section is not applicable to this Order.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

There is no dilution credit for this Discharge. Effluent limitations and water quality objectives must be met prior to discharge. Therefore, no receiving water quality monitoring is required.

IX. OTHER MONITORING REQUIREMENTS

A. Table B Monitoring

Construction stage: Monitoring for Ocean Plan Table B pollutants shall be performed annually during the construction stage of the Devil's Slide Tunnel Project, with the first monitoring event occurring no later than 20 days after initial discharge of treated

effluent from construction stage dewatering activities. Measurement of Table B pollutants shall use the minimum detection levels as specified in Appendix II of the 2005 Ocean Plan.

Post-construction stage: During the post-construction stage of the project, Table B monitoring shall occur no later than 60 days after initial discharge of treated effluent from post-construction stage dewatering activities. Measurement of Table B pollutants shall use the minimum detection levels as specified in Appendix II of the 2005 Ocean Plan. Because the permitted discharge will be under one mgd in the post-construction phase of the Project, only the first monitoring event will be necessary.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. Monitoring results for Table B pollutants shall be immediately reported to the Water Board in the appropriate self-monitoring report.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit quarterly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR. Quarterly monitoring reports containing data for each calendar quarter are due 30 days after the end of the calendar quarter.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table 6: Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Day of initial effluent discharge	Continuous	Submit with quarterly SMR
Weekly	Sunday following initial effluent discharge, or the day of initial discharge if on a Sunday	Sunday through Saturday	Submit with quarterly SMR
Monthly	First day of calendar month following initial effluent discharge	1st day of calendar month through last day of calendar month	Submit with quarterly SMR
Quarterly*	Closest of January 1, April 1, July 1, or October 1, 2006 to initial effluent discharge	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	90 days from the end of the monitoring period
Semiannually	Closest of January 1 or July 1 following initial effluent discharge	January 1 through June 30 July 1 through December 31	90 days from the end of the monitoring period
Annually	January 1 following initial effluent discharge	January 1 through December 31	90 days from the end of the monitoring period

* The second quarter report may be combined with the first semi-annual report.

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

5. The Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

   c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), at the address listed below:

      Executive Officer
      California Regional Water Quality Control Board
      San Francisco Bay Region
      1515 Clay Street, Suite 1400
      Oakland, CA 94612
      ATTN: NPDES Permit Division

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy of the DMR to the address listed below:

State Water Resources Control Board
Discharge Monitoring Report Processing Center
Post Office Box 671
Sacramento, CA 95812

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.

D. Other Reports

This section is not applicable to this Order.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table 1: Facility Information

WDID	2 417186001
Discharger	California Department of Transportation
Name of Facility	Devil's Slide Tunnel Project
Facility Address	State Route 1 (PM 38.0 – 40.4)
	San Mateo County, California
Facility Contact, Title and Phone	Skip Sowko, Project Manager, (510) 622-0814
Authorized Person to Sign and Submit Reports	Skip Sowko, Project Manager, (510) 622-0814
Mailing Address	California Department of Transportation P.O. Box 23660 Oakland, CA 94623-0660
Billing Address	SAME
Type of Facility	Tunnel construction and operations facility
Major or Minor Facility	Major
Threat to Water Quality	Low
Complexity	Low
Pretreatment Program	No
Reclamation Requirements	n/a
Facility Permitted Flow	Maximum flow of 1.15 million gallons per day
Facility Design Flow	1.15 mgd
Watershed	Pacific Ocean
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean waters

A. The California Department of Transportation (hereinafter Discharger) is the owner of the Devil's Slide Tunnel Project (hereinafter Facility), a tunnel construction and operations project.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility proposes to discharge wastewater to the Pacific Ocean, a water of the United States. This is a new facility.

C. The Discharger filed a report of waste discharge and submitted an application for issuance of Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on January 27, 2006. Site visits were conducted on January 5, 2006 and April 11, 2006 to observe general site conditions and evaluate the proposed outfall locations.

II. FACILITY DESCRIPTION

The California Department of Transportation will construct two tunnels through the mountains between the cities of Pacifica and Montara to bypass the geologically unstable stretch of State Route 1 known as Devil's Slide. Drilling activities will commence at the southern end of the project site and continue northward at an upward grade for 4,000 feet until the northern portal entrance is reached (see Attachment B for a map showing the Facility location). The "New Austrian Tunneling Method" will be employed to complete the tunnel. The method involves blasting the rock; removing the debris; fortifying the rock walls with lattice girders, shotcrete, and rockbolts; further blasting and excavating the lower portion of the tunnel; additional fortification; waterproofing; and final concreting of the tunnel walls.

Operations during the construction and post-construction phases of the project will require the capture and treatment of significant quantities of groundwater.

Construction Phase: As tunneling operations proceed, large amounts of groundwater will be released from the surrounding rock. Because the water will come in contact with construction-related pollutants, including concrete, sediment, and possibly hydrocarbons, the water must be contained and treated prior to being discharged to the ocean. Maximum anticipated discharge volumes are approximately 800 gallons per minute (1.15 mgd). The average flow rate is estimated to be 9.2 gallons per second (0.79 mgd). Drilling operations are expected to commence in October 2006 and last for approximately three years.

Post-Construction Phase: The tunnels will be constructed with a permanent groundwater drainage system to relieve groundwater pressure on the tunnel walls. As groundwater is conveyed it will come in contact with the tunnels' shotcrete lining, which is not expected to fully harden until approximately three to five years after installation. As a consequence, groundwater draining from the tunnel will contain elevated pH levels. This water will be collected and conveyed to an offsite treatment facility until groundwater pH levels return to ambient levels. Maximum anticipated discharge volumes are approximately 320 gallons per minute (0.46 mgd).

Although this phase of the project is referred to as "post-construction," the curing of the concrete in the tunnel walls is related to the construction process and, as such, groundwater coming in contact with the curing concrete will be treated as an industrial discharge and subject to the requirements of the Ocean Plan.

A. Description of Wastewater Treatment or Controls

Separate groundwater treatment systems will be used for construction phase dewatering and post-construction phase dewatering.

Construction Phase: Two treatment systems will be employed during the construction phase. Each will be designed to continuously treat the maximum anticipated groundwater flow of 800 gallons per minute (gpm) (1.15 million gallons per day). One of the two systems will be available for additional second-pass treatment if effluent limits are not met after passing through the first system. Additionally, the second system will be available for redundancy during times when the other system is either broken or undergoing maintenance. Treatment design features include mechanical separators rated at 800 gpm to remove sediment and fines above 10 to 20 µm in size, an automatic adjustment system for pH, a coagulant feed system, polishing filtration system, granular activated carbon to adsorb hydrocarbons, continuous monitoring of pH and turbidity, and a Supervisory Control And Data Acquisition (SCADA) system for remote monitoring, control and data acquisition.

Post-Construction Phase: A downward adjustment to the pH of tunnel leach waters will be provided via a two-stage continuous flow pH treatment process. Because large amounts of stored groundwater will be released upon initial drilling activities, anticipated flows during the post-construction stage are expected to be significantly lower than construction-stage dewatering volumes. As such, the pH adjustment system will be designed to treat dewatering flows of up to 320 gpm. The first stage of the process uses a 6,000-gallon treatment tank with mounted agitators and a recirculation system. The second stage of the system consists of a larger capacity duplicate tank system. This second system can hold up to 10,000 gallons and will filter and polish the wastewater. Treatment will be provided during this stage of the project until pH levels are consistently within a range consistent with the standards of the Ocean Plan.

B. Discharge Points and Receiving Waters

The Discharger has identified two discharge locations for Facility dewatering operations. Outfalls exist at both of the locations. Both discharge points are near the southern portal area, where drilling operations will commence. Discharge point 001 can be seen on an oblique aerial photo found on the California Coastal Records Project website at:

http://www.californiacoastline.org/cgi-bin/image.cgi?image=200400555&mode=sequential&flags=0&year=2004

Discharge point 001 is the bottom of the large pipe shown on the left side of the photo.

1. **Discharge Point 001**. This discharge point is an existing outfall located at X,Y State Plane coordinates 1821882.8, 620826.3. It is 42 meters above sea level. The outfall has the capacity to handle peak flows up to 30 mgd. The outfall discharges onto a vegetated slope above the Pacific Ocean, directly west of the

south portal construction location. Existing rock slope protection will be fortified below the outfall to protect the slope from significant erosion.

2. **Discharge Point 002.** This discharge point will accommodate the lower-volume flows encountered during the post-construction phase of the Project and is located at Grey Whale Cove Beach, State Plane coordinates 1822062.5, 620396.7. Prior to discharge at the Discharge Point 002, the effluent will discharge to a vegetated basin with a perforated riser pipe, directly the opposite side of State Route 1. This basin then drains to Discharge Point 002.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

The Regional Water Board has considered the Environmental Impact Report and concurs that there are no significant impacts on water quality.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Quality Control Board (Regional Water Board) adopted a Water Quality Control Plan for the San Francisco Bay Basin (hereinafter Basin Plan) on April 16, 1997, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

   Beneficial uses applicable to the Pacific Ocean are as follows:

Table 2: Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Existing: Industrial water supply (IND); water contact and non-contact recreation (REC1, REC2); navigation (NAV); ocean, commercial and sport fishing (COMM); rare and endangered species (RARE); marine habitat (MAR); and, shellfish harvesting (SHELL).
002	Pacific Ocean	Same as above.

2. **California Ocean Plan.** The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21. 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table 3: Ocean Plan Beneficial Uses of the Pacific Ocean

Discharge Point	Receiving Water	Beneficial Use(s)
Outfall 001	Pacific Ocean	Industrial Water Supply; Water Contact and Non-Contact Recreation, Including Aesthetic Enjoyment; Navigation; Commercial and Sport Fishing; Mariculture; Rare and Endangered Species; Marine Habitat; Fish Migration; Fish Spawning; and, Shellfish Harvesting
Outfall 002	Pacific Ocean	Same as above.

In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

3. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR §131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

4. **Antidegradation Policy.** Section 131.12 of 40 CFR requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge is consistent with the antidegradation provision of CFR section 131.12 and State Water Board Resolution No. 68-16.

5. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

6. **Monitoring and Reporting Requirements.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

D. Impaired Water Bodies on CWA 303(d) List

The three discharge points would not discharge to a 303(d)-listed water body.

E. Other Plans, Polices and Regulations

This section is not applicable to this Order.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source discharges to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR §122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. Three options exist to protect water quality: 1) 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a); 2) proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information may be used; or 3) an indicator parameter may be established.

A. Discharge Prohibitions

The discharge prohibitions are based on the requirements of the Ocean Plan and the CWC, and are consistent with the requirements set for other discharges regulated by waste discharge requirements adopted by this Regional Water Board.

1. Compliance with Discharge Prohibitions contained in Section III.H of the Ocean Plan is a requirement of this Order.

2. Compliance with applicable Discharge Prohibitions contained in the Basin Plan is a requirement of this Order.

3. Discharges of waste in a manner or to a location that has not been specifically authorized by this Order and for which valid waste discharge requirements are not in force are prohibited.

4. The discharge of wastewater at a rate exceeding 1.15 mgd is prohibited unless the Discharger obtains revised waste discharge requirements authorizing an increased discharge.

B. Technology-Based Effluent Limitations

This Order does not include technology-based effluent limits. Technology-based effluent limits have not been established for this category of discharge. The limits in this Order are consistent with the requirements of the Ocean Plan.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in 40 CFR §122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause,

have reasonable potential to cause, or contribute to an excursion above any state water quality standard (Reasonable Potential). The process for determining Reasonable Potential and calculating WQBELs when necessary is intended to protect the designated beneficial uses of the receiving water as specified in the Ocean Plan and Basin Plan, and to achieve applicable water quality objectives and criteria contained in the Ocean Plan.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

To protect the beneficial uses established in the Ocean Plan and the Basin Plan (referenced in Part III.C of this Fact Sheet), the Ocean Plan establishes water quality objectives (for bacterial, physical, chemical, and biological characteristics, and for radioactivity), general requirements for management of waste discharged to the ocean, quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions.

Table A of the Ocean Plan provides effluent limitations for conventional and certain non-conventional pollutants (including grease and oil, settleable solids, turbidity, and pH). Table B of the Ocean Plan lists water quality objectives for pollutants and whole effluent toxicity for protection of marine aquatic life and human health (carcinogens and non-carcinogens).

3. Determining the Need for WQBELs

The Devil's Slide Tunnel Project is a new facility. The absence of background and monitoring data for the facility results in an inconclusive reasonable potential analysis (RPA). Given the absence of facility-specific effluent data, and in accordance with the RPA Procedure of the Ocean Plan, the Discharger shall conduct monitoring for Ocean Plan Table B parameters within the first 20 days of the initial discharge of treated effluent from construction stage dewatering activities. Subsequent Table B monitoring will be required annually.

Effluent limitations for Table B pollutants may be calculated based upon monitoring results. This Order establishes a chronic toxicity effluent limitation pursuant to Table B of the Ocean Plan. Because water quality objectives have not been established for any coagulants that may be used in the treatment process and material safety data sheets for coagulants suggest possible toxicity, it is appropriate to establish a Whole Effluent Toxicity limit per Table B of the Ocean Plan.

Grease and oil, suspended solids, settleable solids, turbidity, and pH are characteristic pollutants from facilities of this nature. Pursuant to Table A of the Ocean Plan, effluent limitations for grease and oil, suspended solids, settleable solids, turbidity, and pH are established for the discharge of facility effluent in this Order.

This Order does not contain effluent limits for dissolved oxygen concentration. This discharge is not expected to suppress oxygen levels in ocean waters or affect beneficial uses due to oxygenation of effluent between the outfall location and

point of ocean discharge. Additionally, during the construction phase of the Project, rapid turbulent mixing within the ocean intertidal zone will negate any suppressed oxygen impact to the ocean environment.

4. Effluent Limitation Calculations

Water quality based effluent limitations are based on projected effluent quality and water quality objectives specified in Table A and Table B of the 2005 Ocean Plan. The WQBELs required in this Order represent the minimum level of treatment acceptable under the Ocean Plan, with the exception of the WQBEL for chronic toxicity, which was calculated as described below in Section IV.5, Whole Effluent Toxicity.

Table 4: Summary of Effluent Limitations for Discharge Points 001 and 002

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Instantaneous Minimum	Maximum Daily	Instantaneous Maximum
Total Suspended Solids[a]	mg/L	60				
pH	standard units			6.0		9.0
Oil and Grease	mg/L	25	40			75
	lbs/day					
Settleable Solids	ml/L	1.0	1.5			3.0
Turbidity	NTU	75	100			225
Chronic Toxicity	TUc				(ii)	

i. **Suspended Solids**: Discharger shall, as a 30-day average, remove 75% of suspended solids from the influent stream before discharging wastewaters to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/l.

ii. The chronic toxicity effluent limitation will be calculated as described below in section IV.C.5.

5. Whole Effluent Toxicity (WET)

The 2005 Ocean Plan establishes numeric objectives for chronic toxicity in Section II.D, Table B, with a chronic toxicity daily maximum objective of 1.0 (TUc). Pursuant to Section III.C.3 of the Ocean Plan, the Discharger shall conduct chronic toxicity monitoring. Using the implementation provisions for Table B, specified in Section III.C.4.a of the 2005 Ocean Plan, the effluent limitation for chronic toxicity shall be calculated using the following equation:

$$Ce = Co + Dm (Co - Cs)$$

where:

Ce = the effluent concentration limit

Co = the concentration (water quality objective) to be met at the completion of initial dilution (1 TUc)

Cs = background seawater concentration (0 TUc)

Dm = minimum probable initial dilution expressed as parts seawater per part wastewater.

The water quality objective to be met at the completion of initial dilution (Co) is 1 TUc, and the background seawater concentration (Cs) assumed to be 0 TUc. To characterize the extent of actual dilution, the Discharger may demonstrate that a dilution credit is appropriate by performing a dilution study, such as a dye or salinity tracer study (see Provision VI.C.2.c). In the absence of a completed study, the effluent limitation for chronic toxicity will be calculated with minimal dilution (Dm=0).

Chronic toxicity is to be calculated using the following formula:

$$TUc = \frac{100}{NOEL}$$

Where: No Observed Effect Level (NOEL) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of critical life stage toxicity tests as listed in Appendix III of the 2005 Ocean Plan.

D. Final Effluent Limitations

The Ocean Plan is the basis of the Order's effluent limitations as summarized above in *Table 4: Summary of WQBELs for Discharge Points 001 and 002.*

E. Interim Effluent Limitations

This section is not applicable to this Order.

F. Land Discharge Specifications

This section is not applicable to this Order.

G. Reclamation Specifications

Reclamation specifications included in this Order are intended to prevent untreated construction effluent from discharging to surface waters.

1. Water reclaimed for beneficial reuse as applied shall not runoff into the Ocean or its tributaries, unless the reclaimed water first meets the requirements in Section IV.A- Final Effluent Limitations.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

Narrative and numerical receiving water limitations are established in this Order based on water quality objectives specified in the Ocean Plan to ensure the reasonable

protection of beneficial uses and the prevention of nuisance. Receiving water limitations are a required part of this Order.

B. Groundwater

This section is not applicable to this Order.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR §122.48 requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the CWC authorize the Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for this facility.

A. Influent Monitoring

Influent monitoring requirements for suspended solids have been established to allow for the determination of suspended solids effluent limitation compliance. The effluent limitation for suspended solids requires 75 percent removal of suspended solids, but not to be brought below 60 mg/l.

B. Effluent Monitoring

Effluent monitoring requirements at monitoring points have been established to determine compliance with effluent limitations as a final step within the treatment system. Because there will not be receiving water monitoring, the Discharger will not be given dilution credit. Effluent limits must be met at the effluent monitoring locations prior to discharge.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity testing shall be conducted by the methods specified in Section IV.C.5 of this Fact Sheet. The Ocean Plan requires chronic toxicity compliance monitoring for facilities where a reasonable potential analysis is inconclusive.

D. Receiving Water Monitoring

This Order does not require receiving water monitoring. Effluent limitations and receiving water quality objectives must be met prior to discharge and compliance with those limits should assure compliance with receiving water objectives. One exception is the receiving water objective for dissolved oxygen

E. Other Monitoring Requirements

This Order requires monitoring for Ocean Plan Table B pollutants. The Ocean Plan specifies that Facilities permitted for discharges between 1 and 10 mgd provide one

complete scan of Table B substances annually. Additionally, to allow a characterization of the treated effluent, this Order requires the initial scan of Table B substances to be performed within 20 days of the commencement of construction stage treated water discharge.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR section 122.42, are provided in Attachment D to the Order.

40 CFR Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

These provisions are based on 40 CFR §123 and allow future modification of this Order and its effluent limitations as necessary in response to updated WQOs that may be established in the future.

2. Special Studies and Additional Monitoring Requirements

a. **Toxicity Reduction Requirements.** This provision is a requirement of the Ocean Plan. A Toxicity Reduction Evaluation shall be conducted if the discharge exceeds an effluent limitation based on a Ocean Plan Table B water quality objective on two consecutive occasions based on the routine and accelerated test events. Two consecutive exceedences of Table B effluent limitations clearly demonstrates the presence of a consistent source of toxicity that warrants investigating and controlling.

b. **Operations Plan Requirements.** This provision has been added pursuant to State Water Code, sections 13267(b)(1) and 13385(j)(1)(D)(i)(I). Because this is a new facility, an operations plan is necessary to assure the reliability of the treatment system and to ensure the Discharger will be able to meet the permit requirements once the discharge commences.

3. Best Management Practices and Pollution Prevention

As of the date of this Order, the Discharger has not yet identified the coagulant agent that will be used to remove solids from the influent. As such, a coagulant pollution prevention plan must be submitted and reviewed by the Regional Water Board Executive Officer to ensure that Facility discharge is consistent with the requirements of the Ocean Plan.

4. Other Special Provisions

Because the Department has not yet selected the explosive product to be used during blasting activities, the Regional Water Board will need to review the blasting plan to ensure that blasting activities will not result in an impact to ocean waters.

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of WDRs that will serve as a NPDES permit for the Devils Slide Tunnel Project. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through a Public Notice in the Half Moon Bay Review on May 15, 2006.

B. Written Comments

Staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on June 15, 2006.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: July 12, 2006
Time: 9:00 a.m.
Location: Elihu M. Harris Building
First Floor Auditorium
1515 Clay Street
Oakland, CA 94612

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is www.waterboards.ca.gov/sanfranciscobay. The current agenda and any changes in dates and locations are posted there.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (510) 622-2300.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Brendan Thompson at (510) 622-2506 or via e-mail at BThompson@waterboards.ca.gov.