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California Regional Water Quality Control Board

San Francisco Bay Region

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Edmund G. Brown, Jr.
Governor

ORDER NO. R2-2011-0056
NPDES NO. CA0038831

The following Discharger is subject to waste discharge requirements 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, CA
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a **minor** discharge.	

California Department of Transportation discharges from the discharge points identified below are subject to waste discharge requirements as set forth in this Order.

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated Groundwater from Tunnel Construction Dewatering	37º 34′ 17.1″ N	122º 30′ 59.5″ W	Pacific Ocean
002	Treated Groundwater from Post-Construction Dewatering	37º 34′ 03.3″ N	122º 30′ 51.8″ W	Pacific Ocean

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	September 14, 2011
This Order shall become effective on:	November 1, 2011
This Order shall expire on:	October 31, 2016
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date

I, Bruce H. 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 the date shown above.

Digitally signed by Bruce Wolfe
Date: 2011.09.29 11:41:06 -07'00'

Bruce H. Wolfe, Executive Officer

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I. FACILITY INFORMATION

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

Table 4. Facility 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, CA
Facility Contact, Title, Phone	Skip Sowko, Project Manager, (510) 622 - 0814
Mailing Address	111 Grand Avenue, Oakland, CA 94612
Type of Facility	Tunnel construction and operations facility
Facility Design Flow	Construction phase treatment system – 0.50 million gallons per day (MGD), maximum Post-construction phase treatment system – 0.50 MGD

II. FINDINGS

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

A. Background. The California Department of Transportation (hereinafter the Discharger) is currently discharging under Order No. R2-2006-0049, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0038831. The Discharger submitted a Report of Waste Discharge, dated April 15, 2011, and applied for an NPDES permit reissuance to discharge treated wastewater from the Devil's Slide Tunnel Project to waters of the State and the United States.

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. Facility Description and Discharge Location

1. **Facility Description.** The Discharger owns and operates State Route 1 and the surrounding right of way. The Discharger is constructing 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. Creating the tunnels involves blasting rock; removing debris; fortifying rock walls with lattice girders, shotcrete, and rockbolts; further blasting and excavating the lower portion of the tunnel; and additional fortification, waterproofing, and final concreting of the tunnel walls.

   During the construction phase, a large amount of groundwater is released from the surrounding rock and comes into contact with construction-related pollutants, including concrete, sediment, and possibly hydrocarbons. This groundwater is collected in a sump and pumped to the temporary non-stormwater treatment system for treatment. Treatment processes in this treatment system include a settling tank, a clarifier tank, pH adjustment with sulfuric acid, flocculation with alum, and final polishing prior to discharge through bag and cartridge granulated activated carbon filters. Ferrous sulfate is added as necessary to reduce

concentrations of chromium (VI). Treated wastewater recirculates through the system until it is acceptable for discharge. Sludge from the clarifying tanks is collected periodically with a vacuum truck and hauled for offsite disposal. As of January 2011, all major excavation construction activities have been completed. Significant remaining construction activities include roadway construction, completion of the tunnel lining, and modifications at the tunnel entrances. The Discharger plans to complete all construction activities by December 2012. Groundwater will comingle with construction-related pollutants until this time and require treatment.

The Discharger has constructed a permanent groundwater drainage system to relieve groundwater pressure on the walls of the tunnels. Groundwater will contact the shotcrete lining of the tunnel walls, which will not completely harden for approximately three to five years after installation. Groundwater will therefore have elevated pH levels, and will be collected and conveyed to an offsite treatment facility for continuous flow pH adjustment to levels within the range of Water Quality Control Plan for Ocean Waters of California (Ocean Plan) standards. The temporary post-construction treatment system will be designed to treat up to 0.50 MGD. The first stage will be a 5,997-gallon tank with agitators, carbon dioxide injectors, recirculation system, and instrumentation. The second stage will hold up to 10,012 gallons for filtration, from which effluent will flow to a detention basin and ocean outfall. Once pH adjustment is no longer needed, the temporary plant will be removed, and any further groundwater will be discharged at Discharge Point 002.

2. **Discharge Location.** There are two existing outfalls for discharges of treated groundwater. Discharge Point 001 is located approximately 42 meters above sea level and discharges to a vegetated slope above the Pacific Ocean. The capacity of this outfall is 30 MGD. Discharge Point 002 is located at Grey Whale Beach Cove and will be used to discharge lower volume post-construction flows to a vegetated basin through a perforated riser pipe. Discharges will eventually flow to the Pacific Ocean.

3. **Discharge Description.** Discharges consist of treated groundwater. Discharge during the construction phase occurs at Discharge Point 001 and has been anticipated to reach a maximum of 1.15 MGD; however, the maximum observed flow rate from 2009 and 2010 was 0.54 MGD. Due to low influent volumes, discharges occur in batches. Post-construction treated groundwater discharges will occur at Discharge Point 002 and are expected to have a maximum flow rate of 0.50 MGD.

Attachment B provides a map of the area around the discharge points. Attachment C provides a flow schematic of the treatment facilities.

C. Legal Authorities. This Order is issued pursuant to Clean Water Act (CWA) Section 402 and implements regulations adopted by USEPA, and California Water Code (CWC) chapter 5.5, division 7 (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as waste discharge requirements pursuant to CWC article 4, chapter 4, division 7 (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 this Order's requirements, is hereby incorporated into this Order and constitutes part of the findings for this Order. Attachments A through E and G are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under CWC section 13389, this action to adopt an NPDES permit is exempt from Chapter 3 of CEQA.

F. Technology Based Effluent Limitations. CWA Section 301(b) and NPDES regulations at Title 40 of the Code of Federal Regulations (40 CFR) Section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum and any more stringent effluent limitations necessary to meet applicable water quality standards.

G. Water Quality Based Effluent Limitations. CWA Section 301(b) and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. NPDES regulations at 40 CFR 122.44(d)(1)(i) mandate 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 must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) 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 40 CFR 122.44(d)(1)(vi).

H. Water Quality Control Plans. *The Water Quality Control Plan for the San Francisco Bay Basin* (hereinafter the Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface and groundwater. It also includes implementation programs to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board), the Office of Administrative Law, and USEPA. Requirements of this Order implement the Basin Plan. The Basin Plan specifically identifies beneficial uses for the Pacific Ocean.

The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Total dissolved solids (TDS) levels exceed 3,000 milligrams per liter (mg/L) in ocean waters, and thereby meet an exception to State Board Resolution No. 88-63. The Municipal and Domestic Supply (MUN) designation is therefore not applicable to the receiving water. The Basin Plan beneficial uses for the Pacific Ocean in the San Mateo Coastal Watershed are listed in the table below.

Table 5. Basin Plan Beneficial Uses for the Pacific Ocean

Receiving Water Name	Beneficial Uses
Pacific Ocean	Industrial Service Supply Ocean, Commercial, and Sport Fishing Shellfish Harvesting

Receiving Water Name	Beneficial Uses
	Marine Habitat Fish Migration Preservation of Rare and Endangered Species Fish Spawning Wildlife Habitat Water Contact Recreation Noncontact Water Recreation Navigation

I. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California* (hereinafter the Ocean Plan) in 1972 and has amended it several times, most recently on September 15, 2009. The most recent changes became effective on March 10, 2010. The Ocean Plan applies in its entirety to point source discharges to the Pacific Ocean. To protect beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Section I of the Ocean Plan identifies the following beneficial uses of ocean waters of the State.

Table 6. Ocean Plan Beneficial Uses

Receiving Water	Ocean Plan Beneficial Uses
Pacific Ocean	Industrial Water Supply Water Contact and Noncontact Recreation, Including Aesthetic Enjoyment Navigation Commercial and Sport Fishing Mariculture Preservation and Enhancement of Designated Areas of Special Biological Significance Rare and Endangered Species Marine Habitat Fish Migration Fish Spawning Shellfish Harvesting

J. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes [65 Fed. Reg. 24641 (April 27, 2000), codified at 40 CFR 131.21]. 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. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on total suspended solids (TSS), oil and grease, settleable solids, turbidity, and pH. Restrictions on these pollutants are discussed in the Fact Sheet (Attachment F). In addition, this Order contains effluent limitations that are necessary to meet water quality standards. These water quality-based effluent limitations (WQBELs) are not more stringent than required by the CWA.

WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both beneficial uses and water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The procedures for calculating individual WQBELs are based on the Ocean Plan, which USEPA most recently approved on October 8, 2010. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

L. Antidegradation Policy. 40 CFR 131.12 requires that State water quality standards include an antidegradation policy consistent with federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, which incorporates federal policy where federal policy applies. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both State and federal antidegradation policies.

M. Anti-Backsliding Requirements. CWA Sections 402(o)(2) and 303(d)(4) and 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 Order, with some exceptions where limitations may be relaxed.

The previous Order included a chronic toxicity effluent limit of 1 TUc, whereas this Order includes a 4.9 TUc limit. However, this is not backsliding because the previous permit included an allowance for the Executive Officer to approve a dilution study justifying a revised limit based upon probable initial dilution. The Executive Officer approved a dilution study and granted a 4.9 TUc effluent limitation for chronic toxicity on August 14, 2008.

N. Endangered Species Act. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of applicable State and federal law pertaining to threatened and endangered species.

O. Monitoring and Reporting. NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP, Attachment E) establishes monitoring and reporting requirements to implement federal and State requirements.

P. Standard and Special Provisions. Federal Standard Provisions, which apply to all NPDES permits 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 Discharger must comply with all standard provisions and with those additional conditions that apply under 40 CFR 122.42. The Discharger must also comply with the Regional Standard Provisions provided in Attachment G. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. The Fact Sheet (Attachment F) provides rationale for the special provisions.

Q. Provisions and Requirements Implementing State Law. None of the requirements in this Order are included to implement State law only.

R. Notification of Interested Parties. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with opportunity to submit written comments and recommendations. Details of the notification are provided in the Fact Sheet, which accompanies this Order.

S. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. The Fact Sheet (Attachment F) provides details of the public hearing.

IT IS HEREBY ORDERED, that this Order supersedes Order No. R2-2006-0049, as amended by Order No. R2-2010-0054, except for enforcement purposes, and, in order to meet the provisions contained in CWC Division 7 (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.

B. Discharge at any point at which the treated wastewater does not receive an initial dilution of at least 4.9:1 is prohibited.

C. Discharge of wastewater at Discharge Point 001 at a rate exceeding 0.50 MGD, or at Discharge Point 002 at a rate exceeding 0.50 MGD, is prohibited.

D. Discharge of industrial waste sludge to the ocean is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations for Conventional and Non-conventional Pollutants

The Discharger shall maintain compliance with the following effluent limitations at Discharge Points 001 and 002, with compliance determined at Monitoring Locations EFF-001 and EFF-002, respectively, as described in the attached MRP (Attachment E).

Table 7. Effluent Limitations for Conventional and Non-Conventional Pollutants

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Suspended Solids	mg/L	60	---	---	---	---
	Percent Removal	75 [1]	---	---	---	---
pH	s.u.	---	---	---	6.0	9.0
Oil and Grease	mg/L	25	40	---	---	75

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Turbidity	NTU	75	100	---	---	225
Settleable Solids	mL/L	1.0	1.5	---	---	3.0

Legend to Table 7:
Unit Abbreviations
mg/L = milligrams per liter
s.u. = standard units
NTU = nephelometric turbidity units
mL/L = milliliters per liter

Footnotes to Table 7:
[1] The Discharger shall remove 75% of suspended solids from the influent stream before discharge; the effluent limitation to be met shall not be lower than 60 mg/L.

B. Effluent Limitations for Toxic Substances

The Discharger shall maintain compliance with the following effluent limitations at Discharge Points 001and 002, with compliance determined at Monitoring Locations EFF-001 and EFF-002, respectively, as described in the attached MRP (Attachment E).

Table 8. Effluent Limitations for Toxic Pollutants

Parameter	Units	Effluent Limitations		
		Six-Month Median	Daily Maximum	Instantaneous Maximum
Ammonia	mg/L	2.9	12	29
	lbs/day	13	53	130
Chromium (VI)	µg/L	9.8	39	98
	lbs/day	0.044	0.18	0.44
Chronic Toxicity	TUc[1]	---	4.9	---

Legend to Table 8:
Unit Abbreviations
mg/L = milligrams per liter
lbs/day = pounds per day
µg/L = micrograms per liter
mL/L = milliliters per liter

Footnotes to Table 8:
[1] TUc equals 100 divided by the no observable effect level (NOEL). The No Observable Effect Level (NOEL) shall equal the IC25 or EC25 (see Attachment E, Appendix E-1). If the IC25 or EC25 cannot be statistically determined, the NOEL shall equal to the No Observable Effect Concentration (NOEC) derived using hypothesis testing. The NOEC is the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of based on a critical life stage toxicity test.

C. Reclamation Specifications

Water reclaimed for beneficial reuse shall not cause runoff into the Pacific Ocean, or any other surface water, unless the reclaimed water first meets the requirements of IV. A. and B., above.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Discharges authorized by this Order at Discharge Points 001 and 002 shall not cause exceedances of the following surface water limitations in ocean receiving waters.

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

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

3. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.

4. 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.

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

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

7. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.

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

9. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.

10. Nutrient levels shall not cause objectionable aquatic growths or degrade indigenous biota.

11. Discharges shall not cause exceedances of water quality objectives for ocean waters of the State established in Ocean Plan Table B.

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

13. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.

14. Toxic or other deleterious substances shall not be present in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

15. The discharge shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved, the Regional Water Board may revise and modify this Order in accordance with them.

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with the Federal Standard Provisions in Attachment D of this Order.

2. **Regional Standard Provisions.** The Discharger shall comply with all applicable items of the Regional Standard Provisions, and Monitoring and Reporting Requirements (Supplement to Attachment D) for NPDES Wastewater Discharge Permits (Attachment G), including amendments thereto.

B. Monitoring and Reporting Requirements

The Discharger shall comply with the Monitoring and Reporting Program (Attachment E) and future revisions thereto, including applicable sampling and reporting requirements in the two standard provisions listed in Provision VI.A above.

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 as allowed by law:

a. If present or future investigations demonstrate that the discharges governed by this Order have or will have a reasonable potential to cause or contribute to, or will cease to have, adverse impacts on water quality or beneficial uses of the receiving waters.

b. If new or revised water quality objectives or total maximum daily loads (TMDLs) come into effect for the receiving water (whether Statewide, regional, or site-specific). In such cases, effluent limitations in this Order may be modified as necessary to reflect updated water quality objectives and wasteload allocations in TMDLs. Adoption of effluent limitations in this Order is not intended to restrict in any way future modifications based on legally adopted water quality objectives or TMDLs, or as otherwise permitted under federal regulations governing NPDES permit modifications.

c. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified.

d. If State Water Board precedential decisions, new policies, new laws, or new regulations on chronic toxicity or total chlorine residual become available.

e. If an administrative or judicial decision on a separate NPDES permit or waste discharge requirements address requirements similar to this discharge.

f. Or as otherwise authorized by law.

The Discharger may request permit modification based on any of the circumstances described above. In any such request, the Discharger shall include an antidegradation and anti-backsliding analysis.

2. Pollution Prevention and Pollutant Minimization

a. Prevention of Pollution from Coagulants. The Discharger shall continue to improve in a manner acceptable to the Executive Officer and implement a Coagulant Pollution Prevention Plan. The Coagulant Pollution Prevention Plan shall include best management practices to prevent accidental spillage, overfeeding into the treatment system, or other mishandling of coagulant agents. The Coagulant Pollution Prevention Plan shall also include a monitoring plan for all coagulants used by the facility. The Coagulant Pollution Prevention Plan shall be maintained on-site and shall be available upon request.

b. Pollutant Minimization Program. The Discharger must develop and conduct a Pollutant Minimization Program if all of the following conditions are true:

i. The calculated effluent limitation is less than the Minimum Level (ML);

ii. The concentration of the pollutant is reported as Detected Not Quantified (DNQ); and

iii. There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.

Alternatively, the Discharger must develop and conduct a Pollutant Minimization Program if all of the following conditions are true:

i. The calculated effluent limitation is less than the Method Detection Limit (MDL);

ii. The concentration of the pollutant is reported as Non-detect (ND); and

iii. There is evidence showing that the pollutant is present in the effluent above the calculated effluent limitation.

If the Discharger is required to develop a Pollutant Minimization Program based on the circumstances described above, the Pollutant Minimization Program shall include the following, at a minimum:

i. An annual review and semi-annual monitoring of potential sources of the reportable pollutant, which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;

ii. Quarterly monitoring for the reportable pollutant in the influent to the wastewater treatment system, or an alternative measure approved by the Executive Officer when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;

iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable pollutant in the effluent at or below the effluent limitation;

iv. Implementation of appropriate cost-effective control measures for the reportable pollutant, consistent with the control strategy; and

v. An annual status report to be sent to the Regional Water Board, including:

(a) All Pollutant Minimization Program monitoring results for the previous year;

(b) A list of potential sources of the reportable pollutant;

(c) A summary of all action taken in accordance with the control strategy; and

(d) A description of actions to be taken in the following year.

3. Cessation of Permit Coverage Post-Construction Discharge 002

At its option, the Discharger may request termination of coverage of its post-construction Discharge 002 prior to the expiration and rescission of this Order, and the Executive Officer may grant such termination provided both conditions described as follows are met:

a. with its request, the Discharger provides monitoring data of post-construction untreated groundwater (i.e., groundwater influent to the treatment system) collected at the same frequencies as specified in the Monitoring and Reporting Program for EFF-002, and

b. these data show compliance with all effluent limitations specified for Discharge 002 for a minimum of one year.

Upon the Executive Officer's written concurrence, post-construction discharges shall not be subject to the requirements of this Order.

VII. COMPLIANCE DETERMINATION

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in Definitions (Attachment A), the Monitoring and Reporting Program (Attachment E), Fact Sheet (Attachment F), and the Regional Standard Provisions (Attachment G). For purposes of reporting and Regional and State Water Board administrative enforcement, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of a pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

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)
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 III, Table III-1.

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)
Sample results that are 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
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
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
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
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 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
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, or (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 that 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.

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

Minimum Level (ML)
The concentration 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)
Those sample results less than the laboratory's MDL.

Ocean Waters
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)
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)
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)
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
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
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
Organisms identified by the California Department of Public Health as shellfish for public health purposes (i.e., mussels, clams and oysters).

Significant Difference
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)
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 Nos. 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
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

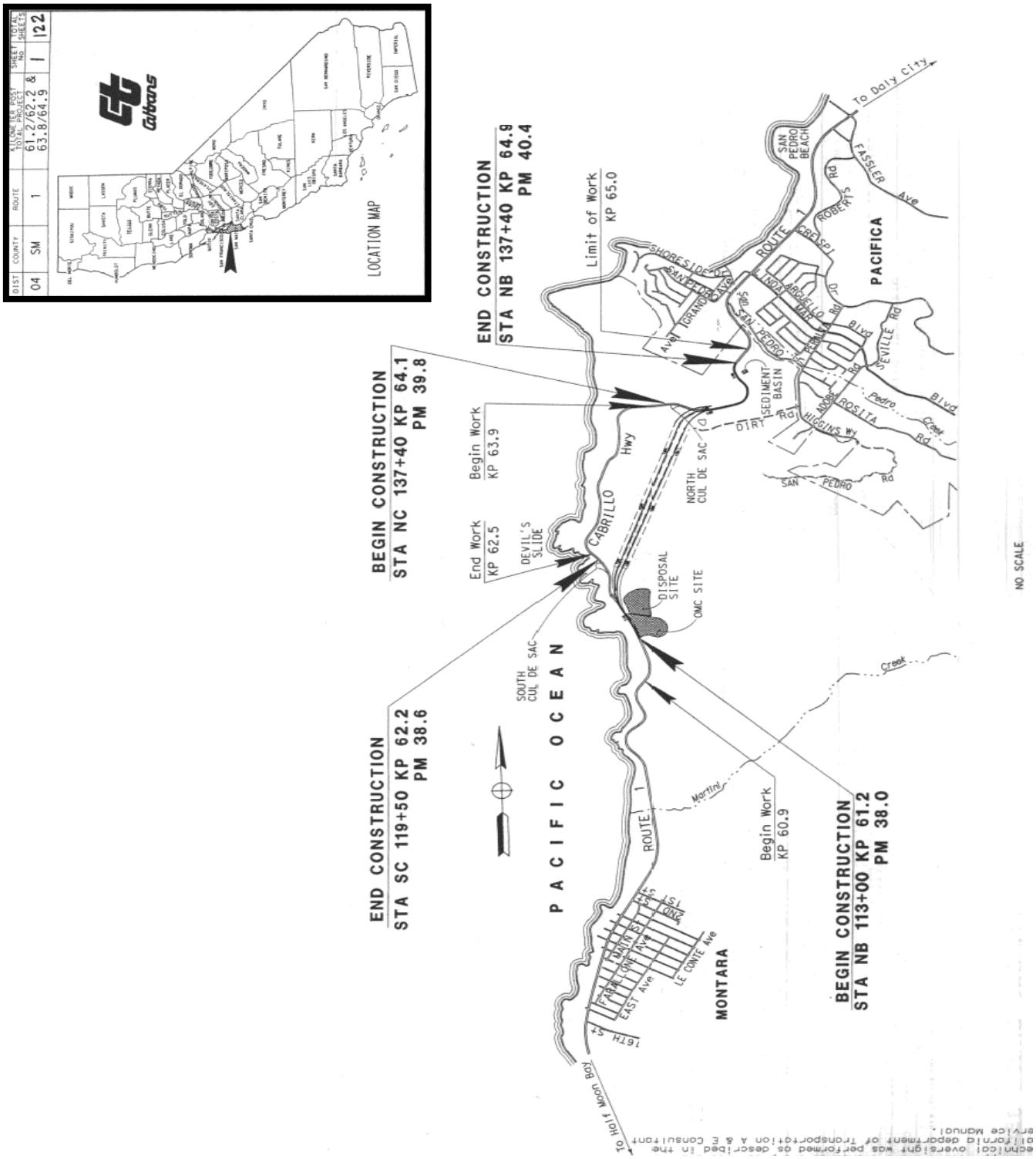
This definition of TCDD equivalents supersedes the definition of dioxin-TEQ in Attachment G.

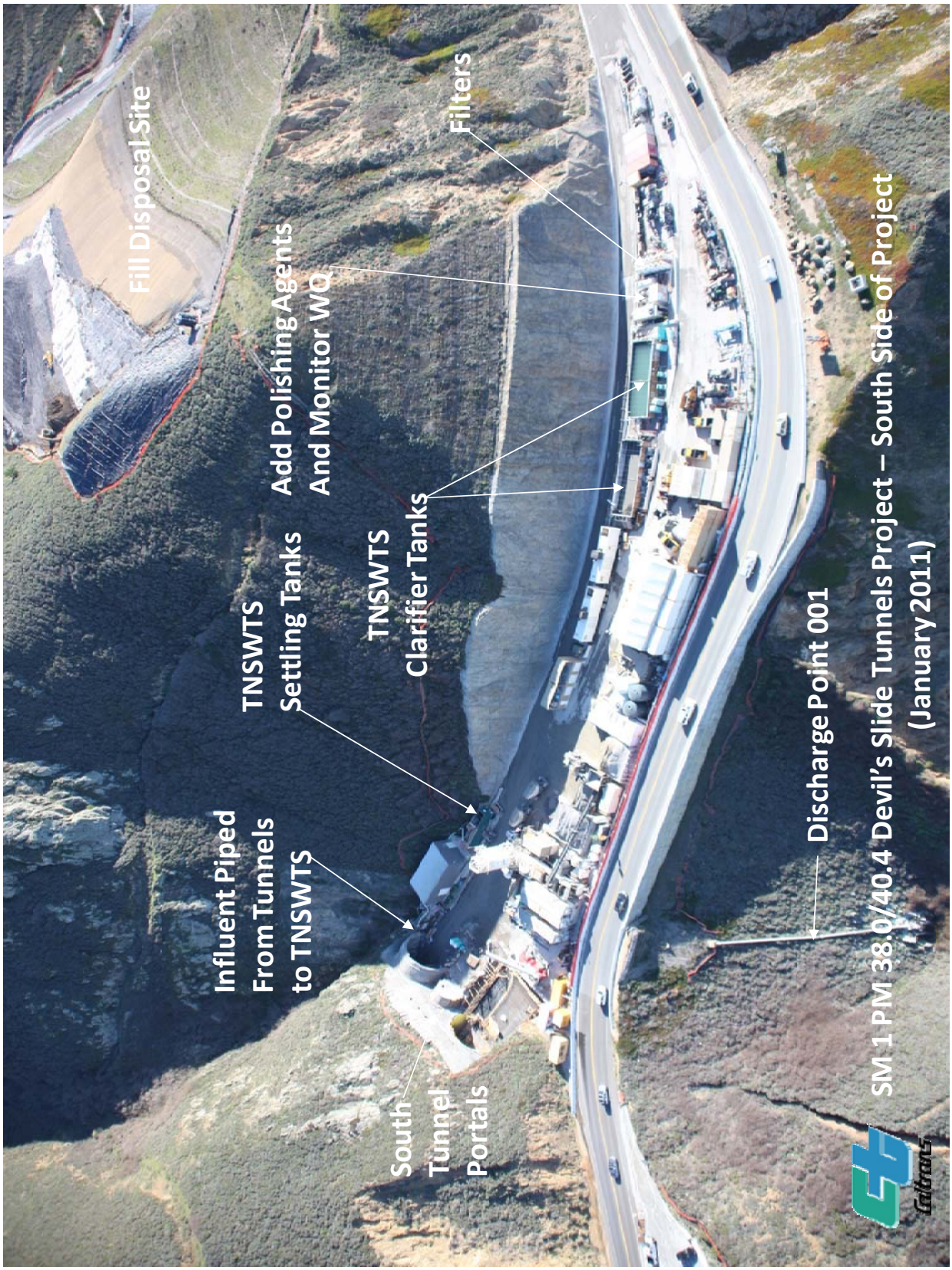
Toxicity Reduction Evaluation (TRE)
A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps 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 – MAP

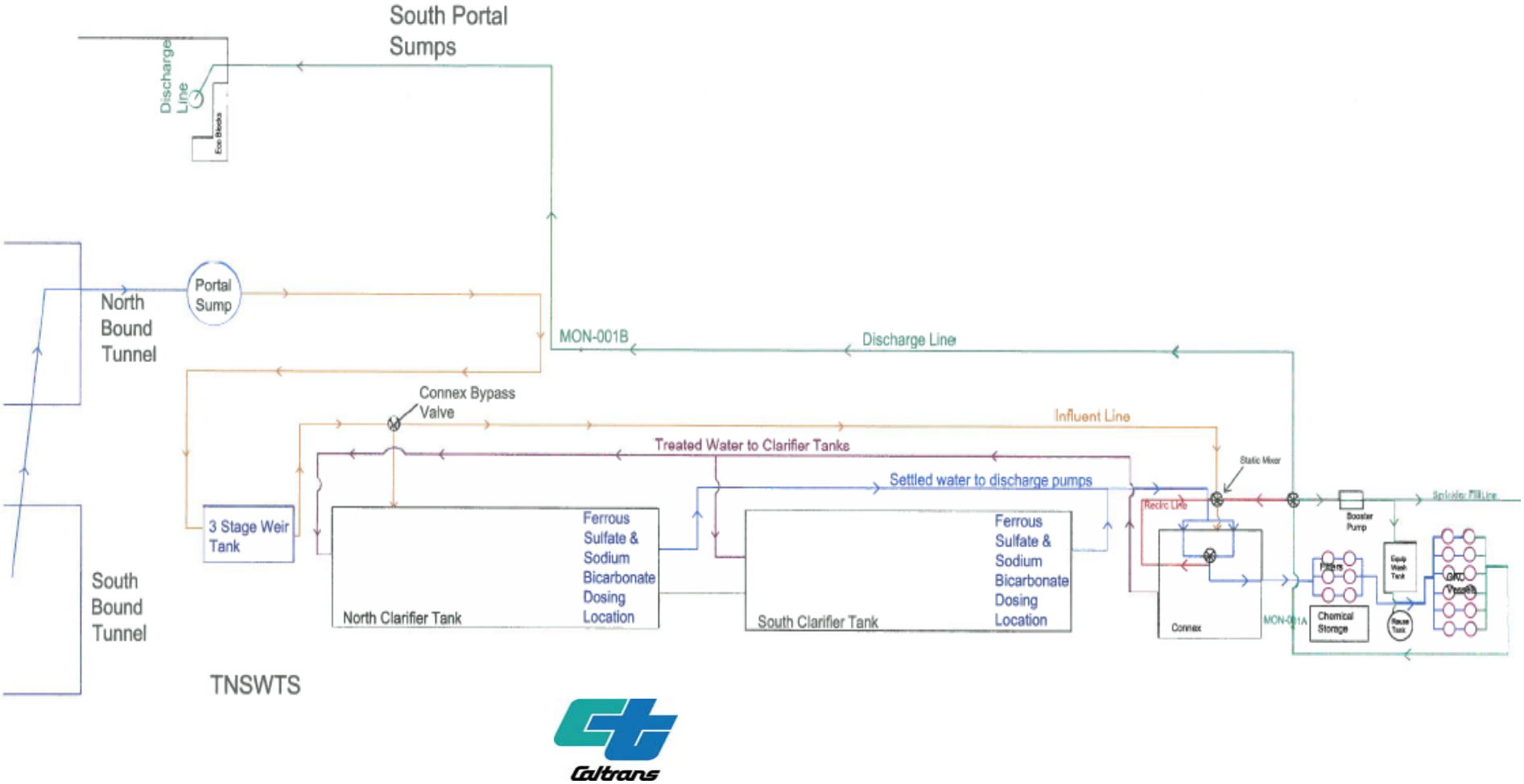



Fill Disposal Site
Filters
Add Polishing Agents
And Monitor WQ
TNSWTS
Settling Tanks
TNSWTS
Clarifier Tanks
Influent Piped
From Tunnels
to TNSWTS
South
Tunnel
Portals
Discharge Point 001
SM 1 PM 38.0/40.4 Devil's Slide Tunnels Project – South Side of Project
(January 2011)

South Tunnel
Portals
Temp Non SW
Treatment
System
Fill Disposal Site
Outfall
001
Outfall
002
ESA Basin-Potential
CRLF Habitat
WAATS
OMC Bldg
Storage Basin

ATTACHMENT C – FLOW SCHEMATIC

Temporary Non Storm Water Treatment System Flow Chart Diagram



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 and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; 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 yet 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); Wat. Code, § 13383):

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)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, 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)(i)(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 Provisions – Permit Compliance I.G.5 below (40 CFR 122.41(m)(4)(i)(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 Discharger. 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)(ii));

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (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 this Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code (40 CFR 122.41(l)(3); 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 Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order (40 CFR 122.41(j)(4); 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 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); Wat. Code, § 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 122.22(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 section 122.29(b) (40 CFR 122.41(l)(1)(i)); or

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)).

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 General Order 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

A. The Regional Water Board is authorized to enforce the terms of this Order 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 section 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 section 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)

National Pollutant Discharge Elimination System (NPDES) regulations at 40 CFR section 122.48 require that all NPDES permits specify monitoring and reporting requirements. California Water Code (CWC) Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (hereinafter the Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and State regulations.

I. GENERAL MONITORING PROVISIONS

A. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 CFR 122.62, 122.63, and 124.5. If any discrepancies exist between the MRP and the Regional Standard Provisions (Attachment G), the MRP prevails.

B. The Discharger shall conduct all monitoring in accordance with Attachment D, section III, as supplemented by Attachment G of this Order. Equivalent test methods must be more sensitive than those specified in 40 CFR 136 and specified in the permit.

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 E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
---	INF-001	Influent to the treatment system for construction phase groundwater treatment.
---	INF-002	Influent to the treatment system for post-construction phase groundwater treatment.
001	EFF-001	Discharge from the construction phase temporary non-storm water groundwater treatment system, following all treatment, but prior to contact with the receiving water.
002	EFF-002	Discharge from the post-construction phase groundwater treatment system, following all treatment, but prior to contact with the receiving water.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations INF-001 and INF-002

The Discharger shall monitor influent to the construction phase groundwater treatment system at Monitoring Location INF-001 and to the post-construction phase groundwater treatment system at Monitoring Location INF-002, as follows.

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Suspended Solids	mg/L	C-24	1/Month

Legend for Table E-2
Unit Abbreviations:
mg/L = milligrams per liter

Sample Type:
C-24 = 24-hour composite

Sampling Frequency:
1/Month = Once per month

IV. EFFLUENT MONITORING REQUIREMENTS

A. Construction Phase Effluent Monitoring – Monitoring Location EFF-001

The Discharger shall monitor construction phase groundwater treatment system effluent at Monitoring Location EFF-001 as follows.

Table E-3. Effluent Monitoring - Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate [1]	MGD	Cont.	Cont./Daily
Suspended Solids	mg/L	C-24	1/Month
Oil and Grease [2]	mg/L	Grab	1/Week
Turbidity	NTU	Cont.	Cont./Daily
pH[3]	s.u.	Cont.	Cont./Daily
Settleable Solids	mL/L	Grab	1/Month
Chronic Toxicity	TUc	C-24	1/Year[4]
Ammonia	mg/L	C-24	1/Month
	lbs/day	Calculate	1/Month
Chromium (VI)	µg/L	Grab	1/Month
	lbs/day	Calculate	1/Month
Remaining Table B Pollutants [5]	µg/L	[5]	1/Year

Legend to Table E-3:
Unit Abbreviations:
MGD = million gallons per day
mg/L = milligrams per liter
NTU = nephelometric turbidity units
s.u. = standard units
mL/L = milliliters per liter
TUc = chronic toxicity units
lbs/day = pounds per day
µg/L = micrograms per liter

Sample Type:
C-24 = 24-hour composite
Cont. = Continuous

Sampling Frequency:
Continuous/Daily = measured continuously, and recorded and reported daily

1/Week = Once per week
1/Month = Once per month
1/Year = Once per year

Footnotes to Table E-3:

[1] Flow Monitoring. Flow shall be monitored continuously, and the following information shall be reported in Self-Monitoring Reports for each month:
- Daily average flow (MGD)
- Total daily flow volume (MG)
- Monthly average flow (MGD)
- Total monthly flow volume (MG)
- Maximum and minimum daily average flow rates (MGD) and time of occurrence

[2] Oil and Grease. Each oil and grease sampling and analysis event shall be conducted in accordance with USEPA Method 1664.

[3] pH. If pH is monitored continuously, the minimum and maximum pH values for each day shall be reported in quarterly Self-Monitoring Reports.

[4] Chronic Toxicity. In the event that a coagulant other than ferric chloride, ferrous sulfate, or alum is used in the treatment process, chronic toxicity monitoring shall occur quarterly for two years and twice per year thereafter. Critical life stage toxicity tests shall be performed and reported in accordance with the Chronic Toxicity Requirements specified in Section V.A of this MRP.

[5] Remaining Table B Pollutants. The remaining Table B pollutants are those listed in Ocean Plan Table B, excluding those with monitoring requirements established elsewhere in this table, and excluding acute toxicity and radioactivity.

[6] 24-Hour Composite. If the facility discharge is intermittent, a grab sample should be collected during normal work hours and midway through the discharge period.

B. Post-Construction Phase Effluent Monitoring – Monitoring Location EFF-002

The Discharger shall monitor post-construction phase groundwater treatment system effluent at Monitoring Location EFF-002 as follows. The Discharger shall notify the Regional Water Board a minimum of 30 days prior to commencing discharge at Discharge Point 002 and shall initiate the following monitoring requirements on the same day discharge commences. Monitoring for Table B pollutants and chronic toxicity shall occur within 60 days of the initial discharge.

Table E-4. Effluent Monitoring - Monitoring Location EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate [1]	MGD	Cont.	Cont./Daily
Suspended Solids	mg/L	C-24	1/Year
Oil and Grease [2]	mg/L	Grab	1/Quarter
Turbidity	NTU	Grab	1/Month
pH[3]	s.u.	Cont.	Cont./Daily
Settleable Solids	mL/L	Grab	1/Year
Ammonia	mg/L	C-24	1/Month
	lbs/day	Calculate	1/Month
Chromium (VI)	µg/L	C-24	1/Month
	lbs/day	Calculate	1/Month
Chronic Toxicity	TUc	C-24	1/5 Year[4]
Table B Pollutants [5]	µg/L	[5]	1/5 Year

Legend to Table E-4:

Unit Abbreviations:
MGD = million gallons per day
mg/L = milligrams per liter
NTU = nephelometric turbidity units
s.u. = standard units
mL/L = milliliters per liter

TUc = chronic toxicity units
lbs/day = pounds per day
µg/L = micrograms per liter

Sample Type:
C-24 = 24-hour composite
Cont. = Continuous

Sampling Frequency:
Cont./Daily = measured continuously, and recorded and reported daily
1/Week = Once per week
1/Month = Once per month
1/Year = Once per year
1/5 Year = Once during the 5 year permit term

Footnotes to Table E-4:

[1] Flow Monitoring. Flow shall be monitored continuously, and the following information shall be reported in Self-Monitoring Reports for each month:
- Daily average flow (MGD)
- Total daily flow volume (MG)
- Monthly average flow (MGD)
- Total monthly flow volume (MG)
- Maximum and minimum daily average flow rates (MGD) and time of occurrence

[2] Oil and Grease. Each oil and grease sampling and analysis event shall be conducted in accordance with USEPA Method 1664.

[3] pH. If pH is monitored continuously, the minimum and maximum pH values for each day shall be reported in quarterly Self-Monitoring Reports (SMRs).

[4] Chronic Toxicity. In the event that a coagulant other than ferric chloride, ferrous sulfate, or alum is used in the treatment process, chronic toxicity monitoring shall occur quarterly for two years and twice per year thereafter. Critical life stage toxicity tests shall be performed and reported in accordance with the Chronic Toxicity Requirements specified in Section V.A of this MRP.

[5] Remaining Table B Pollutants. The remaining Table B pollutants are those listed in Ocean Plan Table B, excluding those pollutants with monitoring requirements established elsewhere in this table, and excluding acute toxicity and radioactivity.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity Monitoring Requirements

1. **Sampling**. The Discharger shall collect 24-hour composite samples of the effluent at Monitoring Location EFF-001 or EFF-002 for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.

2. **Test Species**. The Discharger shall use three separate test species, consisting of a vertebrate, an invertebrate, and an aquatic plant. After three annual tests, the Discharger may reduce testing to the most sensitive of these three species. The Discharger shall conduct a screening chronic toxicity test as described in Appendix E-1 following any significant change in the nature of the effluent and at least 180 days prior to application for permit reissuance.

3. **Methodology**. Sample collection, handling, and preservation shall be in accordance with USEPA protocols. In addition, bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-2. These are "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms," currently EPA/600/R-95/136, August 1995. Any methodology exceptions must be granted by the Executive Officer and the Environmental Laboratory Accreditation Program.

4. **Dilution Series.** The Discharger shall conduct tests with a control and five effluent concentrations (including 100% effluent) using a dilution factor ≥0.5.

B. Chronic Toxicity Reporting Requirements

1. **Routine Reporting**. Toxicity test results for the current reporting period shall include, at a minimum, for each test:

   (1) Sample dates

   (2) Test initiation date

   (3) Test species

   (4) End point values for each dilution (e.g., number of young, growth rate, percent survival)

   (5) NOEC values in percent effluent

   (6) IC_{15}, IC_{25}, IC_{40}, and IC_{50} values (or EC_{15}, EC_{25} ... etc.) as percent effluent

   (7) TUc values (100/NOEL, where NOEL=IC_{25}, EC_{25} or NOEC as discussed in Appendix E-1)

   (8) Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable)

   (9) NOEC and LOEC values for reference toxicant tests

   (10) IC_{50} or EC_{50} values for reference toxicant tests

   (11) Available water quality measurements for each test (pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia)

2. **Compliance Summary**. The results of the chronic toxicity testing shall be provided in the Self-Monitoring Report and shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include items listed above under 2.a, specifically item numbers (1), (3), (5), (6) (IC_{25} or EC_{25}), (7), and (8).

C. Chronic Toxicity Reduction Evaluation (TRE)

If toxicity monitoring shows a violation of the chronic toxicity effluent limitation established by the Order, the Discharge shall conduct a TRE, and shall take all reasonable steps to reduce toxicity once the source of toxicity is identified. The Discharger shall initiate a TRE in accordance with the following.

a. The Discharger shall prepare a generic TRE work plan within 90 days of the effective date of this Order to be ready to respond to toxicity events. The Discharger shall review and update the work plan as necessary to remain current and applicable to the discharge and discharge facilities.

b. Within 30 days of exceeding the effluent limitation for chronic toxicity, the Discharger shall submit to the Regional Water Board a TRE work plan, which should be the generic work plan revised as appropriate for this toxicity event after consideration of available discharge data.

c. Within 30 days of the date of completion of the accelerated monitoring tests observed to exceed the chronic toxicity limitation, the Discharger shall initiate a TRE in accordance with a TRE work plan that incorporates any and all comments from the Executive Officer.

d. The TRE shall be specific to the discharge and be prepared in accordance with current technical guidance and reference materials, including USEPA guidance materials. The TRE shall be conducted as a tiered evaluation process, such as summarized below:

(1) Tier 1 consists of basic data collection (routine and accelerated monitoring).

(2) Tier 2 consists of evaluation of optimization of the current treatment process, including operation practices and in-plant process chemicals.

(3) Tier 3 consists of a toxicity identification evaluation (TIE).

(4) Tier 4 consists of evaluation of options for additional wastewater treatment processes.

(5) Tier 5 consists of evaluation of options for modifications of in-plant treatment processes.

(6) Tier 6 consists of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.

e. The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity (complying with the limitation in Section VI.B of this Order).

f. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. All reasonable efforts using currently available TIE methodologies shall be employed.

g. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consist with toxicity effluent limitations.

h. Many recommended TRE elements parallel required or recommended efforts of source control, pollution prevention, and stormwater control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to comply with TRE requirements.

i. The Regional Water Board recognizes that chronic toxicity may be episodic and identification of causes of and reduction of sources of toxicity may not be successful in

all cases. Regional Water Board enforcement will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

VI. RECLAMATION MONITORING REQUIREMENTS

The Discharger shall monitor the monthly total volume of treated groundwater in gallons that is beneficially re-used on-site for dust control and irrigation.

VII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

The Discharger shall comply with all Federal Standard Provisions (Attachment D) and Regional Standard Provisions (Attachment G) related to monitoring, reporting, and recordkeeping, except Attachment G section V.C.1.c.3, which the following hereby supersedes:

The Discharger shall report for each dioxin and furan congener the analytical result of effluent monitoring, including the quantifiable limit (reporting level), the method detection limit, and the measured concentration. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents as defined in Definitions (Attachment A), the Discharger shall set congener concentrations below minimum levels (ML) to zero.

B. Self-Monitoring Reports (SMRs)

1. **SMR Format.** At any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit 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 paper SMRs. The CIWQS website will provide additional directions for SMR submittal in the event of a service interruption for electronic submittal.

2. **SMR Due Dates and Contents.** The Discharger shall submit SMRs by the due dates, and with the contents, specified below:

   a. **Quarterly SMRs —** Quarterly SMRs shall be due 60 days after the end of each calendar quarter, covering that calendar quarter. The quarterly SMR shall contain the applicable items described in sections V.B and V.C of both Attachments D and G of this Order.

   b. **Annual SMR —** Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the items described in section V.C.1.f of the Regional Standard Provisions (Attachment G). See also Attachment E Provisions IV (Effluent Monitoring Requirements), and V (Whole Effluent Toxicity Testing Requirements) of the Order for requirements to submit reports with the annual SMR.

   c. **Additional Specifications for Submitting SMRs to CIWQS —** If the Discharger submits SMRs to CIWQS, it shall submit analytical results and other information using one of the following methods:

Table E-5. SMR Reporting for CIWQS

Parameter	Method of Reporting	
	EDF/CDF data upload or manual entry	**Attached File**
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)	Required for All Results	
Dissolved Oxygen Temperature	Required for Monthly Maximum and Minimum Results Only (1)	Discharger may use this method for all results or keep records
Cyanide Arsenic Cadmium Chromium Copper Lead Mercury Nickel Selenium Silver Zinc Dioxins and Furans (by USEPA Method 1613)	Required for All Results (2)	
Antimony Berylium Thallium Pollutants by USEPA Methods 601, 602, 608, 610, 614, 624, and 625	Not Required (unless identified in influent, effluent, or receiving water monitoring tables), But Encouraged (1)	Discharger may use this method and submit results with application for permit reissuance, unless data submitted by CDF/EDF upload
Volume and Duration of Blended Discharge (3)	Required for All Blended Effluent Discharges	
Analytical Method	Not Required (Discharger may select "data unavailable") (1)	
Collection Time Analysis Time	Not Required (Discharger may select "0:00") (1)	

Footnotes for Table E-5

(1) The Discharger shall continue to monitor at the minimum frequency specified in the monitoring tables, keep records of the measurements, and make the records available upon request.

(2) These parameters require EDF/CDF data upload or manual entry regardless of whether monitoring is required by this MRP or other provisions of this Order (except for biosolids, sludge, or ash provisions).

(3) The requirement for volume and duration of blended discharge applies only if this Order authorizes the Discharger to discharge blended effluent. ***<Table row and this footnote may be deleted if inapplicable.>***

3. Monitoring Periods. Monitoring periods for all required monitoring shall be completed as set forth in the table below:

Table E-6. Monitoring Periods

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous/Daily	Permit effective date	All
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.
1/Week	Permit effective date	Sunday through Saturday
1/Month	Permit effective date	First day of calendar month through last day of calendar month
1/Quarter	Permit effective date	January 1 – March 30, April 1 – June 30, July 1 – September 30, October 1 – December 31
1/Year	Permit effective date	January 1through December 31
1/Five Year	Permit effective date	January 1 through December 31

4. **RL, ML, and MDL Reporting.** The Discharger shall report with each sample result the Reporting Level (RL) and Method Detection Limit (MDL) as determined by the procedure in 40 CFR 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 RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, 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 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 the laboratory considers appropriate.

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

   d. The Discharger shall instruct laboratories to establish calibration standards so that the minimum level (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.

C. Discharge Monitoring Reports

1. As described in Section VII.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. Once notified by the State or Regional Water Board, the Discharger shall submit hard copy DMRs. DMRs must be signed and certified as required by the Standard Provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to one of the addresses listed below:

Standard Mail	**FedEx/UPS/Other Private Carriers**
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

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 will not be accepted unless they follow the exact same format of EPA Form 3320-1.

APPENDIX E-1
CHRONIC TOXICITY
DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS

I. Definition of Terms

A. No observed effect level (NOEL) for compliance determination is equal to IC_{25} or EC_{25}. If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC_{25} is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

C. Inhibition concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a nonlethal, nonquantal biological measurement, such as growth. For example, an IC_{25} is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as USEPA's Bootstrap Procedure.

D. No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

II. Chronic Toxicity Screening Phase Requirements

A. The Discharger shall perform screening phase monitoring:

1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts, or

2. Every two years during the Order term. Screening phase monitoring data shall be included in the NPDES permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.

B. Design of the screening phase shall, at a minimum, consist of the following elements:

1. Use of test species specified in **Appendix E-2**, attached, and use of the protocols referenced in those tables, or as approved by the Executive Officer.

2. Two stages:

a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on **Appendix E-2** (attached).

b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.

3. Appropriate controls.

4. Concurrent reference toxicant tests.

5. Dilution series of 0.5 (100%, 50%, 25%, 12.5%, and 6.25%), where "%" is percent effluent as discharged, or as otherwise approved the Executive Officer.

C. The Discharger shall submit a screening phase proposal acceptable to the Executive Officer. The proposal shall address each of the elements listed above. If within 30 days, the Executive Officer does not comment, the Discharger shall commence with screening phase monitoring.

APPENDIX E-2
SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS
Critical Life Stage Toxicity Tests for Marine and Estuarine Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Alga	*(Skeletonema costatum)* *(Thalassiosira pseudonana)*	Growth rate	4 days	1
Red alga	*(Champia parvula)*	Number of cystocarps	7–9 days	3
Giant kelp	*(Macrocystis pyrifera)*	Percent germination; germ tube length	48 hours	2
Abalone	*(Haliotis rufescens)*	Abnormal shell development	48 hours	2
Oyster Mussel	*(Crassostrea gigas)* *(Mytilus edulis)*	Abnormal shell development; percent survival	48 hours	2
Echinoderms - Urchins Sand dollar	*(Strongylocentrotus purpuratus, S. franciscanus)* *(Dendraster excentricus)*	Percent fertilization	1 hour	2
Shrimp	*(Mysidopsis bahia)*	Percent survival; growth	7 days	3
Shrimp	*(Holmesimysis costata)*	Percent survival; growth	7 days	2
Topsmelt	*(Atherinops affinis)*	Percent survival; growth	7 days	2
Silversides	*(Menidia beryllina)*	Larval growth rate; percent survival	7 days	3

Toxicity Test References:

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for Conducting Static 96-Hour Toxicity Tests with Microalgae. Procedure E 1218-90. ASTM, Philadelphia, PA.
2. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995.
3. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-90/003. July 1994.

Critical Life Stage Toxicity Tests for Fresh Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Fathead minnow	*(Pimephales promelas)*	Survival; growth rate	7 days	4
Water flea	*(Ceriodaphnia dubia)*	Survival; number of young	7 days	4
Alga	*(Selenastrum capricornutum)*	Cell division rate	4 days	4

Toxicity Test Reference:

4. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, third edition. EPA/600/4-91/002. July 1994.

Toxicity Test Requirements for Stage One Screening Phase

Requirements	Receiving Water Characteristics		
	Discharges to Coast	Discharges to San Francisco Bay[2]	
	Ocean	Marine/Estuarine	Freshwater
Taxonomic diversity	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type: Freshwater[1] Marine/Estuarine	0 4	1 or 2 3 or 4	3 0
Total number of tests	4	5	3

[1] The freshwater species may be substituted with marine species if:

(a) The salinity of the effluent is above 1 part per thousand (ppt) greater than 95 percent of the time, or

(b) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

[2] (a) Marine/Estuarine refers to receiving water salinities greater than 1 ppt at least 95 percent of the time during a normal water year.

(b) Fresh refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.

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 this Order's requirements.

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 specifically identified as "not applicable" have been determined to not apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" fully apply to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the California Department of Transportation Devil's Slide Tunnel Project.

Table F-1. Facility Information

WDID	2 417186001
CIWQS Place ID	221323
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, CA
Facility Contact, Title and Phone	Skip Sowko, Project Manager, (510) 622 - 0814
Authorized Person to Sign and Submit Reports	Same as above
Mailing Address	111 Grand Avenue, Oakland, CA 94612
Billing Address	Same as above
Type of Facility	Tunnel construction and operations facility
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Facility Permitted Flow	0.50 million gallons per day (MGD), maximum
Facility Design Flow	Construction phase treatment system – 0.50 MGD Post-construction phase treatment system – 0.50 MGD
Watershed	San Mateo Coastal
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean waters

A. The California Department of Transportation (hereinafter the Discharger) is the owner and operator of the Devil's Slide Tunnel Project. The Discharger is constructing tunnels through the mountains between the cities of Pacifica and Montara to bypass the Devil's Slide portion of State Route 1, and is discharging treated groundwater generated during the 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. Discharge of treated groundwater from the facility to the Pacific Ocean, which is a water of the State and the United States, was previously regulated by Order No. R2-2006-0049 (NPDES Permit No. CA0038831), which was adopted on July 12, 2006, and became effective on October 1, 2006.

C. The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its waste discharge requirements and NPDES permit, dated April 15, 2011. The application was deemed complete and the previous Order was administratively extended.

II. FACILITY DESCRIPTION

A. Description of Wastewater Treatment or Controls

1. **Facility Description.** The Discharger owns and operates State Route 1 and the surrounding right of way. The Discharger is constructing 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. Creating the tunnels involves blasting rock; removing debris; fortifying rock walls with lattice girders, shotcrete, and rockbolts; further blasting and excavating the lower portion of the tunnel; and additional fortification, waterproofing, and final concreting of the tunnel walls.

   During the construction phase, a large amount of groundwater is released from the surrounding rock and comes into contact with construction-related pollutants, including concrete, sediment, and possibly hydrocarbons. This groundwater is collected in a sump and pumped to the temporary non-stormwater treatment system for treatment. Treatment processes in this treatment system include a settling tank, a clarifier tank, pH adjustment with sulfuric acid, flocculation with alum, and final polishing prior to discharge though bag and cartridge granulated activated carbon filters. Ferrous sulfate is added as necessary to reduce concentrations of chromium (VI). Treated wastewater recirculates through the system until it is acceptable for discharge. Sludge from the clarifying tanks is collected periodically with a vacuum truck and hauled for off-site disposal. As of January 2011, all major excavation construction activities have been completed.

   The Discharger constructed a permanent groundwater drainage system to relieve groundwater pressure on the walls of the tunnels. Groundwater will contact the shotcrete lining of the tunnel walls, which will not completely harden for approximately three to five years after installation. Groundwater will therefore have elevated pH levels, and will be collected and conveyed to an offsite treatment facility for continuous flow pH adjustment to levels within the range of Ocean Plan standards. The temporary post-construction treatment system will be designed to treat up to 0.50 MGD. The first stage will be a 5,997-gallon tank with agitators, carbon dioxide injectors, recirculation system, and instrumentation. The second stage will hold up to 10,012 gallons for filtration, from which effluent will flow to a detention basin and ocean outfall. Once pH adjustment is no longer needed, the temporary plant will be removed, and any further groundwater will be discharged at Discharge Point 001.

2. **Discharge Location.** There are two existing outfalls for discharges of treated groundwater. Discharge Point 001 is located approximately 42 meters above sea level and discharges to a vegetated slope above the Pacific Ocean. The capacity of this outfall is 30 MGD. Discharge

Point 002 is located at Grey Whale Beach Cove and will be used to discharge lower volume post-construction flows to a vegetated basin though a perforated riser pipe. Discharges will eventually flow to the Pacific Ocean.

3. **Discharge Description.** Discharges consist of treated groundwater. Discharge during the construction phase occurs at Discharge Point 001 and has been anticipated to reach a maximum of 1.15 MGD; however, the maximum observed flow rate from 2009 and 2010 was 0.54 MGD. Due to low influent volumes, discharges occur in batches. Post-construction treated groundwater discharges will occur at Discharge Point 002 and are expected to have a maximum flow rate of 0.50 MGD.

Attachment B provides a map of the area around the discharge points. Attachment C provides a flow schematic of the treatment facilities.

B. Discharge Points and Receiving Waters

The location of the discharge points and the receiving water are listed in Table F-2, below.

Table F-2. Outfall Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated Groundwater	37º 34′ 17.12″ N	122º 30′ 59.51″ W	Pacific Ocean
002	Treated Groundwater	37º 34′ 03.32″ N	122º 30′ 51.82″ W	Pacific Ocean

Discharge Point 001 discharges to a vegetated slope approximately 42 meters above sea level that flows to the Pacific Ocean. Discharge Point 002 discharges to a vegetated basin via a perforated riser pipe and drains to the Pacific Ocean. Rock slope protection has been fortified to prevent slopes from significant erosion.

C. Summary of Existing Requirements and Self-Monitoring Report Data

Effluent limitations applicable to Discharge Points 001 and 002 and representative monitoring data from the term of the previous Order, collected at EFF-001, are presented in the table below.

Table F-3. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation				Monitoring Data (From January 2009 To December 2010)		
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Suspended Solids	mg/L	60	---	---	---	7	---	7
pH	s.u.	Between 6.0 and 9.0 at all times			---	6.3 – 8.4		
Oil and Grease	mg/L	25	40	---	75	<5	<5	<5
Settleable Solids	mL/L	1.0	1.5	---	3.0	<1	1	1
Turbidity	NTU	75	100	---	225	3.65	8.39	8.39

Parameter	Units	Effluent Limitation				Monitoring Data (From January 2009 To December 2010)		
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Chronic Toxicity	TUc	---	---	4.9	---	---	---	2[1]

Legend to Table F-3:
Unit Abbreviations:
mg/L = milligrams per liter
s.u. = standard units
mL/L = milliliters per liter
NTU = nephelometric turbidity units
TUc = chronic toxicity units

Footnotes to Table F-3:
[1] Chronic toxicity testing was conducted using three species: topsmelt, mysid shrimp, and giant kelp. Toxicity results were 1 TUc, for topsmelt and mysid for 2009 and 2010, 1 TUc for giant kelp for 2010, and 2 TUc for giant kelp for 2009.

D. Compliance Summary

1. **Compliance with Numeric Effluent Limitations.** Numeric effluent limitations were not exceeded during the term of the previous Order.

2. **Compliance with Previous Order Provisions.** A list of special activities required by the previous Order and the status of those requirements is shown in Table F-4, below.

Table F-4. Permit Provisions Compliance

Provision Number	Requirement	Status of Completion
VI.C.2.b.	Operations Plan Requirement.	Completed December 2007
VI.C.2.c.	Dilution Credit Determination Study.	Completed February 2008
VI.C.3	Coagulant Pollution Prevention Plan.	Completed December 2007
VI.C.4.b	Blasting Plan.	Completed December 2007

3. **Compliance with Effluent Monitoring Requirements.** The previous Order required the Discharger to annually monitor for all pollutants listed in Table B of the Ocean Plan that were not assigned effluent limitations. During the first two years of monitoring, 2009 and 2010, the Discharger monitored for Table B pollutants classified as potential threats to marine aquatic life, but did not monitor for Table B pollutants classified as potential threats to human health. The Discharger incorrectly believed the foregone monitoring was unnecessary because the location of Discharge Point 001 is virtually inaccessible to humans. When Regional Water Board staff notified the Discharger that failure to monitor for these constituents was a permit violation, the Discharger immediately sampled for these constituents in May 2011. No human health parameters were detected at concentrations exceeding Table B water quality objectives for the protection of human health.

E. Planned Changes

No changes other than those described under the Facility Description are planned.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

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 California Water Code (CWC) chapter 5.5, division 7 (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as waste discharge requirements pursuant to CWC article 4, chapter 4, division 7 (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plan.** *The Water Quality Control Plan for the San Francisco Bay Basin* (hereinafter the Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface and groundwater. It also includes implementation programs to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board), the Office of Administrative Law, and USEPA. Requirements of this Order implement the Basin Plan. The Basin Plan specifically identifies beneficial uses for the Pacific Ocean.

   The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Total dissolved solids levels exceed 3,000 mg/L in ocean waters, and thereby meet an exception to State Board Resolution No. 88-63. The MUN designation is therefore not applicable to the receiving water. The Basin Plan beneficial uses for the Pacific Ocean in the San Mateo Coastal Watershed are listed in the table below.

Table F-5. Basin Plan Beneficial Uses

Receiving Water Name	Beneficial Uses
Pacific Ocean	Industrial Service Supply Ocean, Commercial, and Sport Fishing Shellfish Harvesting Marine Habitat Fish Migration Preservation of Rare and Endangered Species

	Fish Spawning Wildlife Habitat Water Contact Recreation Noncontact Water Recreation Navigation

2. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California* (hereinafter the Ocean Plan) in 1972 and amended it several times, most recently on September 15, 2009. The most recent changes became effective on March 10, 2010. The Ocean Plan applies in its entirety to point source discharges to the Pacific Ocean. To protect beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Section I of the Ocean Plan identifies the following beneficial uses of ocean waters of the State.

Table F-6. Ocean Plan Beneficial Uses

Receiving Water	Ocean Plan Beneficial Uses
Pacific Ocean	Industrial Water Supply Water Contact and Noncontact Recreation, Including Aesthetic Enjoyment Navigation Commercial and Sport Fishing Mariculture Preservation and Enhancement of Designated Areas of Special Biological Significance Rare and Endangered Species Marine Habitat Fish Migration Fish Spawning Shellfish Harvesting

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 [65 Fed. Reg. 24641 (April 27, 2000), codified at 40 CFR 131.21]. 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.** 40 CFR 131.12 requires that State water quality standards include an antidegradation policy consistent with federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, which incorporates federal policy where federal policy applies. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both State and federal antidegradation policies.

5. **Anti-Backsliding Requirements.** CWA Sections 402(o)(2) and 303(d)(4) and 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require

that effluent limitations in a reissued permit be as stringent as those in the previous Order, with some exceptions in which limitations may be relaxed.

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

In November 2006, USEPA approved a list of impaired water bodies prepared pursuant to CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. In November 2010, USEPA partially approved an updated 303(d) list. Where it has not done so already, the Regional Water Board plans to adopt Total Maximum Daily Loads (TMDLs) for water bodies on the 303(d) list. TMDLs establish wasteload allocations for point sources and load allocations for non-point sources, and are established to achieve the water quality standards for the impaired water bodies. The Pacific Ocean in the vicinity of the Devil's Slide Tunnel Project is not on the 303(d) list.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into 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 in the NPDES regulations: 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 objectives to protect the beneficial uses of the receiving water.

Several specific factors affecting the development of limitations and requirements in this Order are discussed below.

A. Discharge Prohibitions

1. **Discharge Prohibition III.A (No discharge other than that described in this Order):** This prohibition is based on 40 CFR 122.21(a), duty to apply, and CWC section 13260, which requires filing an application and Report of Waste Discharge before discharges can occur. Discharges not described in the permit application and Report of Waste Discharge, and subsequently in this Order, are prohibited.

2. **Discharge Prohibition III.B (No discharge at any point that does not receive an initial dilution of at least 4.9:1):** The Order allows a dilution credit of 4.9:1 in the calculation of some water quality-based effluent limitations, and this prohibition is necessary because these limitations would not be protective of water quality if the discharge did not actually achieve a 4.9:1 initial dilution.

3. **Discharge Prohibition III.C (No discharge at a rate exceeding 0.50 MGD at Discharge Point 001 and 0.50 MGD at Discharge Point 002)**. This prohibition is retained from the previous Order for Discharge Point 001 and expanded to include Discharge Point 002. It is based on the design treatment capacity of the construction phase and post-construction phase treatment systems. Exceedance of the design capacity of the treatment systems may

compromise the reliability of the treatment systems in complying with the requirements of this Order.

4. **Discharge Prohibition III.D (Discharge of industrial sludge to the ocean is prohibited).** This prohibition is retained from the previous Order, which required compliance with applicable Ocean Plan prohibitions. Ocean Plan section III.I prohibits the discharge of industrial waste sludge directly into the ocean or into a waste stream discharged to the ocean.

B. Exception to Basin Plan Discharge Prohibition 1

The Basin Plan (Chapter 4, Table 4-1, Discharge Prohibition 1) prohibits the discharge of any wastewater that has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum 10:1 initial dilution or into any nontidal water, dead end slough, or similar confined waters. The Basin Plan provides that exceptions to Prohibition 1 may be considered where an inordinate burden would be placed on the Discharger relative to beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means. The Devil's Slide Tunnel Project discharges at Discharge Points 001 and 002 qualify for an exception to Prohibition 1 based on the inordinate burden that would be placed on the Discharger relative to the beneficial uses protected in order to achieve a 10:1 dilution. The Discharger would have to build two deep-water discharge outfalls in the Pacific Ocean to accommodate the temporary discharge associated with the Devil's Slide Tunnel Project to achieve a 10:1 dilution.

The treatment system is a highly reliable system that provides two treatment trains. If one system fails, or is otherwise unable to be used, an identical parallel system is available for immediate use. The possibility for upset is extremely low due to the system redundancy and provides an equivalent level of protection to actually achieving a 10:1 dilution.

C. Technology-Based Effluent Limitations

1. Scope and Authority

USEPA has not established Effluent Limitation Guidelines for facilities such as the Devil's Slide Tunnel Project. The limitations in Ocean Plan Table A apply to industrial discharges for which USEPA has not established Effluent Limitation Guidelines. Therefore, the Table A limitations represent the minimum acceptable treatment levels for this discharge.

2. Effluent Limitations for Conventional and Non-conventional Pollutants

As Ocean Plan section III.B and Table A require, this Order retains the limitations for suspended solids, pH, oil and grease, settleable solids, and turbidity from the previous Order for discharges at Discharge Points 001 and 002.

D. Water Quality-Based Effluent Limitations (WQBELs)

WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law. The procedures for calculating the individual WQBELs are based on the Ocean Plan. The Ocean Plan and most Basin Plan beneficial uses and water quality objectives were approved under State law and

submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless applicable water quality standards for purposes of the CWA pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than the CWQ requires.

1. Scope and Authority

40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have a reasonable potential to cause or contribute to an excursion of a WQS, including numeric and narrative objectives within a standard. As specified in 40 CFR 122.44(d)(1)(i), permits are required to include WQBELs for all pollutants that the Regional Water Board determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard.

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 Basin Plan and the Ocean Plan, and achieve applicable Ocean Plan water quality objectives

2. Beneficial Uses and Water Quality Objectives

The water quality objectives applicable to the receiving water for this discharge are from Ocean Plan section II, which includes the numeric water quality objectives in Ocean Plan Table B. The Basin Plan incorporates these objectives for ocean waters by reference.

3. Determining the Need for WQBELs

Assessing whether a pollutant has "reasonable potential" is the fundamental step in determining whether or not a WQBEL is required.

a. Reasonable Potential Methodology

The reasonable potential analysis is based on procedures described in Ocean Plan Appendix VI. In general, the procedure is a statistical method that evaluates an effluent data set while taking into account the averaging period of water quality objectives, the long term variability of pollutants in the effluent, limitations associated with sparse data sets, and uncertainty associated with censored data sets. The procedure assumes a lognormal distribution of the effluent data and compares the 95th percentile concentration at 95 percent confidence for each pollutant in Ocean Plan Table B, accounting for dilution, to the applicable water quality objectives in Ocean Plan Table B. The reasonable potential analysis results in one of three endpoints.

Endpoint 1 – There is "reasonable potential." A WQBEL and monitoring are required.

Endpoint 2 – There is no "reasonable potential." A WQBEL is not required, but monitoring may be required.

Endpoint 3 – The analysis is inconclusive. There are less than 3 detected values or more than 80% of samples are non-detect (ND). Any existing WQBEL is retained, and monitoring is required.

The Ocean Plan reasonable potential analysis involves five paths:

(1) First Path

If available information about the receiving water or the discharge supports a finding of reasonable potential without analysis of effluent data, the Regional Water Board may decide that WQBELs are necessary after a review of such information. Such information may include the facility or discharge type, solids loading, lack of dilution, history of compliance problems, potential for toxic effects, fish tissue data, receiving water impairment pursuant to CWQ 303(d), presence of threatened or endangered species or their critical habitat, or other information.

(2) Second Path

If any pollutant concentration, adjusted to account for dilution, is greater than the most stringent applicable water quality objectives, there is reasonable potential for that pollutant to cause or contribute to exceedances of water quality standards, and a WQBEL is required.

(3) Third Path

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the Minimum Level [ML]), and all values in the data set are at or above the ML, a parametric reasonable potential analysis is conducted to project the range of possible effluent values. The 95th percentile concentration is determined at 95 percent confidence for each pollutant and compared to the most stringent applicable water quality objectives to determine reasonable potential. A parametric analysis assumes that the range of possible effluent values is distributed lognormally. If the 95th percentile value is greater than the most stringent water quality objectives, there is reasonable potential for that pollutant to cause or contribute to exceedances of water quality standards and a WQBEL is required.

(4) Fourth Path

If the effluent data contain three or more detected and quantified values (i.e., values that are at or above the ML), but at least one value in the data set is less than the ML, a parametric reasonable potential analysis is conducted according to the following steps.

(a) If the number of censored values (ND or detected-not-quantified values) accounts for less than 80 percent of the total number of effluent values, the ML (the mean of the natural log of transformed data) and SL (the standard deviation of the natural log of transformed data) are calculated and a parametric reasonable potential analysis is conducted as described above for the Third Path.

(b) If the number of censored values account for 80 percent or more of the total number of effluent values, a non-parametric reasonable potential analysis is conducted as described below for the Fifth Path. (A non-parametric analysis becomes necessary when effluent data are limited and no assumptions can be made regarding their possible distribution.)

(5) Fifth Path

A non-parametric reasonable potential analysis is conducted when the effluent data set contains less than three detected and quantified values, or when the effluent data set contains three or more detected and quantified values but the number of censored values accounts for 80 percent or more of the total number of effluent values. A non-parametric analysis is conducted by ordering the data, comparing each result to the water quality objectives, and accounting for ties. The sample number is reduced by one for each tie, when the dilution-adjusted method detection limit (MDL) is greater than the criterion. If the adjusted sample number, after accounting for ties, is greater than 15, the pollutant has no reasonable potential to exceed water quality standards. If the sample number is 15 or less, the analysis is inconclusive, monitoring is required, and any existing effluent limits are retained.

The State Water Board has developed a reasonable potential calculator, which is available at http://www.waterboards.ca.gov/plnspols/docs/oplans/rpcalc.zip. The calculator (RPcalc 2.0) was used in determining reasonable potential.

b. Effluent Data

The reasonable potential analysis is based on effluent monitoring data collected in February 2009, June 2009 and February 2010 at Discharge Point 001 for the Table B pollutants with water quality objectives for protection of marine aquatic life. Data collected at Discharge Point 001 are assumed to be representative of water quality for future discharges at Discharge Point 002 because the discharge at Discharge Point 002 is also treated groundwater.

c. Background Data

Site-specific water quality data are not available. Therefore, in accordance with Ocean Plan Table B implementation procedures, background concentrations for all pollutants equal zero, except for the following.

Table F-7. Background Concentrations Set Forth in Ocean Plan

Pollutant	Background Seawater Concentration (µg/L)
Arsenic	3
Copper	2
Mercury	0.0005
Silver	0.16
Zinc	8

Legend to Table F-7:
µg/L = micrograms per liter

d. Reasonable Potential Analysis

Table F-8, below, presents the results of the reasonable potential analysis. A dilution of 4.9:1 (Dm = 3.9) was used in determining reasonable potential. The Discharger calculated minimum initial dilution through a dye study and dilution modeling study completed in February 2008. The endpoint for each criterion is identified. Results show "reasonable potential" for ammonia and chromium (VI). Chromium (VI) data were evaluated and found to have a reasonable potential to exceed water quality objectives after the water quality objectives were adjusted to account for initial dilution. Ammonia data were evaluated based on a parametric analysis using RPcalc 2.0, which found the upper on-sided confidence bounds concentration to be 4776 ug/L, resulting in a finding of reasonable potential.

Table F-8. Reasonable Potential Analysis Results

Table B Pollutant	Most Stringent WQO (µg/L)	No. of Samples	No. of NDs	Max Effluent Conc. (µg/L)	RPA Result
Objectives for Protection of Marine Aquatic Life					
Ammonia (as N)	600	3	0	341	**Endpoint 1**
Arsenic	8	2	2	ND	Endpoint 3
Cadmium	1	2	2	ND	Endpoint 3
Chlorinated Phenolics	1	2	2	ND	Endpoint 3
Chromium (VI)	2	3	0	3.06	**Endpoint 1**
Copper	3	2	2	ND	Endpoint 3
Cyanide	1	2	2	ND	Endpoint 3
Endosulfan (total)	0.009	3	2	0.0056	Endpoint 3
Endrin	0.002	2	2	ND	Endpoint 3
HCH	0.004	3	2	0.002	Endpoint 3
Lead	2	2	2	ND	Endpoint 3
Mercury	0.04	2	2	ND	Endpoint 3
Nickel	5	2	2	ND	Endpoint 3
Non-chlorinated Phenolics	30	2	2	ND	Endpoint 3
Selenium	15	3	2	3.9	Endpoint 3
Silver	0.7	2	2	ND	Endpoint 3
Total Chlorine Residual	2	2	2	ND	Endpoint 3
Zinc	20	2	2	ND	Endpoint 3

[1] Expected concentration after complete mixing, in accordance with Ocean Plan Appendix VI. ND indicates that the pollutant was not detected.

Legend to Table F-8:

ND = Not Detected

RPA = Reasonable Potential Analysis

WQO = Water Quality Objective

µg/L = micrograms per liter

4. WQBEL Calculations

Based on the reasonable potential analysis results, WQBELs for ammonia and chromium (VI) are calculated as follows for Discharge Points 001 and 002.

As described by Ocean Plan section III.C, effluent limits for Table B pollutants are calculated according to the following equation.

Ce = Co + Dm (Co – Cs)

Where:

Ce = the effluent limitation (µg/L)

Co = the concentration to be met at the completion of initial dilution (the water quality objectives, µg/L)

Cs = background seawater concentration (µg/L)

Dm = minimum probable initial dilution expressed as parts seawater per part wastewater (3.9 based on the Discharger's study)

Ocean Plan water quality objectives for ammonia and chromium (VI) are as follows.

Table F-9. Ammonia and Chromium (VI) Water Quality Objectives

Pollutant	Units	6-Month Median	Daily Maximum	Instantaneous Maximum	30 Day Average
Ammonia	µg/L	600	2400	6000	---
Chromium (VI)	µg/L	2	8	20	---

Legend to Table F-9:
µg/L = micrograms per liter

Using the equation above, the following presents the effluent limitation calculations for ammonia and chromium (VI).

Ammonia

Ce = 600 + 3.9 (600 – 0) = 2940 µg/L = 2.9 mg/L (6-Month Median)
Ce = 2400 + 3.9 (2400 – 0) = 11760 µg/L = 12 mg/L (Daily Maximum)
Ce = 6000 + 3.9 (6000 – 0) = 29400 µg/L = 29 mg/L (Instantaneous Maximum)

Chromium (VI)

Ce = 2 + 3.9 (2 – 0) = 9.8 µg/L (6-Month Median)
Ce = 8 + 3.9 (8 – 0) = 39 µg/L (Daily Maximum)
Ce = 20 + 3.9 (20 – 0) = 98 µg/L (Instantaneous Maximum)

Mass-based effluent limitations have also been established for these pollutants pursuant to 40 CFR 122.45(f) and Ocean Plan section III.C.4.j, which require that effluent limits be expressed in terms of mass. Mass-based limitations are established using the maximum observed flow and the following equation.

Limit (lbs/day) = Limit (µg/L) * Flow Rate * 0.00834, where the flow rate is 0.54 MGD and 0.00834 is a unit conversion factor.

In conclusion, the WQBELs for Discharge Points 001 and 002 are summarized below.

Table F-10. WQBELs for Ocean Plan Table B Pollutants

Pollutant	Units	6-Month Median	Daily Maximum	Instantaneous Maximum	30 Day Average
Ammonia	mg/L	2.9	12	29	---
	lbs/day	13	53	130	---
Chromium (VI)	µg/L	9.8	39	98	---
	lbs/day	0.044	0.18	0.44	---

Legend to Table F-10:
lbs/day = pounds per day
mg/L = milligrams per liter
µg/L = micrograms per liter

5. Whole Effluent Toxicity

The Ocean Plan requires chronic toxicity testing where the minimal initial dilution of the effluent is below 100:1 at the edge of the mixing zone. Acute toxicity testing may be required where the minimal initial dilution exceeds 350:1. There are too few chronic toxicity data (>15 data points) to conclude that there is no reasonable potential for chronic toxicity by Endpoint 2. Therefore, this Order retains a chronic toxicity effluent limit, similar to the previous Order, but increases the limit to 4.9 TUc. The previous Order included a limit for chronic toxicity of 1 TUc at Discharge Points 001 and 002 unless the Discharger completed a dilution study, which it did in February 2008. As described below, based on that study, a limitation of 4.9 TUc is justified. The discharge has never exceeded 4.9 TUc.

The Ocean Plan requires whole effluent toxicity limitations to be calculated in a manner similar to other Table B constituents (the chronic toxicity water quality objectives is 1.0 TUc):

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

$$\text{Daily Maximum Chronic WET Limit} = 1.0 + 3.9\ (1.0 - 0) = 4.9\ \text{TUc}$$

6. Anti-Backsliding and Antidegradation

All effluent limitations established by this Order are at least as stringent as limitations in the previous Order; and therefore, limitations comply with anti-backsliding and antidegradation requirements.

E. Reclamation Specifications

This permit retains the reclamation specifications contained in the previous Order to prevent untreated groundwater from discharging to surface waters.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations in this Order are generally retained from the previous Order. They reflect applicable Ocean Plan water quality objectives.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

The principle purposes of a monitoring program are to:

- Document compliance with waste discharge requirements and prohibitions established by the Regional Water Board,
- Facilitate self-policing by the Discharger in the prevention and abatement of pollution arising from waste discharge,
- Develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and
- Prepare water and wastewater quality inventories.

The Monitoring and Reporting Program (MRP) as set forth in Attachment E of this Order is a standard requirement in almost all NPDES permits issued by the Regional Water Board, including this Order. It contains definitions of terms and sets out requirements for reporting routine monitoring data in accordance with NPDES regulations, the CWC, and State and Regional Water Board policies. The MRP also defines the sampling stations and frequency, the pollutants to be monitored, and additional monitoring requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future reasonable potential analyses.

The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

Influent monitoring requirements for suspended solids at INF-001 and INF-002 are unchanged from the previous Order. Influent monitoring for suspended solids is necessary to determine compliance with this Order's 75 percent removal requirement.

B. Effluent Monitoring

In general, effluent monitoring requirements for discharges from Discharge Point 001 and 002 are retained from the previous Order, with the following exceptions.

- The MRP now contains routine monitoring requirements for chromium VI and ammonia. Monitoring these parameters at a frequency of once per month is required to determine compliance with this Order's effluent limitations for these parameters.
- Monitoring for acute toxicity is no longer required. The Discharger conducted acute toxicity testing twice during the term of the previous Order, and the results show the facility did not contribute to any exceedance of the Ocean Plan acute toxicity water quality objectives. In addition, the Discharger conducted and submitted a dilution study in 2008, which indicated that its discharges achieve a dilution of 4.9:1. Ocean Plan section III.C.4.c provides that dischargers must conduct chronic toxicity testing if the minimal initial dilution is less than 100:1. Monitoring acute toxicity is not required.

- Because radioactivity is not anticipated to be in the discharge, the Discharger is not required to monitor radioactivity.

C. Whole Effluent Toxicity Testing Requirements

This Order continues the requirement for the Discharger to conduct annual chronic toxicity tests at Discharge Point 001, unless coagulants other than ferric chloride, ferrous sulfate, and alum are used, in which case, chronic toxicity monitoring is also required quarterly for two years and twice per year thereafter. Chronic toxicity monitoring at Discharge Point 002 is required once during the five-year term of the permit (when there is a discharge from Discharge Point 002), unless a coagulant other than ferric chloride or alum is used, in which case the same accelerated frequency is required.

In addition, the Discharger is required to use three species for at least three tests, at which point the most sensitive species may be used. During the term of the previous Order, chronic toxicity testing was conducted just twice; therefore, the most sensitive species has not yet been determined. The Discharger is also required to re-screen for the most sensitive species in accordance with MRP Appendix E-1 after any significant change in the nature of the effluent and at least 180 days prior to the expiration of the Order.

D. Receiving Water Monitoring

Effluent limitations in this Order are anticipated to fully protect the receiving water and to meet receiving water quality objectives. Receiving water monitoring is therefore not required.

E. Reclamation Monitoring

The Discharger is required to monitor the total volume each month of treated groundwater beneficially re-used on-site for dust control and irrigation. From April 2009 – December 2010, the Discharger used about 25,000 – 550,000 gallons of treated effluent per month on-site.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which in accordance with 40 CFR122.41 and 122.42 apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D of this Order. 40 CFR 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. 40 CFR 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. The Regional Standard Provisions (Attachment G) supplement the Federal Standard Provisions. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the CWC enforcement authority is more stringent. In lieu of these conditions, this Order incorporates by reference CWC section 13387(e).

B. MRP Requirements (Provision VI.B)

The Discharger is required to monitor the permitted discharge to evaluate compliance with permit conditions. Monitoring requirements are contained in the Monitoring and Reporting Program (Attachment E), Standard Provisions (Attachment D), and the Regional Standard Provisions (Attachment G). This provision requires compliance with these documents and is authorized by 40 CFR 122.41(h) and (j) and CWC sections 13267 and 13383.

C. Special Provisions

1. Reopener Provisions

These provisions are based on 40 CFR 122.63 and allow modification of this Order and its effluent limitations as necessary in response to updated water quality objectives, regulations, or other new relevant information that may be established in the future and other circumstances allowed by law.

2. Pollution Prevention

a. **Prevention of Pollution from Coagulants.** The Order retains the provision to continue to improve and implement the Coagulant Pollution Prevention Plan, which includes best management practices to prevent accidental releases of coagulants used in the treatment system.

b. **Pollutant Minimization Program.** The Order establishes this provision based on Ocean Plan section III.C.9 to develop and conduct a Pollutant Minimization Program, if necessary.

3. Cessation of Permit Coverage Post-Construction for Discharge 002

The Order establishes a provision allowing the Executive Officer to concur that post-construction discharges of captured groundwater are no longer considered a waste subject to the requirements of this Order, if the groundwater prior to treatment meets all effluent limitations for at least one year. This is an adequate amount of time to ensure that construction activities are no longer affecting the groundwater to allow the Discharger to cease unnecessary treatment and monitoring of clean groundwater before Board staff administratively processes a permit rescission**.**

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of waste discharge requirements that will serve as an NPDES permit for the Devil's Slide Tunnel Project. As a step in the waste discharge requirements adoption process, the Regional Water Board staff has developed tentative waste discharge requirements. The Regional Water Board encourages public participation in the waste discharge requirements 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 the Pacifica Tribune on July 1, 2011.

B. Written Comments

Staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative waste discharge requirements. Comments must 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 the Attention of Brendan Thompson.

To receive full consideration and a written response, written comments must be received at the Regional Water Board offices by 5:00 p.m. on Monday, August 1, 2011**.**

C. Public Hearing

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

Date:	September 14, 2011
Time:	9:00 AM
Location:	Elihu Harris State Office Building 1515 Clay Street, 1st Floor Auditorium Oakland, CA 94612
Contact:	Brendan Thompson, 510-622-2506, email BThompson@waterboards.ca.gov

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

Dates and venues may change. The Regional Water Board's Web address is http://www.waterboards.gov/sanfranciscobay, where one can access the current agenda for changes in dates and locations.

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 waste discharge requirements. 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, 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 by calling 510-622-2300.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the waste discharge requirements 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 email BThompson@waterboards.ca.gov.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ATTACHMENT G

REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS
(SUPPLEMENT TO ATTACHMENT D)

For

NPDES WASTEWATER DISCHARGE PERMITS

March 2010

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS (SUPPLEMENT TO ATTACHMENT D)

FOR

NPDES WASTEWATER DISCHARGE PERMITS

APPLICABILITY

This document applies to dischargers covered by a National Pollutant Discharge Elimination System (NPDES) permit. This document does not apply to Municipal Separate Storm Sewer System (MS4) NPDES permits.

The purpose of this document is to supplement the requirements of Attachment D, Standard Provisions. The requirements in this supplemental document are designed to ensure permit compliance through preventative planning, monitoring, recordkeeping, and reporting. In addition, this document requires proper characterization of issues as they arise, and timely and full responses to problems encountered. To provide clarity on which sections of Attachment D this document supplements, this document is arranged in the same format as Attachment D.

I. STANDARD PROVISIONS - PERMIT COMPLIANCE

A. Duty to Comply – Not Supplemented

B. Need to Halt or Reduce Activity Not a Defense – Not Supplemented

C. Duty to Mitigate – This supplements I.C. of Standard Provisions (Attachment D)

1. **Contingency Plan -** The Discharger shall maintain a Contingency Plan as originally required by Regional Water Board Resolution 74-10 and as prudent in accordance with current municipal facility emergency planning. The Contingency Plan shall describe procedures to ensure that existing facilities remain in, or are rapidly returned to, operation in the event of a process failure or emergency incident, such as employee strike, strike by suppliers of chemicals or maintenance services, power outage, vandalism, earthquake, or fire. The Discharger may combine the Contingency Plan and Spill Prevention Plan into one document. Discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below will be the basis for considering the discharge a willful and negligent violation of the permit pursuant to California Water Code Section 13387. The Contingency Plan shall, at a minimum, contain the provisions of a. through g. below.

    a. Provision of personnel for continued operation and maintenance of sewerage facilities during employee strikes or strikes against contractors providing services.

b. Maintenance of adequate chemicals or other supplies and spare parts necessary for continued operations of sewerage facilities.

c. Provisions of emergency standby power.

d. Protection against vandalism.

e. Expeditious action to repair failures of, or damage to, equipment and sewer lines.

f. Report of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges.

g. Programs for maintenance, replacement, and surveillance of physical condition of equipment, facilities, and sewer lines.

2. **Spill Prevention Plan -** The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and minimize the effects of such events. The Spill Prevention Plan shall:

   a. Identify the possible sources of accidental discharge, untreated or partially treated waste bypass, and polluted drainage;

   b. Evaluate the effectiveness of present facilities and procedures, and state when they became operational; and

   c. Predict the effectiveness of the proposed facilities and procedures, and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

   This Regional Water Board, after review of the Contingency and Spill Prevention Plans or their updated revisions, may establish conditions it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of the permit upon notice to the Discharger.

D. Proper Operation & Maintenance – This supplements I.D of Standard Provisions (Attachment D)

1. **Operation and Maintenance (O&M) Manual -** The Discharger shall maintain an O&M Manual to provide the plant and regulatory personnel with a source of information describing all equipment, recommended operational strategies, process control monitoring, and maintenance activities. To remain a useful and relevant document, the O&M Manual shall be kept updated to reflect significant changes in treatment facility equipment and operational practices. The O&M Manual shall be maintained in usable condition and be available for reference and use by all relevant personnel and Regional Water Board staff.

2. **Wastewater Facilities Status Report -** The Discharger shall regularly review, revise, or update, as necessary, its Wastewater Facilities Status Report. This report shall document how the Discharger operates and maintains its wastewater collection, treatment, and disposal facilities to ensure that all facilities are adequately staffed, supervised, financed, operated,

maintained, repaired, and upgraded as necessary to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

3. **Proper Supervision and Operation of Publicly Owned Treatment Works (POTWs) -** POTWs shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Division 4, Chapter 14, Title 23 of the California Code of Regulations.

E. Property Rights – Not Supplemented

F. Inspection and Entry – Not Supplemented

G. Bypass – Not Supplemented

H. Upset – Not Supplemented

I. Other – This section is an addition to Standard Provisions (Attachment D)

1. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code Section 13050.

2. Collection, treatment, storage, and disposal systems shall be operated in a manner that precludes public contact with wastewater, except in cases where excluding the public is infeasible, such as private property. If public contact with wastewater could reasonably occur on public property, warning signs shall be posted.

3. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit continues in force and effect until a new permit is issued or the Regional Water Board rescinds the permit.

J. Storm Water – This section is an addition to Standard Provisions (Attachment D)

These provisions apply to facilities that do not direct all storm water flows from the facility to the wastewater treatment plant headworks.

1. **Storm Water Pollution Prevention Plan (SWPP Plan)**

   The SWPP Plan shall be designed in accordance with good engineering practices and shall address the following objectives:

   a. To identify pollutant sources that may affect the quality of storm water discharges; and

   b. To identify, assign, and implement control measures and management practices to reduce pollutants in storm water discharges.

   The SWPP Plan may be combined with the existing Spill Prevention Plan as required in accordance with Section C.2. The SWPP Plan shall be retained on-site and made available upon request of a representative of the Regional Water Board.

2. Source Identification

The SWPP Plan shall provide a description of potential sources that may be expected to add significant quantities of pollutants to storm water discharges, or may result in non-storm water discharges from the facility. The SWPP Plan shall include, at a minimum, the following items:

a. A topographical map (or other acceptable map if a topographical map is unavailable), extending one-quarter mile beyond the property boundaries of the facility, showing the wastewater treatment facility process areas, surface water bodies (including springs and wells), and discharge point(s) where the facility's storm water discharges to a municipal storm drain system or other points of discharge to waters of the State. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.

b. A site map showing the following:

   1) Storm water conveyance, drainage, and discharge structures;

   2) An outline of the storm water drainage areas for each storm water discharge point;

   3) Paved areas and buildings;

   4) Areas of actual or potential pollutant contact with storm water or release to storm water, including but not limited to outdoor storage and process areas; material loading, unloading, and access areas; and waste treatment, storage, and disposal areas;

   5) Location of existing storm water structural control measures (i.e., berms, coverings, etc.);

   6) Surface water locations, including springs and wetlands; and

   7) Vehicle service areas.

c. A narrative description of the following:

   1) Wastewater treatment process activity areas;

   2) Materials, equipment, and vehicle management practices employed to minimize contact of significant materials of concern with storm water discharges;

   3) Material storage, loading, unloading, and access areas;

   4) Existing structural and non-structural control measures (if any) to reduce pollutants in storm water discharges; and

   5) Methods of on-site storage and disposal of significant materials.

d. A list of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.

3. Storm Water Management Controls

The SWPP Plan shall describe the storm water management controls appropriate for the facility and a time schedule for fully implementing such controls. The appropriateness and priorities of controls in the SWPP Plan shall reflect identified potential sources of pollutants. The description of storm water management controls to be implemented shall include, as appropriate:

a. Storm water pollution prevention personnel

Identify specific individuals (and job titles) that are responsible for developing, implementing, and reviewing the SWPP Plan.

b. Good housekeeping

Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm drain conveyance system.

c. Spill prevention and response

Identify areas where significant materials can spill into or otherwise enter storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, and cleanup equipment and procedures shall be identified, as appropriate. The necessary equipment to implement a cleanup shall be available, and personnel shall be trained in proper response, containment, and cleanup of spills. Internal reporting procedures for spills of significant materials shall be established.

d. Source control

Source controls include, for example, elimination or reduction of the use of toxic pollutants, covering of pollutant source areas, sweeping of paved areas, containment of potential pollutants, labeling of all storm drain inlets with “No Dumping” signs, isolation or separation of industrial and non-industrial pollutant sources so that runoff from these areas does not mix, etc.

e. Storm water management practices

Storm water management practices are practices other than those that control the sources of pollutants. Such practices include treatment or conveyance structures, such as drop inlets, channels, retention and detention basins, treatment vaults, infiltration galleries, filters, oil/water separators, etc. Based on assessment of the potential of various sources to contribute pollutants to storm water discharges in significant quantities, additional storm water management practices to remove pollutants from storm water discharges shall be implemented and design criteria shall be described.

f. Sediment and erosion control

Measures to minimize erosion around the storm water drainage and discharge points, such as riprap, revegetation, slope stabilization, etc., shall be described.

g. Employee training

Employee training programs shall inform all personnel responsible for implementing the SWPP Plan. Training shall address spill response, good housekeeping, and material management practices. New employee and refresher training schedules shall be identified.

h. Inspections

All inspections shall be done by trained personnel. Material handling areas shall be inspected for evidence of, or the potential for, pollutants entering storm water discharges. A tracking or follow up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded. Inspection records shall be retained for five years.

i. Records

A tracking and follow-up procedure shall be described to ensure that adequate response and corrective actions have been taken in response to inspections.

4. Annual Verification of SWPP Plan

An annual facility inspection shall be conducted to verify that all elements of the SWPP Plan are accurate and up-to-date. The results of this review shall be reported in the Annual Report to the Regional Water Board described in Section V.C.f.

K. Biosolids Management – This section is an addition to Standard Provisions (Attachment D)

Biosolids must meet the following requirements prior to land application. The Discharger must either demonstrate compliance or, if it sends the biosolids to another party for further treatment or distribution, must give the recipient the information necessary to ensure compliance.

1. Exceptional quality biosolids meet the pollutant concentration limits in Table III of 40 CFR Part 503.13, Class A pathogen limits, and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8). Such biosolids do not have to be tracked further for compliance with general requirements (503.12) and management practices (503.14).

2. Biosolids used for agricultural land, forest, or reclamation shall meet the pollutant limits in Table I (ceiling concentrations) and Table II or Table III (cumulative loadings or pollutant concentration limits) of 503.13. They shall also meet the general requirements (503.12) and management practices (503.14) (if not exceptional quality biosolids) for Class A or Class B pathogen levels with associated access restrictions (503.32) and one of the 10 vector attraction reduction requirements in 503.33(b)(1)-(b)(10).

3. Biosolids used for lawn or home gardens must meet exceptional quality biosolids limits.

4. Biosolids sold or given away in a bag or other container must meet the pollutant limits in either Table III or Table IV (pollutant concentration limits or annual pollutant loading rate limits) of 503.13. If Table IV is used, a label or information sheet must be attached to the biosolids packing that explains Table IV (see 503.14). The biosolids must also meet the Class A pathogen limits and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8).

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

A. Sampling and Analyses – This section is a supplement to III.A and III.B of Standard Provisions (Attachment D)

1. Use of Certified Laboratories

Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with California Water Code Section 13176.

2. Use of Appropriate Minimum Levels

Table C lists the suggested analytical methods for the 126 priority pollutants and other toxic pollutants that should be used, unless a particular method or minimum level (ML) is required in the MRP.

For priority pollutant monitoring, when there is more than one ML value for a given substance, the Discharger may select any one of the analytical methods cited in Table C for compliance determination, or any other method described in 40 CFR part 136 or approved by USEPA (such as the 1600 series) if authorized by the Regional Water Board. However, the ML must be below the effluent limitation and water quality objective. If no ML value is below the effluent limitation and water quality objective, then the method must achieve an ML no greater than the lowest ML value indicated in Table C. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

3. Frequency of Monitoring

The minimum schedule of sampling analysis is specified in the MRP portion of the permit.

a. Timing of Sample Collection

1) The Discharger shall collect samples of influent on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated by the MRP.

2) The Discharger shall collect samples of effluent on days coincident with influent sampling unless otherwise stipulated by the MRP or the Executive Officer. The Executive Officer may approve an alternative sampling plan if it is demonstrated to be representative of plant discharge flow and in compliance with all other permit requirements.

3) The Discharger shall collect grab samples of effluent during periods of day-time maximum peak effluent flows (or peak flows through secondary treatment units for facilities that recycle effluent flows).

4) Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay test the MRP requires. During the course of the test, on at least one day, the Discharger shall collect and retain samples of the discharge. In the event a bioassay test does not comply with permit limits, the Discharger shall analyze these retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limits.

   i. The Discharger shall perform bioassay tests on final effluent samples; when chlorine is used for disinfection, bioassay tests shall be performed on effluent after chlorination-dechlorination; and

   ii. The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un-ionized ammonia whenever test results fail to meet the percent survival specified in the permit.

b. Conditions Triggering Accelerated Monitoring

1) If the results from two consecutive samples of a constituent monitored in a 30-day period exceed the monthly average limit for any parameter (or if the required sampling frequency is once per month and the monthly sample exceeds the monthly average limit), the Discharger shall, within 24 hours after the results are received, increase its sampling frequency to daily until the results from the additional sampling show that the parameter is in compliance with the monthly average limit.

2) If any maximum daily limit is exceeded, the Discharger shall increase its sampling frequency to daily within 24 hours after the results are received that indicate the exceedance of the maximum daily limit until two samples collected on consecutive days show compliance with the maximum daily limit.

3) If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay test is less than 70 percent), the Discharger shall initiate a new test as soon as practical, and the Discharger shall investigate the cause of the mortalities and report its findings in the next self monitoring report (SMR).

4) The Discharger shall calibrate chlorine residual analyzers against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, the Discharger shall collect grab samples at least every 30 minutes until compliance with the limit is achieved, unless the Discharger monitors chlorine residual continuously. In such cases, the Discharger shall continue to conduct continuous monitoring as required by its permit.

5) When a bypass occurs (except one subject to provision III.A.3.b.6 below), the Discharger shall monitor flows and collect samples on a daily basis for all constituents at affected discharge points that have effluent limits for the duration of

the bypass (including acute toxicity using static renewals), except chronic toxicity, unless otherwise stipulated by the MRP.

6) Unless otherwise stipulated by the MRP, when a bypass approved pursuant to Attachment D, Standard Provisions, Sections I.G.2 or I.G.4, occurs, the Discharger shall monitor flows and, using appropriate procedures as specified in the MRP, collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze for total suspended solids (TSS) using 24-hour composites (or more frequent increments) and for bacteria indicators with effluent limits using grab samples. If TSS exceeds 45 mg/L in any composite sample, the Discharger shall also analyze the retained samples for that discharge for all other constituents that have effluent limits, except oil and grease, mercury, dioxin-TEQ, and acute and chronic toxicity. Additionally, at least once each year, the Discharger shall analyze the retained samples for one approved bypass discharge event for all other constituents that have effluent limits, except oil and grease, mercury, dioxin-TEQ, and acute and chronic toxicity. This monitoring shall be in addition to the minimum monitoring specified in the MRP.

c. Storm Water Monitoring

The requirements of this section only apply to facilities that are not covered by an NPDES permit for storm water discharges and where not all site storm drainage from process areas (i.e., areas of the treatment facility where chemicals or wastewater could come in contact with storm water) is directed to the headworks. For storm water not directed to the headworks during the wet season (October 1 to April 30), the Discharger shall:

1) Conduct visual observations of the storm water discharge locations during daylight hours at least once per month during a storm event that produces significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor, etc.

2) Measure (or estimate) the total volume of storm water discharge, collect grab samples of storm water discharge from at least two storm events that produce significant storm water discharge, and analyze the samples for oil and grease, pH, TSS, and specific conductance.

   The grab samples shall be taken during the first 30 minutes of the discharge. If collection of the grab samples during the first 30 minutes is impracticable, grab samples may be taken during the first hour of the discharge, and the Discharger shall explain in the Annual Report why the grab sample(s) could not be taken in the first 30 minutes.

3) Testing for the presence of non-storm water discharges shall be conducted no less than twice during the dry season (May 1 to September 30) at all storm water discharge locations. Tests may include visual observations of flows, stains, sludges, odors, and other abnormal conditions; dye tests; TV line surveys; or analysis and validation of accurate piping schematics. Records shall be maintained describing the method used, date of testing, locations observed, and test results.

4) Samples shall be collected from all locations where storm water is discharged. Samples shall represent the quality and quantity of storm water discharged from the facility. If a facility discharges storm water at multiple locations, the Discharger may sample a reduced number of locations if it establishes and documents through the monitoring program that storm water discharges from different locations are substantially identical.

5) Records of all storm water monitoring information and copies of all reports required by the permit shall be retained for a period of at least three years from the date of sample, observation, or report.

d. Receiving Water Monitoring

The requirements of this section only apply when the MRP requires receiving water sampling.

1) Receiving water samples shall be collected on days coincident with effluent sampling for conventional pollutants.

2) Receiving water samples shall be collected at each station on each sampling day during the period within one hour following low slack water. Where sampling during lower slack water is impractical, sampling shall be performed during higher slack water. Samples shall be collected within the discharge plume and down current of the discharge point so as to be representative, unless otherwise stipulated in the MRP.

3) Samples shall be collected within one foot of the surface of the receiving water, unless otherwise stipulated in the MRP.

B. Biosolids Monitoring – This section supplements III.B of Standard Provisions (Attachment D)

When biosolids are sent to a landfill, sent to a surface disposal site, or applied to land as a soil amendment, they must be monitored as follows:

1. Biosolids Monitoring Frequency

Biosolids disposal must be monitored at the following frequency:

Metric tons biosolids/365 days	Frequency
0-290	Once per year
290-1500	Quarterly
1500-15,000	Six times per year
Over 15,000	Once per month

(Metric tons are on a dry weight basis)

2. **Biosolids Pollutants to Monitor**

Biosolids shall be monitored for the following constituents:

Land Application: arsenic, cadmium, copper, mercury, molybdenum, nickel, lead, selenium, and zinc

Municipal Landfill: Paint filter test (pursuant to 40 CFR 258)

Biosolids-only Landfill or Surface Disposal Site (if no liner and leachate system): arsenic, chromium, and nickel

C. Standard Observations – This section is an addition to III of Standard Provisions (Attachment D)

1. **Receiving Water Observations**

The requirements of this section only apply when the MRP requires standard observations of the receiving water. Standard observations shall include the following:

a. *Floating and suspended materials* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.

b. *Discoloration and turbidity*: description of color, source, and size of affected area.

c. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

d. *Beneficial water use*: presence of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities in the vicinity of each sampling station.

e. *Hydrographic condition*: time and height of corrected high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling date and time of sample collection).

f. *Weather conditions*:

1) Air temperature; and

2) Total precipitation during the five days prior to observation.

2. **Wastewater Effluent Observations**

The requirements of this section only apply when the MRP requires wastewater effluent standard observations. Standard observations shall include the following:

a. *Floating and suspended material of wastewater origin* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence.

b. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

3. Beach and Shoreline Observations

The requirements of this section only apply when the MRP requires beach and shoreline standard observations. Standard observations shall include the following:

a. *Material of wastewater origin*: presence or absence, description of material, estimated size of affected area, and source.

b. *Beneficial use*: estimate number of people participating in recreational water contact, non-water contact, or fishing activities.

4. Land Retention or Disposal Area Observations

The requirements of this section only apply to facilities with on-site surface impoundments or disposal areas that are in use. This section applies to both liquid and solid wastes, whether confined or unconfined. The Discharger shall conduct the following for each impoundment:

a. Determine the amount of freeboard at the lowest point of dikes confining liquid wastes.

b. Report evidence of leaching liquid from area of confinement and estimated size of affected area. Show affected area on a sketch and volume of flow (e.g., gallons per minute [gpm]).

c. Regarding odor, describe presence or absence, characterization, source, distance of travel, and wind direction.

d. Estimate number of waterfowl and other water-associated birds in the disposal area and vicinity.

5. Periphery of Waste Treatment and/or Disposal Facilities Observations

The requirements of this section only apply when the MRP specifies periphery standard observations. Standard observations shall include the following:

a. *Odor*: presence or absence, characterization, source, and distance of travel.

b. *Weather conditions*: wind direction and estimated velocity.

IV. STANDARD PROVISIONS – RECORDS

A. Records to be Maintained – This supplements IV.A of Standard Provisions (Attachment D)

The Discharger shall maintain records in a manner and at a location (e.g., wastewater treatment plant or Discharger offices) such that the records are accessible to Regional Water Board staff. The minimum period of retention specified in Section IV, Records, of the Federal Standard Provisions shall be extended during the course of any unresolved litigation regarding the subject discharge, or when requested by the Regional Water Board or Regional Administrator of USEPA, Region IX.

A copy of the permit shall be maintained at the discharge facility and be available at all times to operating personnel.

B. Records of monitoring information shall include – This supplements IV.B of Standard Provision (Attachment D)

1. Analytical Information

Records shall include analytical method detection limits, minimum levels, reporting levels, and related quantification parameters.

2. Flow Monitoring Data

For all required flow monitoring (e.g., influent and effluent flows), the additional records shall include the following, unless otherwise stipulated by the MRP:

a. Total volume for each day; and

b. Maximum, minimum, and average daily flows for each calendar month.

3. Wastewater Treatment Process Solids

a. For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:

1) Total volume or mass of solids removed from each collection unit (e.g., grit, skimmings, undigested biosolids, or combination) for each calendar month or other time period as appropriate, but not to exceed annually; and

2) Final disposition of such solids (e.g., landfill, other subsequent treatment unit).

b. For final dewatered biosolids from the treatment plant as a whole, records shall include the following:

1) Total volume or mass of dewatered biosolids for each calendar month;

2) Solids content of the dewatered biosolids; and

3) Final disposition of dewatered biosolids (disposal location and disposal method).

4. Disinfection Process

For the disinfection process, these additional records shall be maintained documenting process operation and performance:

a. For bacteriological analyses:

1) Wastewater flow rate at the time of sample collection; and

2) Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in this Order).

b. For the chlorination process, when chlorine is used for disinfection, at least daily average values for the following:

1) Chlorine residual of treated wastewater as it enters the contact basin (mg/L);

2) Chlorine dosage (kg/day); and

3) Dechlorination chemical dosage (kg/day).

5. Treatment Process Bypasses

A chronological log of all treatment process bypasses, including wet weather blending, shall include the following:

a. Identification of the treatment process bypassed;

b. Dates and times of bypass beginning and end;

c. Total bypass duration;

d. Estimated total bypass volume; and

e. Description of, or reference to other reports describing, the bypass event, the cause, the corrective actions taken (except for wet weather blending that is in compliance with permit conditions), and any additional monitoring conducted.

6. Treatment Facility Overflows

This section applies to records for overflows at the treatment facility. This includes the headworks and all units and appurtenances downstream. The Discharger shall retain a chronological log of overflows at the treatment facility and records supporting the information provided in section V.E.2.

C. Claims of Confidentiality – Not Supplemented

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information – Not Supplemented

B. Signatory and Certification Requirements – Not Supplemented

C. Monitoring Reports – This section supplements V.C of Standard Provisions (Attachment D)

1. Self Monitoring Reports

For each reporting period established in the MRP, the Discharger shall submit an SMR to the Regional Water Board in accordance with the requirements listed in this document and at the frequency the MRP specifies. The purpose of the SMR is to document treatment performance, effluent quality, and compliance with the waste discharge requirements of this Order.

a. Transmittal letter

Each SMR shall be submitted with a transmittal letter. This letter shall include the following:

1) Identification of all violations of effluent limits or other waste discharge requirements found during the reporting period;

2) Details regarding violations: parameters, magnitude, test results, frequency, and dates;

3) Causes of violations;

4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedule of action implementation (if previous reports have been submitted that address corrective actions, reference to the earlier reports is satisfactory);

5) Data invalidation (Data should not be submitted in an SMR if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate any measurement after it was submitted in an SMR, a letter shall identify the measurement suspected to be invalid and state the Discharger's intent to submit, within 60 days, a formal request to invalidate the measurement. This request shall include the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports invalidation [e.g., laboratory sheet, log entry, test results, etc.], and discussion of the corrective actions taken or planned [with a time schedule for completion] to prevent recurrence of the sampling or measurement problem.);

6) If the Discharger blends, the letter shall describe the duration of blending events and certify whether blended effluent was in compliance with the conditions for blending; and

7) Signature (The transmittal letter shall be signed according to Section V.B of this Order, Attachment D – Standard Provisions.).

b. Compliance evaluation summary

Each report shall include a compliance evaluation summary. This summary shall include each parameter for which the permit specifies effluent limits, the number of

samples taken during the monitoring period, and the number of samples that exceed applicable effluent limits.

c. Results of analyses and observations

1) Tabulations of all required analyses and observations, including parameter, date, time, sample station, type of sample, test result, method detection limit, method minimum level, and method reporting level, if applicable, signed by the laboratory director or other responsible official.

2) When determining compliance with an average monthly effluent limitation and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or nondetect (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

ii. 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.

If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting limit, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a Pollutant Minimization Program, the Discharger shall not be deemed out of compliance.

3) Dioxin-TEQ Reporting: The Discharger shall report for each dioxin and furan congener the analytical results of effluent monitoring, including the quantifiable limit (reporting level), the method detection limit, and the measured concentration. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating dioxin-TEQ, the Discharger shall set congener concentrations below the minimum levels (ML) to zero. The Discharger shall calculate and report dioxin-TEQs using the following formula, where the MLs, toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in Table A:

$$\text{Dioxin-TEQ} = \Sigma\,(C_x \times TEF_x \times BEF_x)$$

where: C_x = measured or estimated concentration of congener *x*
TEF_x = toxicity equivalency factor for congener x
BEFx = bioaccumulation equivalency factor for congener *x*

Table A

Minimum Levels, Toxicity Equivalency Factors,
and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Minimum Level (pg/L)	1998 Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

d. Data reporting for results not yet available

The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in a timely manner. Certain analyses require additional time to complete analytical processes and report results. For cases where required monitoring parameters require additional time to complete analytical processes and reports, and results are not available in time to be included in the SMR for the subject monitoring period, the Discharger shall describe such circumstances in the SMR and include the data for these parameters and relevant discussions of any observed exceedances in the next SMR due after the results are available.

e. Flow data

The Discharger shall provide flow data tabulation pursuant to Section IV.B.2.

f. Annual self monitoring report requirements

By the date specified in the MRP, the Discharger shall submit an annual report to the Regional Water Board covering the previous calendar year. The report shall contain the following:

1) Annual compliance summary table of treatment plant performance, including documentation of any blending events;

2) Comprehensive discussion of treatment plant performance and compliance with the permit (This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve performance and reliability of the Discharger's wastewater collection, treatment, or disposal practices.);

3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater;

4) List of approved analyses, including the following:

   (i) List of analyses for which the Discharger is certified;

   (ii) List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory shall not be submitted but be retained onsite); and

   (iii) List of "waived" analyses, as approved;

5) Plan view drawing or map showing the Discharger's facility, flow routing, and sampling and observation station locations;

6) Results of annual facility inspection to verify that all elements of the SWPP Plan are accurate and up to date (only required if the Discharger does not route all storm water to the headworks of its wastewater treatment plant); and

7) Results of facility report reviews (The Discharger shall regularly review, revise, and update, as necessary, the O&M Manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.).

g. Report submittal

The Discharger shall submit SMRs to:

California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn: NPDES Wastewater Division

h. Reporting data in electronic format

The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. If the Discharger chooses to submit SMRs electronically, the following shall apply:

1) *Reporting Method*: The Discharger shall submit SMRs electronically via a process approved by the Executive Officer (see, for example, the letter dated December 17, 1999, "Official Implementation of Electronic Reporting System [ERS]" and the progress report letter dated December 17, 2000).

2) *Monthly or Quarterly Reporting Requirements*: For each reporting period (monthly or quarterly as specified in the MRP), the Discharger shall submit an electronic SMR to the Regional Water Board in accordance with the provisions of Section V.C.1.a-e, except for requirements under Section V.C.1.c(1) where ERS does not have fields for dischargers to input certain information (e.g., sample time). However, until USEPA approves the electronic signature or other signature technologies, Dischargers that use ERS shall submit a hard copy of the original transmittal letter, an ERS printout of the data sheet, and a violation report (a receipt of the electronic transmittal shall be retained by the Discharger). This electronic SMR submittal suffices for the signed tabulations specified under Section V.C.1.c(1).

3) *Annual Reporting Requirements*: Dischargers who have submitted data using the ERS for at least one calendar year are exempt from submitting the portion of the annual report required under Section V.C.1.f(1) and (3).

D. Compliance Schedules – Not supplemented

E. Twenty-Four Hour Reporting – This section supplements V.E of Standard Provision (Attachment D)

1. Spill of Oil or Other Hazardous Material Reports

a. Within 24 hours of becoming aware of a spill of oil or other hazardous material that is not contained onsite and completely cleaned up, the Discharger shall report by telephone to the Regional Water Board at (510) 622-2369.

b. The Discharger shall also report such spills to the State Office of Emergency Services [telephone (800) 852-7550] only when the spills are in accordance with applicable reporting quantities for hazardous materials.

c. The Discharger shall submit a written report to the Regional Water Board within five working days following telephone notification unless directed otherwise by Regional Water Board staff. A report submitted electronically is acceptable. The written report shall include the following:

1) Date and time of spill, and duration if known;

2) Location of spill (street address or description of location);

3) Nature of material spilled;

4) Quantity of material involved;

5) Receiving water body affected, if any;

6) Cause of spill;

7) Estimated size of affected area;

8) Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);

9) Corrective actions taken to contain, minimize, or clean up the spill;

10) Future corrective actions planned to be taken to prevent recurrence, and schedule of implementation; and

11) Persons or agencies notified.

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants[1]

The following requirements apply to municipal wastewater treatment plants that experience an unauthorized discharge at their treatment facilities and are consistent with and supercede requirements imposed on the Discharger by the Executive Officer by letter of May 1, 2008, issued pursuant to California Water Code Section 13383.

a. Two (2)-Hour Notification

For any unauthorized discharges that result in a discharge to a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the State Office of Emergency Services (telephone 800-852-7550), the local health officers or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board. The notification to the Regional Water Board shall be via the Regional Water Board's online reporting system at www.wbers.net, and shall include the following:

1) Incident description and cause;

2) Location of threatened or involved waterway(s) or storm drains;

3) Date and time the unauthorized discharge started;

4) Estimated quantity and duration of the unauthorized discharge (to the extent known), and the estimated amount recovered;

[1] California Code of Regulations, Title 23, Section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment or disposal system.

5) Level of treatment prior to discharge (e.g., raw wastewater, primary treated, undisinfected secondary treated, and so on); and

6) Identity of the person reporting the unauthorized discharge.

b. 24-hour Certification

Within 24 hours, the Discharger shall certify to the Regional Water Board, at www.wbers.net, that the State Office of Emergency Services and the local health officers or directors of environmental health with jurisdiction over the affected water bodies have been notified of the unauthorized discharge.

c. 5-Day Written Report

Within five business days, the Discharger shall submit a written report, via the Regional Water Board's online reporting system at www.wbers.net, that includes, in addition to the information required above, the following:

1) Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;

2) Efforts implemented to minimize public exposure to the unauthorized discharge;

3) Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of water) and the extent of sampling if conducted;

4) Corrective measures taken to minimize the impact of the unauthorized discharge;

5) Measures to be taken to minimize the chances of a similar unauthorized discharge occurring in the future;

6) Summary of Spill Prevention Plan or O&M Manual modifications to be made, if necessary, to minimize the chances of future unauthorized discharges; and

7) Quantity and duration of the unauthorized discharge, and the amount recovered.

d. Communication Protocol

To clarify the multiple levels of notification, certification, and reporting, the current communication requirements for unauthorized discharges from municipal wastewater treatment plants are summarized in Table B that follows.

Table B

Summary of Communication Requirements for Unauthorized Discharges[1] from Municipal Wastewater Treatment Plants

Discharger is required to:	Agency Receiving Information	Time frame	Method for Contact
1. Notify	California Emergency Management Agency (Cal EMA)	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Telephone – (800) 852-7550 (obtain a control number from Cal EMA)
	Local health department	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Depends on local health department
	Regional Water Board	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Electronic[2] www.wbers.net
2. Certify	Regional Water Board	As soon as possible, but not later than **24 hours** after becoming aware of the unauthorized discharge.	Electronic[3] www.wbers.net
3. Report	Regional Water Board	Within **5 business days** of becoming aware of the unauthorized discharge.	Electronic[4] www.wbers.net

[1] California Code of Regulations, Title 23, Section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment or disposal system.

[2] In the event that the Discharger is unable to provide online notification within 2 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board's spill hotline at (510) 622-2369 and convey the same information contained in the notification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the notification information into the Regional Water Board's online system in electronic format.

[3] In most instances, the 2-hour notification will also satisfy 24-hour certification requirements. This is because the notification form includes fields for documenting that OES and the local health department have been contacted. In other words, if the Discharger is able to complete all the fields in the notification form within 2 hours, certification requirements are also satisfied. In the event that the Discharger is unable to provide online certification within 24 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board's spill hotline at (510) 622-2369 and convey the same information contained in the certification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the certification information into the Regional Water Board's online system in electronic format.

[4] If the Discharger cannot satisfy the 5-day reporting requirements via the Regional Water Board's online reporting system, it shall submit a written report (preferably electronically in pdf) to the appropriate Regional Water Board case manager. In cases where the Discharger cannot satisfy the 5-day reporting requirements via the online reporting system, it must still complete the Regional Water Board's online reporting requirements within 15 calendar days of becoming aware of the unauthorized discharge.

F. Planned Changes – Not supplemented

G. Anticipated Noncompliance – Not supplemented

H. Other Noncompliance – Not supplemented

I. Other Information – Not supplemented

VI. STANDARD PROVISIONS – ENFORCEMENT – Not Supplemented

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

VIII. DEFINITIONS – This section is an addition to Standard Provisions (Attachment D)

More definitions can be found in Attachment A of this NPDES Permit.

1. Arithmetic Calculations

a. Geometric mean is the antilog of the log mean or the back-transformed mean of the logarithmically transformed variables, which is equivalent to the multiplication of the antilogarithms. The geometric mean can be calculated with either of the following equations:

$$\text{Geometric Mean} = Anti\log\left(\frac{1}{N}\sum_{i=1}^{N} Log(C_i)\right)$$

or

$$\text{Geometric Mean} = (C_1 * C_2 * \ldots * C_N)^{1/N}$$

Where "N" is the number of data points for the period analyzed and "C" is the concentration for each of the "N" data points.

b. Mass emission rate is obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.345}{N}\sum_{i=1}^{N} Q_i C_i$$

$$\text{Mass emission rate (kg/day)} = \frac{3.785}{N}\sum_{i=1}^{N} Q_i C_i$$

In which "N" is the number of samples analyzed in any calendar day and "Q_i" and "C_i" are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the "N" grab samples that may be taken in any calendar day. If a composite sample is taken, "C_i" is the concentration measured in the composite sample and "Q_i" is the average flow rate occurring during the period over which the samples are composited. The daily concentration of a constituent measured over any calendar day shall be determined from the flow-weighted average of the same constituent in the combined waste streams as follows:

C_d = Average daily concentration = $\frac{1}{Q_t}\sum_{i=1}^{N} Q_i C_i$

In which "N" is the number of component waste streams and "Q" and "C" are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the "N" waste streams. "Q_t" is the total flow rate of the combined waste streams.

c. Maximum allowable mass emission rate, whether for a 24-hour, weekly 7-day, monthly 30-day, or 6-month period, is a limitation expressed as a daily rate determined with the formulas in the paragraph above, using the effluent concentration limit specified in the permit for the period and the specified allowable flow.

d. POTW removal efficiency is the ratio of pollutants removed by the treatment facilities to pollutants entering the treatment facilities (expressed as a percentage). The Discharger shall determine removal efficiencies using monthly averages (by calendar month unless otherwise specified) of pollutant concentration of influent and effluent samples collected at about the same time and using the following equation (or its equivalent):

Removal Efficiency (%) = 100 × [1-(Effluent Concentration/Influent Concentration)]

2. Biosolids means the solids, semi-liquid suspensions of solids, residues, screenings, grit, scum, and precipitates separated from or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow and underflow in the solids handling parts of the wastewater treatment system.

3. Blending is the practice of recombining wastewater that has been biologically treated with wastewater that has bypassed around biological treatment units.

4. Bottom sediment sample is (1) a separate grab sample taken at each sampling station for the determination of selected physical-chemical parameters, or (2) four grab samples collected from different locations in the immediate vicinity of a sampling station while the boat is anchored and analyzed separately for macroinvertebrates.

5. Composite sample is a sample composed of individual grab samples collected manually or by an automatic sampling device on the basis of time or flow as specified in the MRP. For flow-based composites, the proportion of each grab sample included in the composite sample shall be within plus or minus five percent (+/-5%) of the representative flow rate of the waste stream being measured at the time of grab sample collection. Alternatively, equal volume grab samples may be individually analyzed with the flow-weighted average calculated by averaging flow-weighted ratios of each grab sample analytical result. Grab samples comprising time-based composite samples shall be collected at intervals not greater than those specified in the MRP. The quantity of each grab sample comprising a time-based composite sample shall be a set of flow proportional volumes as specified in the MRP. If a particular time-based or flow-based composite sampling protocol is not specified in the MRP, the Discharger shall determine and implement the most representative sampling protocol for the given parameter subject to Executive Officer approval.

6. Depth-integrated sample is defined as a water or waste sample collected by allowing a sampling device to fill during a vertical traverse in the waste or receiving water body being sampled. The

Discharger shall collect depth-integrated samples in such a manner that the collected sample will be representative of the waste or water body at that sampling point.

7. Flow sample is an accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.

8. Grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the wastewater is collected.

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

10. Overflow is the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system (e.g., through manholes, at pump stations, and at collection points) upstream from the treatment plant headworks or from any part of a treatment plant facility.

11. Priority pollutants are those constituents referred to in 40 CFR Part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule, the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses.

12. Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.

13. Toxic pollutant means any pollutant listed as toxic under federal Clean Water Act section 307(a)(1) or under 40 CFR 401.15.

14. Untreated waste is raw wastewater.

15. Waste, waste discharge, discharge of waste, and discharge are used interchangeably in the permit. The requirements of the permit apply to the entire volume of water, and the material therein, that is disposed of to surface and ground waters of the State of California.

Table C

List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
1.	Antimony	204.2					10	5	50	0.5	5	0.5		1000
2.	Arsenic	206.3				20		2	10	2	2	1		1000
3.	Beryllium						20	0.5	2	0.5	1			1000
4.	Cadmium	200 or 213					10	0.5	10	0.25	0.5			1000
5a.	Chromium (III)	SM 3500												
5b.	Chromium (VI)	SM 3500				10	5							1000
	Chromium (total)[3]	SM 3500					50	2	10	0.5	1			1000
6.	Copper	200.9					25	5	10	0.5	2			1000
7.	Lead	200.9					20	5	5	0.5	2			10,000
8.	Mercury	1631 (note)[4]												
9.	Nickel	249.2					50	5	20	1	5			1000
10.	Selenium	200.8 or SM 3114B or C						5	10	2	5	1		1000
11.	Silver	272.2					10	1	10	0.25	2			1000
12.	Thallium	279.2					10	2	10	1	5			1000
13.	Zinc	200 or 289					20		20	1	10			
14.	Cyanide	SM 4500 CN^- C or I				5								
15.	Asbestos (only required for dischargers to MUN waters)[5]	0100.2 [6]												
16.	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17.	Acrolein	603	2.0	5										
18.	Acrylonitrile	603	2.0	2										

[1] The suggested method is the USEPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another USEPA-approved or recognized method if that method has a level of quantification below the applicable water quality objective. Where no method is suggested, the Discharger has the discretion to use any standard method.

[2] Minimum levels are from the *State Implementation Policy*. They are the concentration of the lowest calibration standard for that technique based on a survey of contract laboratories. Laboratory techniques are defined as follows: GC = Gas Chromatography; GCMS = Gas Chromatography/Mass Spectrometry; LC = High Pressure Liquid Chromatography; Color = Colorimetric; FAA = Flame Atomic Absorption; GFAA = Graphite Furnace Atomic Absorption; ICP = Inductively Coupled Plasma; ICPMS = Inductively Coupled Plasma/Mass Spectrometry; SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., USEPA 200.9); Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; DCP = Direct Current Plasma.

[3] Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 ug/l).

[4] The Discharger shall use ultra-clean sampling (USEPA Method 1669) and ultra-clean analytical methods (USEPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 ug/l).

[5] MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

[6] *Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters*, USEPA 600/R-94-134, June 1994.

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
19.	Benzene	602	0.5	2										
33.	Ethylbenzene	602	0.5	2										
39.	Toluene	602	0.5	2										
20.	Bromoform	601	0.5	2										
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or Dichlorormethane	601	0.5	2										
37.	1,1,2,2-Tetrachloroethane	601	0.5	1										
38.	Tetrachloroethylene	601	0.5	2										
40.	1,2-Trans-Dichloroethylene	601	0.5	1										
41.	1,1,1-Trichloroethane	601	0.5	2										
42.	1,1,2-Trichloroethane	601	0.5	2										
43.	Trichloroethene	601	0.5	2										
44.	Vinyl Chloride	601	0.5	2										
45.	2-Chlorophenol	604	2	5										
46.	2,4-Dichlorophenol	604	1	5										
47.	2,4-Dimethylphenol	604	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49.	2,4-Dinitrophenol	604	5	5										
50.	2-Nitrophenol	604		10										
51.	4-Nitrophenol	604	5	10										
52.	3-Methyl-4-Chlorophenol	604	5	1										
53.	Pentachlorophenol	604	1	5										
54.	Phenol	604	1	1		50								
55.	2,4,6-Trichlorophenol	604	10	10										
56.	Acenaphthene	610 HPLC	1	1	0.5									
57.	Acenaphthylene	610 HPLC		10	0.2									
58.	Anthracene	610 HPLC		10	2									
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61.	Benzo(a)Pyrene	610 HPLC		10	2									

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64.	Benzo(k)Fluoranthene	610 HPLC		10	2									
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86.	Fluoranthene	610 HPLC	10	1	0.05									
87.	Fluorene	610 HPLC		10	0.1									
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100.	Pyrene	610 HPLC		10	0.05									
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70.	Butylbenzyl Phthalate	606 or 625	10	10										
79.	Diethyl Phthalate	606 or 625	10	2										
80.	Dimethyl Phthalate	606 or 625	10	2										
81.	Di-n-Butyl Phthalate	606 or 625		10										
84.	Di-n-Octyl Phthalate	606 or 625		10										
59.	Benzidine	625		5										
65.	Bis(2-Chloroethoxy)Methane	625		5										
66.	Bis(2-Chloroethyl)Ether	625	10	1										
67.	Bis(2-Chloroisopropyl)Ether	625	10	2										
69.	4-Bromophenyl Phenyl Ether	625	10	5										
71.	2-Chloronaphthalene	625		10										
72.	4-Chlorophenyl Phenyl Ether	625		5										
73.	Chrysene	625		10	5									
78.	3,3'-Dichlorobenzidine	625		5										
82.	2,4-Dinitrotoluene	625	10	5										
83.	2,6-Dinitrotoluene	625		5										
85.	1,2-Diphenylhydrazine (note)[7]	625		1										
88.	Hexachlorobenzene	625	5	1										
89.	Hexachlorobutadiene	625	5	1										
90.	Hexachlorocyclopentadiene	625	5	5										
91.	Hexachloroethane	625	5	1										
93.	Isophorone	625	10	1										
94.	Naphthalene	625	10	1	0.2									
95.	Nitrobenzene	625	10	1										
96.	N-Nitrosodimethylamine	625	10	5										
97.	N-Nitrosodi-n-Propylamine	625	10	5										
98.	N-Nitrosodiphenylamine	625	10	1										
99.	Phenanthrene	625		5	0.05									
101.	1,2,4-Trichlorobenzene	625	1	5										
102.	Aldrin	608	0.005											
103.	α-BHC	608	0.01											
104.	β-BHC	608	0.005											
105.	γ-BHC (Lindane)	608	0.02											
106.	δ-BHC	608	0.005											
107.	Chlordane	608	0.1											

[7] Measurement for 1,2-Diphenylhydrazine may use azobenzene as a screen: if azobenzene is measured at >1 ug/l, then the Discharger shall analyze for 1,2-Diphenylhydrazine.

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
108.	4,4'-DDT	608	0.01											
109.	4,4'-DDE	608	0.05											
110.	4,4'-DDD	608	0.05											
111.	Dieldrin	608	0.01											
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											
114.	Endosulfan Sulfate	608	0.05											
115.	Endrin	608	0.01											
116.	Endrin Aldehyde	608	0.01											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											