



California Regional Water Quality Control Board

San Francisco Bay Region

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Linda S. Adams
Secretary for
Environmental Protection

Arnold Schwarzenegger
Governor

ORDER NO. R2-2006-0062
NPDES NO. CA0037826

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

Discharger	Rodeo Sanitary District
Name of Facility	Rodeo Sanitary District Water Pollution Control Facility and its collection system
Facility Address	800 San Pablo Avenue
	Rodeo, California 94572
	Contra Costa County

The Discharger is authorized to discharge from the following discharge points as set forth below:

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Secondary treated, chlorine disinfected effluent	38 °, 03', 06" N	122 °, 14', 55" W	San Pablo Bay

This Order was adopted by the Regional Water Board on:	September 13, 2006
This Order shall become effective on:	December 1, 2006
This Order shall expire on:	November 30, 2011
The U.S. Environmental Protection Agency (U.S. EPA) and the Regional Water Board have classified this discharge as a major discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of the Order expiration date as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that Order No. 01-107 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted therein, and the provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted therein, the Discharger shall comply with the requirements in this Order.

I, Bruce H. Wolfe, Executive Officer, do hereby certify the following is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on September 13, 2006.

Bruce H. Wolfe, Executive Officer

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

ORDER NO. R2-2006-0062
NPDES NO. CA0037826

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- Standard Provisions and Reporting Requirements, August 1993	
- Self-Monitoring Program, Part A, adopted August 1993	
- August 6, 2001, Staff Letter: <i>Requirement for Priority Pollutant Monitoring in Receiving Water and Wastewater Discharges</i>	
- Resolution No. 74-10: <i>Policy Regarding Waste Discharger’s Responsibilities to Develop and Implement Contingency Plans</i>	

I. FACILITY INFORMATION

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

Discharger	Rodeo Sanitary District
Name of Facility	Rodeo Sanitary District Water Pollution Control Facility and its collection system
Facility Address	800 San Pablo Avenue
	Rodeo, California 94572
	Contra Costa County
Facility Contact, Title, and Phone	Steven S. Beall, Engineer-Manager, 510-799-2970
Mailing Address	Same as Above
Type of Facility	POTW
Facility Design Flow	1.14 million gallons per day (MGD)

II. FINDINGS

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

- A. **Background.** Rodeo Sanitary District (hereinafter Discharger) is currently discharging under Order No. 01-107 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA00037826. The Discharger submitted a Report of Waste Discharge, dated March 30, 2006, and applied for a NPDES permit renewal to discharge up to 1.14 MGD of treated wastewater from the Rodeo Sanitary District Water Pollution Control Facility, hereinafter Facility. The application was deemed complete on May 9, 2006.
- B. **Facility Description.** The Discharger owns and operates a collection system and treatment plant that serves the cities of Rodeo and Tormey. The system consists of approximately 25 miles of sewer lines and two pump stations that bring wastewater to the Facility, a secondary level wastewater treatment facility. The Facility's treatment system consists of communicators at the influent pump station, grit removal (aerated), primary clarification (one primary clarifier), activated sludge biological treatment (one aeration basin), secondary clarification (two secondary clarifiers), disinfection with sodium hypochlorite, dechlorination with sodium bisulfite, and effluent disposal via the effluent pump station to the shared deep water outfall. Wastewater is discharged from Discharge Point 001 (see table on cover page) to the San Pablo Bay, a water of the United States within the San Pablo Bay watershed. Attachment B provides a topographic map of the area around the Facility. Attachment C provides a flow schematic of the Facility.
- C. **Legal Authorities.** This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.
- 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 through special studies. Attachments A through H, which contain background information and rationale for Order requirements, are hereby incorporated into this Order and, thus, constitute part of the Findings for this Order.
- E. **California Environmental Quality Act (CEQA).** This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC.
- F. **Technology-based Effluent Limitations.** The Code of Federal Regulations (CFR) at 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on secondary treatment standards at 40 CFR Part 133 and Best Professional Judgment (BPJ) in accordance with 40 CFR §125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. Water Quality-based Effluent Limitations. Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter.

H. Water Quality Control Plans. The Regional Water Board adopted a Water Quality Control Plan for the San Francisco Bay Basin (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Beneficial uses applicable to San Pablo Bay are as follows:

Table 1. Receiving Water Body Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	San Pablo Bay	<p><u>Existing:</u></p> <ul style="list-style-type: none"> - Ocean, commercial, and sport fishing (COMM) - Estuarine habitat (EST) - Industrial service supply (IND) - Fish migration (MIGR) - Navigation (NAV) - Preservation of rare and endangered species (RARE) - Water contact recreation (REC-1) - Non-contact recreation (REC-2) - Shellfish harvesting (SHELL) - Fish spawning (SPWN) - Wildlife habitat (WILD). <p><u>Potential:</u></p> <p>None</p>

The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.

Requirements of this Order specifically implement the applicable Basin Plan.

I. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995 and November 9, 1999, and the CTR on May 18, 2000, which was amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.

- J. State Implementation Policy.** On March 2, 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The State Water Board subsequently amended the SIP on February 24, 2005, and the amendments became effective on July 31, 2005. The SIP includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so. Requirements of this Order implement the SIP.
- K. Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a discharger's request and demonstration that it is infeasible for an existing discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under Section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does include compliance schedules and interim effluent limitations. A detailed discussion of the basis for the compliance schedule(s) and interim effluent limitation(s) and/or discharge specifications is included in the Fact Sheet (Attachment F).
- L. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.
- M. Stringency of Requirements for Individual Pollutants.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on Carbonaceous Biochemical Oxygen Demand (CBOD), Total Suspended Solids (TSS), Oil and Grease, pH, and chlorine residual. Restrictions on these pollutants are specified in federal regulations and have been in the Basin Plan since before May 30, 2000, as discussed in the attached Fact Sheet, Attachment F. The permit's technology-based pollutant restrictions are no more stringent than required by the CWA. Water quality-based effluent limitations have been scientifically 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 and are the applicable

federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan 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 section 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically Arsenic, Cadmium, Chromium (VI), Copper (freshwater), Lead, Nickel, Silver (one-hour), Zinc) were approved by USEPA on January 5, 2005, and are applicable water quality standards pursuant to section 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

- N. **Antidegradation Policy.** Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. As discussed in detail in the Fact Sheet (Attachment F) the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16.
- O. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR § 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.
- P. **Monitoring and Reporting.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- Q. **Standard and Special Provisions.** Standard Provisions, which in accordance with 40 CFR §§122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet (Attachment F).
- R. **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. Details of notification are provided in the Fact Sheet (Attachment F) of this Order.

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

III. DISCHARGE PROHIBITIONS

- A. Discharge of wastewater at a location or in a manner different from that described in the findings of this Order is prohibited.
- B. Discharge of wastewater into San Pablo Bay, at any point where it does not receive an initial dilution of at least 45:1 is prohibited. The Discharger shall be prohibited from contributing excessive flows to the combined outfall, which cause the City of Pinole-Hercules wastewater treatment plant to discharge to shallow waters.
- C. The bypass of untreated or partially treated wastewater to waters of the State, either at the Facility or from the collection system or pump stations tributary to the Facility, is prohibited, except as provided for bypasses under the conditions stated in 40 CFR §122.41(m)(4) and in A.12 of the Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993 (Attachment H).
- D. Average dry weather flows greater than 1.14 MGD are prohibited. The average dry weather flow shall be determined over three consecutive dry weather months each year.
- E. The discharge to San Pablo Bay shall not create a nuisance as defined in Section 13050 of the California Water Code.
- F. Any sanitary sewer overflow that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Conventional and Non-Conventional Pollutant Effluent Limitations

- a. The discharge of treated wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location M-001 as described in the attached Monitoring and Reporting Program (Attachment E):

Table 2. Effluent Limitations for Conventional and Non-Conventional Pollutants

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Carbonaceous Biochemical Oxygen Demand 5-day (CBOD ₅ @ 20°C)	mg/L	25	40	--	--	--
CBOD ₅ percent removal ¹	%	85	--	--	--	--
Total Suspended Solids (TSS)	mg/L	30	45	--	--	--
TSS percent removal ¹	%	85	--	--	--	--
pH ²	standard units (s.u)	--	--	--	6.0	9.0
Oil and Grease	mg/L	10	--	20	--	--
Chlorine Residual ³	mg/L	--	--	--	--	0.0

Footnotes for Table 2:

- [1] **Percent Removal:** The arithmetic mean of the CBOD₅ and TSS values, by concentration, for effluent samples collected during a calendar month shall not exceed 15 percent of the arithmetic mean of the respective values for influent samples collected during the same calendar month.
- [2] **pH:** The Discharger may elect to use a continuous on-line monitoring system(s) for measuring pH. If the Discharger employs continuous monitoring, then the Discharger shall be in compliance with the pH limitation specified herein, provided that both of the following conditions are satisfied:
- a. The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and
 - b. No individual excursion from the range of pH values shall exceed 60 minutes.

[3] **Chlorine Residual.** The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine residual and sodium bisulfite (or other dechlorinating chemical) dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Regional Water Board staff may conclude that these false positive chlorine residual exceedances are not violations of this permit limitation.

2. Total Coliform Bacteria

The treated wastewater, at some place in the treatment process prior to discharge, shall meet the following limits of bacteriological quality: The moving median value for the Most Probable Number (MPN) of total coliform bacteria in any five (5) consecutive samples shall not exceed 240 MPM/100 ml; and any single sample shall not exceed 10,000 MPN/100 ml.

3. Toxic Pollutants Final and Interim Effluent Limitations

The discharge of treated wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location M-001 as described in the attached Monitoring and Reporting Program (Attachment E). The interim effluent limitations specified below shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the time period indicated in this limitation. The discharge from Discharge Point 001 shall not exceed the following limitations.

Table 3. Effluent Limitations for Toxic Pollutants ^{[1] [2]}

	Units	Daily Maximum Interim Limitations (<i>Effective Immediately</i>)	Final Maximum Daily Effluent Limitations	Final Average Monthly Effluent Limitations	Effective Date for Final Limitations
Mercury ^{[3] [6]}	µg/l	--	0.041	0.021	immediately
Cyanide ^{[4][5]}	µg/l	12	6.4	3.1	4/28/2010
Zinc	µg/l	--	6.0 x 10 ²	3.6 x 10 ²	immediately

Notes:

[1] All analyses shall be performed using current U.S. EPA methods, or equivalent methods approved in writing by the Executive Officer. As described in Section 2.4.5 of the SIP, the Discharger is in violation of the limitation if the average discharge concentration is greater than the effluent limitation and greater than or equal to the Reporting Level for the analysis for that constituent.

Limitations apply to the average concentration of all samples collected during the averaging period (daily maximum = 24-hour period; monthly = calendar month).

[2] As outlined in Section 2.4 of the SIP, the following are Minimum Levels that the Discharger shall achieve for pollutants with effluent limits. The table below indicates the highest minimum level that the Discharger's laboratory must achieve for calibration purposes.

Pollutant	ML (µg/L)
Mercury	0.0005

Cyanide	5
Zinc	20

[3] Effluent mercury monitoring shall be performed by using ultra-clean sampling and analysis techniques.

[4] Compliance may be demonstrated by measurement of weak acid dissociable cyanide.

[5] Alternate Effluent Limits for Cyanide

- a. If a cyanide SSO for the receiving water becomes legally effective, resulting in adjusted saltwater criteria CCC of 2.9 µg/l (based on the assumptions in *Draft Staff Report on Proposed Site-Specific Water Quality Objectives and Effluent Limit Policy for Cyanide for San Francisco Bay*, dated November 10, 2005), upon its effective date, the following limitations shall supercede those cyanide limitations, above (the rationale for these effluent limitations can be found in the Fact Sheet [Attachment F]).

MDEL of 43 µg/L, and AMEL of 20 µg/L.

- b. If a different cyanide SSO for the receiving water is adopted, the alternate WQBELs based on the SSO will be determined after the SSO effective date.

[6] **Mercury Mass Effluent Limitation:**

The mass emission limit for mercury is 0.023 kilograms per month (kg/month).

Compliance with these limits shall be evaluated using running annual average mass load. Running annual averages shall be calculated by taking the arithmetic average of the current monthly mass loading value (see sample calculation below) and the previous 11-month's values. Sample calculation:

Flow (mgd) = Average of monthly plant effluent flow in mgd.

Constituent Concentration (µg/l) = Average of monthly effluent concentration measurements in µg/l. If more than one measurement is obtained in a calendar month, the average of these measurements is used as the monthly value for the month. If test results are less than the method detection limit used, the measurement value is assumed to be equal to the method detection limit.

Mass Loading (kg/month) = (Flow) x (Constituent Concentration) x 0.1151 (Conversion Factor)

4. **Whole Effluent Acute Toxicity**

- a. Representative samples of the discharge, as measured at Monitoring Location M-001, shall meet the following limitations for acute toxicity. Bioassays shall be conducted in compliance with Section V.A of the Monitoring and Reporting Program (MRP, **Attachment E**).

The survival of organisms in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival.

- b. These acute toxicity limitations are further defined as follows:

11 sample median: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

- c. Bioassays shall be performed using the most up-to-date USEPA protocol and the most sensitive species as specified in writing by the Executive Officer based on the most recent screening test results. Bioassays shall be conducted in compliance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," currently 5th Edition (EPA-821-R-02-012), with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP) upon the Discharger's request with justification.

5. Whole Effluent Chronic Toxicity (Not Applicable)

V. RECEIVING WATER LIMITATIONS

- A. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 1. Floating, suspended, or deposited macroscopic particulate matter or foam;
 2. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
 3. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 4. Visible, floating, suspended, or deposited oil or other products of petroleum origin; and
 5. Toxic or other deleterious substances to 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.
- B. The discharge of waste shall not cause the following limits to be exceeded in waters of the State at any place within one foot of the water surface:
 1. Dissolved Oxygen: 5.0 mg/L, minimum

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause

concentrations less than that specified above, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.

2. Dissolved Sulfide: 0.1 mg/L, maximum
 3. pH: Variation from normal ambient pH by more than 0.5 pH units.
 4. Un-ionized Ammonia: 0.025 mg/L as N, annual median; and
0.16 mg/L as N, maximum.
 5. Nutrients: Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
- C. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen and modify this Order in accordance with such more stringent standards.

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. **Regional Water Board Standard Provisions.** The Discharger shall comply with all applicable items of the attached *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993* (the Standard Provisions, **Attachment H**). Where provisions or reporting requirements specified in this Order are different from equivalent or related provisions or reporting requirements given in the Standard Provisions (**Attachment H**), the specifications of this Order shall apply. Duplicative requirements in the federal Standard Provisions in VI.A.1.2, above (**Attachment D**) and the regional Standard Provisions (**Attachment H**) are not separate requirements. A violation of a duplicative requirement does not constitute two separate violations.

B. Monitoring and Reporting Program Requirements

The Discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order.

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:

- a. If present or future investigations demonstrate that the discharge(s) governed by this Order will, or cease to, have adverse impacts on water quality and/or beneficial uses of the receiving waters.
- b. As new or revised WQOs come into effect for the San Francisco Bay estuary and contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order will be modified as necessary to reflect updated WQOs.
- c. If translator or other water quality studies provide a basis for determining that a permit condition(s) should be modified.
- d. An administrative or judicial decision on a separate NPDES permit or WDR that addresses requirements similar to this discharge; and
- e. as authorized by law.

The Discharger may request permit modification based on b, c, d, and e above. The Discharger shall include in any such request an antidegradation and antibacksliding analysis.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Effluent Characterization for Selected Constituents

The Discharger shall continue to monitor and evaluate the discharge from Outfall 001 (measured at M-001) for the constituents listed in Enclosure A of the Regional Water Board's August 6, 2001 Letter, according to the sampling frequency specified in the attached MRP (**Attachment E**). Compliance with this requirement shall be achieved in accordance with the specifications stated in the Regional Water Board's August 6, 2001 Letter under Effluent Monitoring for Major Discharger.

The Discharger shall evaluate on an annual basis if concentrations of any constituent increase over past performance. Furthermore, if that increase would result in reasonable potential to cause or contribute to an excursion above applicable WQO/WQC for constituents without effluent limitations in this Order, the Discharger shall investigate the cause of the increase, which may include but is not limited to an increase in the effluent monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. This may be satisfied through identification of these constituents as "Pollutants of Concern" in the Discharger's Pollutant Minimization Program described in **Provision C.3.b**, below. A summary of the annual evaluation of data, and source investigation activities shall also be reported in the annual self-monitoring report.

A final report that presents all the data shall be submitted to the Regional Water Board no later than 180 days prior to the Order expiration date. This final report shall be submitted with the application for permit reissuance.

b. Ambient Background Receiving Water Study

The Discharger shall collect or participate in collecting background ambient receiving water monitoring for priority pollutants that is required to perform RPA and to calculate effluent limitations. The data on the conventional water quality parameters (pH, salinity, and hardness) shall also be sufficient to characterize these parameters in the receiving water at a point after the discharge has mixed with the receiving waters. This provision may be met through monitoring through the Collaborative Bay Area Clean Water Agencies (BACWA) Study, or a similar ambient monitoring program for San Francisco Bay. This permit may be reopened, as appropriate, to incorporate effluent limits or other requirements based on Regional Water Board review of these data.

The Discharger shall submit a final report that presents all the data to the Regional Water Board 180 days prior to Order expiration. This final report shall be submitted with the application for permit reissuance.

c. Permitted Treatment Plant Flows (Optional Study)

If the Discharger determines that expansion of the treatment capacity of the Rodeo Sanitary District Water Pollution Control Plant is necessary, a study must be submitted to the Regional Water Board as follows:

- 1) Submit a study plan, acceptable to the Executive Officer, which will gather data sufficient to address antidegradation and to document that the treatment plant has the capacity to reliably treat the projected flow increase during both dry and wet weather periods. The study shall evaluate the treatment capacity of each unit process; and propose testing hydraulic and organic loading capacities of the treatment facilities by appropriate combinations of desk-top analyses and treatment process stress testing to simulate design peak loading conditions.
- 2) Following approval by the Executive Officer, commence work in accordance with the study plan and time schedule submitted pursuant to Task 1 above.
- 3) Submit final report documenting the results of the accepted plan described in Task 1 above. The report shall include a schedule for planning, design, and construction of required upgrades and /or additional process units to reliably treat projected increases in flows.
- 4) Demonstrate compliance with all applicable provisions of the California Environmental Quality Act (California Public Resources Code Division 13, Chapter 3, Section 21100 et seq.).

- 5) Demonstrate adequate financial provisions to ensure adequate operation and maintenance of the wastewater facilities.
- 6) Documentation of completion or implementation of the above measures, to the Executive Officer's satisfaction. Accordingly, the permitted average dry weather flow capacity identified in Prohibition III.C of this Order may be increased to 1.5 mgd by written approval from the Executive Officer.

d. Optional Mass Offset

If the Discharger can demonstrate that further net reductions of the total mass loadings of 303(d)-listed pollutants to the receiving water cannot be achieved through economically feasible measures such as aggressive source control, wastewater reuse, and treatment plant optimization, but only through a mass offset program, the Discharger may submit to the Regional Water Board for approval a mass offset plan to reduce 303(d)-listed pollutants to the same watershed or drainage basin. The Regional Water Board may modify this Order to allow an approved mass offset program.

e. Status Report on 303(d)-Listed Pollutants, Site-Specific Objectives (SSOs) and TMDL

By January 31 of each year, the Discharger shall submit an update to the Regional Water Board to document its participation efforts toward development of the TMDL(s) or SSO(s). The Discharger can submit updates through the regional Bay Area Clean Water Agencies (BACWA) studies for these pollutants. These status reports must address, but not be limited to, the efforts in support of the SSO or TMDL for cyanide and Dioxin-TEQ.

3. Requirement to Support SSO and TMDL, and Assure Compliance with Final Limits

This Order grants a compliance schedule for Dioxin-TEQ, and alternative final limits for cyanide based on pending SSOs. The Discharger shall participate in and support the development of the Dioxin-TEQ TMDL and cyanide site-specific objective (SSO). In the event the cyanide SSO is not developed by July 1, 2009, the Discharger shall submit by July 1, 2009, a schedule that documents how it will further reduce cyanide concentrations to ensure compliance with the final limits specified in Effluent Limitations and Discharge Specifications IV.A.3.

4. Best Management Practices and Pollutant Minimization Program

- a. The Discharger shall continue to implement and improve, in a manner acceptable to the Executive Officer, its existing Pollutant Minimization Program to reduce pollutant loadings of cyanide and Dioxin-TEQ to the treatment plant and therefore to the receiving waters. Finally, the Discharger shall implement any applicable additional pollutant minimization measures described in Basin Plan implementation requirements associated with the cyanide SSO if and when this SSO becomes effective and the alternate limits take effect.

- b. The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28th of each calendar year. The annual report shall cover January through December of the preceding year. Each annual report shall include at least the following information:
- i. *A brief description of its treatment plant, treatment plant processes and service area.*
 - ii. *A discussion of the current pollutants of concern.* Periodically, the discharger shall analyze its own situation to determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall include the reasons why the pollutants were chosen.
 - iii. *Identification of sources for the pollutants of concern.* This discussion shall include how the Discharger intends to estimate and identify sources of the pollutants. The Discharger should also identify sources or potential sources not directly within the ability or authority of the Discharger to control, such as pollutants in the potable water supply and air deposition.
 - iv. *Identification of tasks to reduce the sources of the pollutants of concern.* This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement tasks themselves or participate in group, regional, or national tasks that will address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that will address its pollutants of concern whenever it is efficient and appropriate to do so. A time line shall be included for the implementation of each task.
 - v. *Outreach to employees.* The Discharger shall inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants of concern into the treatment facilities. The Discharger may provide a forum for employees to provide input to the program.
 - vi. *Continuation of Public Outreach Program.* The Discharger shall prepare a public outreach program to communicate pollution prevention to its service area. Outreach may include participation in existing community events such as county fairs, initiating new community events such as displays and contests during Pollution Prevention Week, conducting school outreach programs, conducting plant tours, and providing public information in newspaper articles or advertisements, radio or television stories or spots, newsletters, utility bill inserts, and its web site. Information shall be specific to the target audiences. The Discharger shall coordinate with other agencies as appropriate.

- vii. *Discussion of criteria used to measure Program's and tasks' effectiveness.* The Discharger shall establish criteria to evaluate the effectiveness of its Pollution Minimization Program. This shall also include a discussion of the specific criteria used to measure the effectiveness of each of the tasks in item b.iii., b.iv., b.v., and b.vi.
 - viii. *Documentation of efforts and progress.* This discussion shall detail all of the Discharger's activities in the Pollution Minimization Program during the reporting year.
 - ix. *Evaluation of Program's and tasks' effectiveness.* This Discharger shall utilize the criteria established in b.vii. to evaluate the Program's and tasks' effectiveness.
 - x. *Identification of specific tasks and time schedules for future efforts.* Based on the evaluation, the Discharger shall detail how it intends to continue or change its tasks in order to more effectively reduce the amount of pollutants to the treatment plant, and subsequently in its effluent.
- c. Pollutant Minimization Program for Pollutants with Effluent Limitations

The Discharger shall expand its Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

- i. A sample result is reported as DNQ and the effluent limitation is less than the RL; or
- ii. A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in the SIP.

The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

- i. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
- ii. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

- iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
- iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
- v. The annual report required by 3.b. above, shall specifically address the following items for the reportable priority pollutant(s):
 - 1. All PMP monitoring results for the previous year;
 - 2. A list of potential sources of the reportable priority pollutant(s);
 - 3. A summary of all actions undertaken pursuant to the control strategy; and
 - 4. A description of actions to be taken in the following year.

5. Alternative Bacteria Limitation Study - Receiving Water Beneficial Use Study Program and Schedule

The Discharger may conduct a study to demonstrate that substituting total coliform organisms limitations with an alternative parameter (e.g., fecal coliform) will not result in unacceptable adverse impacts on the beneficial uses of the receiving water. The workplan must be approved by the Executive Officer, and the results of the study must conclusively demonstrate that such a substitution will not result in unacceptable adverse impacts on the beneficial uses of the receiving water and must be approved by the Board.

Task	Compliance Date
<p>Receiving Water Beneficial Use Study Program Submit a proposed program plan, acceptable to the Executive Officer, for data collection and analysis to determine whether the use of an alternative parameter (e.g., fecal coliform) is a more specific indicator of human pathogens (instead of total coliform), and that such substitution will not result in unacceptable adverse impacts on the beneficial uses of the receiving water.</p>	<p>Within 24 months following permit adoption</p>
<p>Study Program Commencement Following approval of the program plan by the Executive Officer, collect data in accordance with the study plan and time schedule. Specific data collection timing is expected to correspond to sequential reductions of chlorine use to determine the proper quantity of chlorine needed to meet alternative criteria.</p>	<p>Commence data collection within 12 months after Executive Officer approval.</p>
<p>Final Report Following data collection, analyze data and submit a report to the Executive Officer, documenting the results found, including chlorine residual measurements and corresponding fecal and total coliform measurements in effluent and in the receiving water. Document whether use of an alternative indicator is expected to impair beneficial uses.</p>	<p>3 months following end of data collection.</p>

6. Construction, Operation and Maintenance Specifications

a. Wastewater Facilities, Review and Evaluation, and Status Reports

- 1) The Discharger shall operate and maintain its wastewater collection, treatment, and disposal facilities in a manner to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary, in order 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.
- 2) The Discharger shall regularly review and evaluate its wastewater facilities and operation practices in accordance with section a(1) above. Reviews and evaluations shall be conducted as an ongoing component of the Discharger's administration of its wastewater facilities.
- 3) The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its wastewater facilities and operation practices, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each annual self-monitoring report, a description or summary of its reviews and evaluations, and applicable wastewater facility programs or capital improvement projects.

b. Operations and Maintenance Manual (O&M), Review and Status Reports

- 1) The Discharger shall maintain an O&M Manual as described in the findings of this Order for the Discharger's wastewater facilities. The O&M Manual shall be maintained in usable condition and be available for reference and use by all applicable personnel.
- 2) The Discharger shall regularly review, revise, or update, as necessary, the O&M Manual(s) so that the document(s) may remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and revisions or updates shall be completed as necessary. For any significant changes in treatment facility equipment or operation practices, applicable revisions shall be completed within 90 days of completion of such changes.
- 3) The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its O&M manual, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each annual self-monitoring report, a summary of any completed revisions, or a statement that no revisions are needed and the last date it updated its O&M Manual.

c. Contingency Plan, Review and Status Reports

- 1) The Discharger shall maintain a Contingency Plan as required by Regional Water Board Resolution 74-10 (**Attachment H**) and as prudent in accordance with current municipal facility emergency planning. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or adequately implement a Contingency Plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
- 2) The Discharger shall regularly review and update, as necessary, the Contingency Plan so that the plan may remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and updates shall be completed as necessary.
- 3) The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its Contingency Plan review and update. The Discharger shall also include, in each annual self-monitoring report, a summary of any completed revisions, or a statement that no revisions are needed and the last date it updated its Contingency Plan.

7. Special Provisions for Municipal Facilities

a. Pretreatment Program (Not Applicable)

b. Sludge Management Practices Requirements

- 1) All sludge generated by the Discharger must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 CFR §503. If the Discharger desires to dispose of sludge by a different method, a request for permit modification must be submitted to USEPA 180 days before start-up of the alternative disposal practice. All the requirements in 40 CFR §503 are enforceable by USEPA whether or not they are stated in an NPDES permit or other permit issued to the Discharger. The Regional Water Board should be copied on relevant correspondence and reports forwarded to USEPA regarding sludge management practices.
- 2) Sludge treatment, storage and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
- 3) The Discharger shall take all reasonable steps to prevent or minimize any sludge use or disposal which has a likelihood of adversely affecting human health or the environment.
- 4) The discharge of sludge shall not cause waste material to be in a position where it is or can be carried from the sludge treatment and storage site and deposited in waters of the State.

- 5) The sludge treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the temporary storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.
- 6) For sludge that is applied to the land, placed on a surface disposal site, or fired in a biosolids incinerator as defined in 40 CFR §503, the Discharger shall submit an annual report to USEPA and the Regional Water Board containing monitoring results and pathogen and vector attraction reduction requirements as specified by 40 CFR §503, postmarked February 15 of each year, for the period covering the previous calendar year.
- 7) Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR §258. In the annual self-monitoring report, the Discharger shall include the amount of sludge disposed of and the landfill(s) to which it was sent.
- 8) Permanent on-site sludge storage or disposal activities are not authorized by this permit. A report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the Discharger.
- 9) Sludge Monitoring and Reporting Provisions of this Regional Water Board's Standard Provisions (**Attachment H**), apply to sludge handling, disposal and reporting practices.
- 10) The Regional Water Board may amend this permit prior to expiration if changes occur in applicable state and federal sludge regulations.

c. Sanitary Sewer Overflows and Sewer System Management Plan

The Discharger's collection system is part of the facility that is subject to this Order. As such, the Discharge must properly operate and maintain its collection system (Attachment D, Standard Provisions - Permit Compliance, subsection I.D). The Discharger must report any noncompliance (Attachment D, Standard Provision - Reporting, subsections V.E.1 and V.E.2), and mitigate any discharge from the Discharger's collection system in violation of this Order (Attachment D, Standard Provisions - Permit Compliance, subsection I.C). The General Waste Discharge Requirements for Collection System Agencies (Order No. 2006-0003 DWQ) has requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both the General Waste Discharge Requirements for Collection System Agencies (General Collection System WDR) and this Order, the General Collection System WDR more clearly and specifically stipulates requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. Implementation of the General Collection System WDR requirements for proper operation and maintenance and mitigation of spills will satisfy the corresponding federal NPDES requirements specified in this Order. Following reporting requirements in the

General Collection System WDR will satisfy NPDES reporting requirements for sewage spills. Furthermore, the Discharger shall comply with the schedule for development of sewer system management plans (SSMPs) as indicated in the letter issued by the Regional Water Board on July 7, 2005, pursuant to Water Code Section 13267. Until the statewide on-line reporting system becomes operational, the Discharger shall report sanitary sewer overflows electronically according to the Regional Water Board's SSO reporting program.

VII. COMPLIANCE DETERMINATION

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

A. General.

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

B. Multiple Sample Data.

When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure.

- 1) The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
- 2) The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL).

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

D. Average Weekly Effluent Limitation (AWEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. The

Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL)

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

F. Instantaneous Minimum Effluent Limitation.

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

G. Instantaneous Maximum Effluent Limitation.

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

ATTACHMENT A – DEFINITIONS

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.

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.

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).

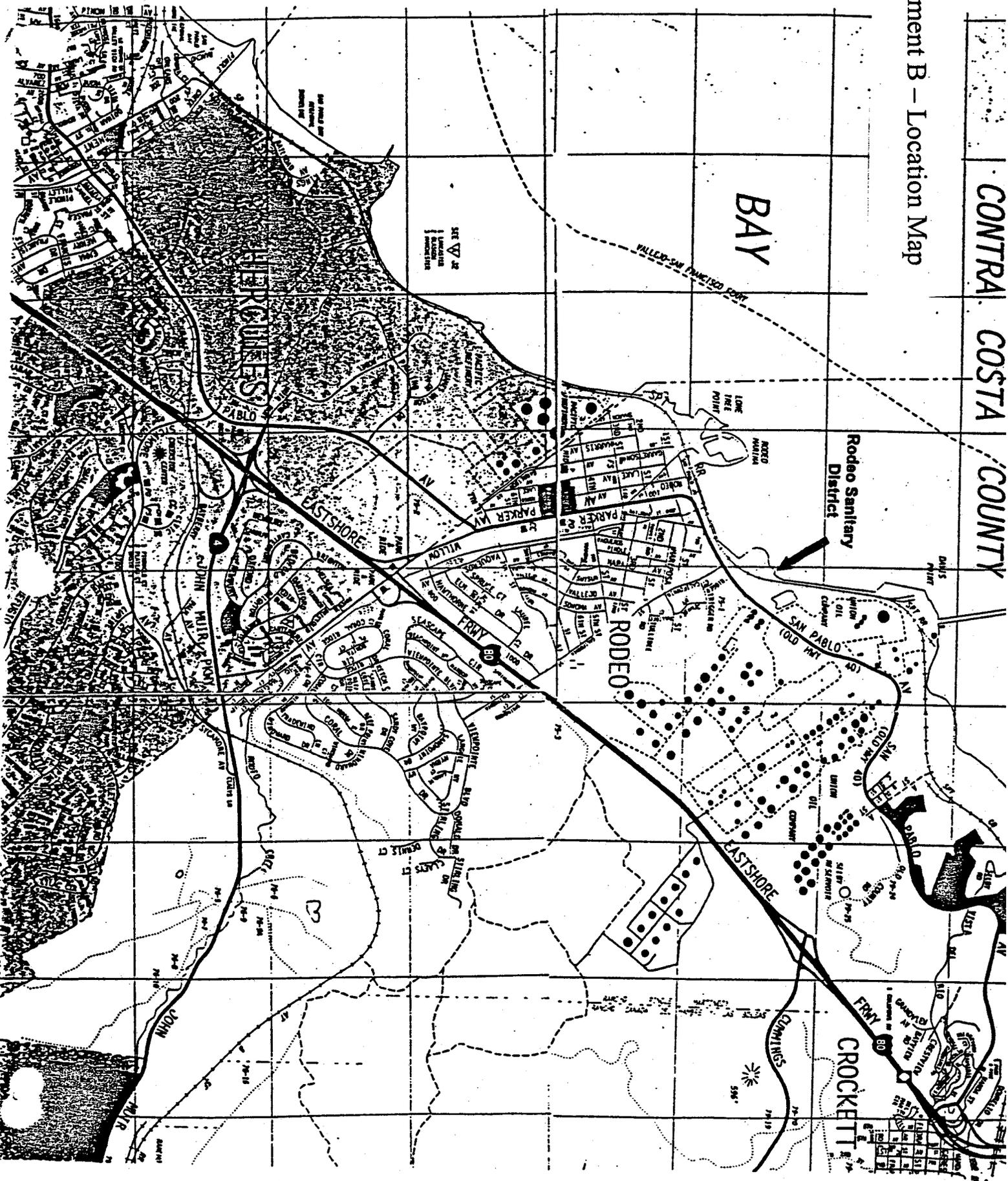
Maximum Daily Effluent Limitation (MDEL): the highest allowable daily discharge of a pollutant.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. 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 RL.

ATTACHMENT B – TOPOGRAPHIC MAP

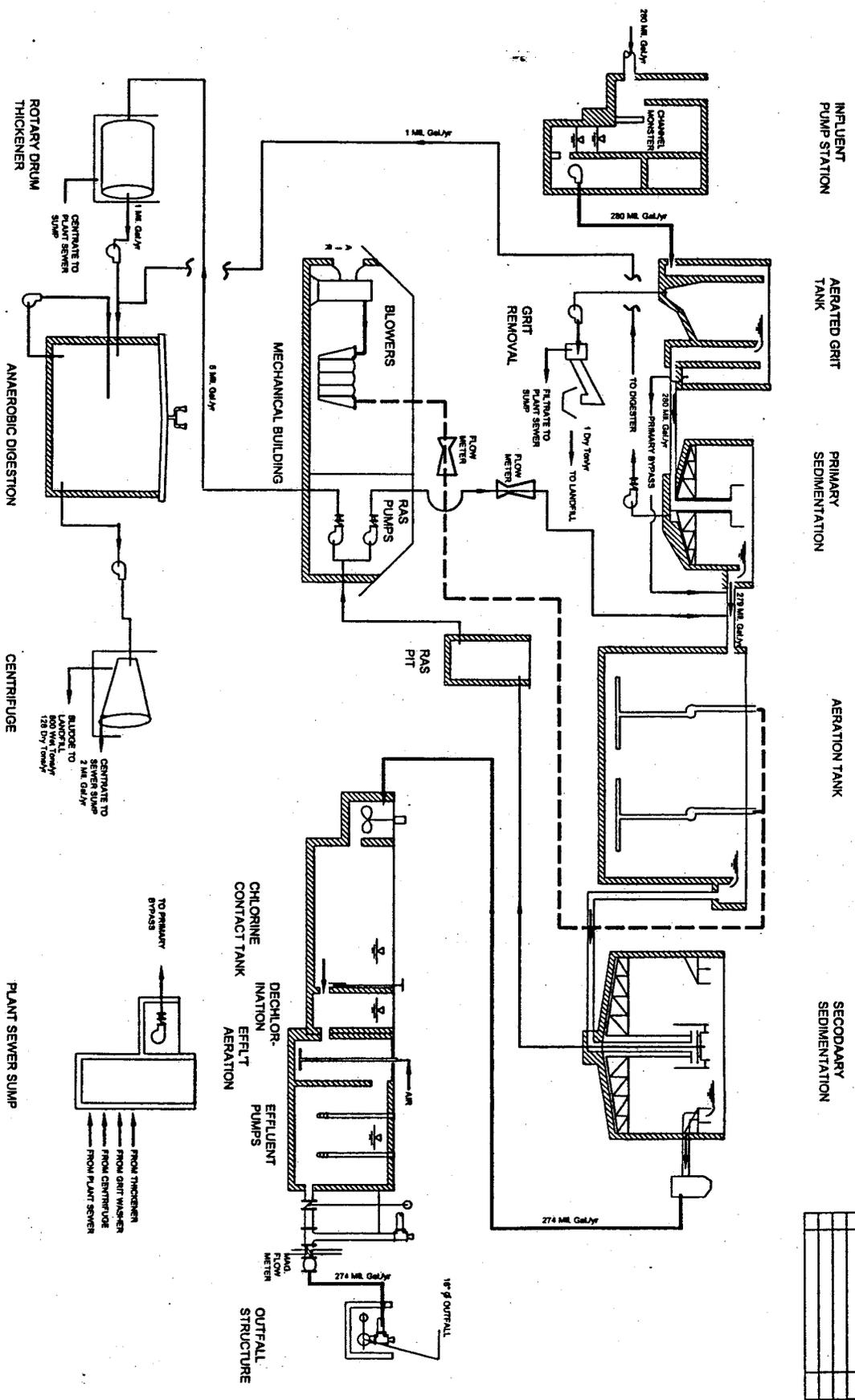
CONTRA COSTA COUNTY

Attachment B - Location Map



ATTACHMENT C – FLOW SCHEMATIC

Attachment C - Flow Schematic



REVISIONS	
NO.	DATE



DESIGN: M.D.
DRAWN: J.S.F.
CHECKED: S.M.E.
DATE: MAR. 78

JOB NUMBER: 2
ROBERT SANITARY DISTRICT
CONTROL COSTA COUNTY, CALIFORNIA

WASTEWATER TREATMENT PLANT

PROCESS SCHEMATIC

16" Ø OUTFALL

ATTACHMENT D – FEDERAL STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [40 CFR §122.41(a)].
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not been modified to incorporate the requirement [40 CFR §122.41(a)(1)].

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

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

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order [40 CFR §122.41(i)(1)];
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [40 CFR §122.41(i)(2)];
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [40 CFR §122.41(i)(3)];
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location [40 CFR §122.41(i)(4)].

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility [40 CFR §122.41(m)(1)(i)].
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [40 CFR §122.41(m)(1)(ii)].
2. Bypass not exceeding limitations – The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3 and I.G.5 below [40 CFR §122.41(m)(2)].
3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [40 CFR §122.41(m)(4)(i)]:

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [40 CFR §122.41(m)(4)(A)];
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [40 CFR §122.41(m)(4)(B)]; and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provision – Permit Compliance I.G.5 below [40 CFR §122.41(m)(4)(C)].
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above [40 CFR §122.41(m)(4)(ii)].
5. Notice
- a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass [40 CFR §122.41(m)(3)(i)].
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below [40 CFR §122.41(m)(3)(ii)].

H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph H.2 of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review [40 CFR §122.41(n)(2)].
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that [40 CFR §122.41(n)(3)]:

- a. An upset occurred and that the Discharger can identify the cause(s) of the upset [40 CFR §122.41(n)(3)(i)];
 - b. The permitted facility was, at the time, being properly operated [40 CFR §122.41(n)(3)(i)];
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b [40 CFR §122.41(n)(3)(iii)]; and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [40 CFR §122.41(n)(3)(iv)].
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [40 CFR §122.41(n)(4)].

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [40 CFR §122.41(j)(1)].
- B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [40 CFR §122.41(j)(4)] [40 CFR §122.44(i)(1)(iv)].

IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [40 CFR §122.41(j)(2)].
- B. **Records of monitoring information shall include:**
 - 1. The date, exact place, and time of sampling or measurements [40 CFR §122.41(j)(3)(i)];
 - 2. The individual(s) who performed the sampling or measurements [40 CFR §122.41(j)(3)(ii)];
 - 3. The date(s) analyses were performed [40 CFR §122.41(j)(3)(iii)];
 - 4. The individual(s) who performed the analyses [40 CFR §122.41(j)(3)(iv)];
 - 5. The analytical techniques or methods used [40 CFR §122.41(j)(3)(v)]; and
 - 6. The results of such analyses [40 CFR §122.41(j)(3)(vi)].
- C. **Claims of confidentiality for the following information will be denied [40 CFR §122.7(b)]:**
 - 1. The name and address of any permit applicant or Discharger [40 CFR §122.7(b)(1)]; and
 - 2. Permit applications and attachments, permits and effluent data [40 CFR §122.7(b)(2)].

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, SWRCB, or USEPA within a reasonable time, any information which the Regional Water Board, SWRCB, 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, SWRCB, or USEPA copies of records required to be kept by this Order [40 CFR §122.41(h)] [CWC 13267].

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, SWRCB, and/or USEPA shall be signed and certified in accordance with paragraph (2.) and (3.) of this provision [40 CFR §122.41(k)].
2. All permit applications shall be signed as follows:
 - a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures [40 CFR §122.22(a)(1)];
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively [40 CFR §122.22(a)(2)]; or
 - c. For a municipality, State, federal, or other public agency: 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, SWRCB, or USEPA shall be signed by a person described in paragraph (b) of this

provision, 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 paragraph (2.) of this provision [40 CFR §122.22(b)(1)];
 - b. The authorization specified 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, SWRCB, or USEPA [40 CFR §122.22(b)(3)].
4. If an authorization under paragraph (3.) of this provision 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 paragraph (3.) of this provision must be submitted to the Regional Water Board, SWRCB or USEPA 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 paragraph (2.) or (3.) of this provision 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 in this Order [40 CFR §122.41(l)(4)].
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or SWRCB 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 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, 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)].
 - c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [40 CFR §122.41(l)(6)(ii)(C)].
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours [40 CFR §122.41(l)(6)(iii)].

F. Planned Changes

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b) [40 CFR §122.41(l)(1)(i)]; or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [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 SWRCB 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 E.3, E.4, and E.5 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E [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, SWRCB, or USEPA, the Discharger shall promptly submit such facts or information [40 CFR §122.41(l)(8)].

VI. STANDARD PROVISIONS – ENFORCEMENT

- A. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than

one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Clean Water Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions [40 CFR §122.41(a)(2)] [CWC 13385 and 13387].

- B.** Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000 [40 CFR §122.41(a)(3)].
- C.** The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both [40 CFR §122.41(j)(5)].
- D.** The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both [40 CFR §122.41(k)(2)].

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 ($\mu\text{g/L}$) [40 CFR §122.42(a)(1)(i)];
 - b. 200 $\mu\text{g/L}$ for acrolein and acrylonitrile; 500 $\mu\text{g/L}$ for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [40 CFR §122.42(a)(1)(ii)];
 - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 CFR §122.42(a)(1)(iii)]; or
 - d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [40 CFR §122.42(a)(1)(iv)].
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [40 CFR §122.42(a)(2)]:
 - a. 500 micrograms per liter ($\mu\text{g/L}$) [40 CFR §122.42(a)(2)(i)];
 - b. 1 milligram per liter (mg/L) for antimony [40 CFR §122.42(a)(2)(ii)];
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 CFR §122.42(a)(2)(iii)]; or
 - d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [40 CFR §122.42(a)(2)(iv)].

B. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following [40 CFR §122.42(b)]:

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Sections 301 or 306 of the CWA if it were directly discharging those pollutants [40 CFR §122.42(b)(1)]; and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order [40 CFR §122.42(b)(2)].

Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW [40 CFR §122.42(b)(3)].

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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

I. GENERAL MONITORING PROVISIONS

- A. The Discharger shall comply with the MRP for this Order as adopted by the Regional Water Board, and with all of the requirements contained in Self-Monitoring Program, Part A, adopted August 1993 (SMP, **Attachment H**). The MRP and SMP may be amended by the Executive Officer pursuant to USEPA regulations 40 CFR 122.62, 122.63, and 124.5. If any discrepancies exist between the MRP and SMP, the MRP prevails.
- B. Sampling is required during the entire year when discharging. All analyses shall be conducted using current USEPA methods, or that have been approved by the USEPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5, or equivalent methods that are commercially and reasonably available, and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limitations and to perform reasonable potential analysis. Equivalent methods must be more sensitive than those specified in 40 CFR 136, must be specified in the permit, and must be approved for use by the Executive Officer, following consultation with the State Water Quality Control Board's Quality Assurance Program.
- C. Sampling and analysis of additional constituents is required pursuant to Table 1 of the Regional Water Board's August 6, 2001 Letter titled Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy.
- D. *Minimum Levels.* For compliance and reasonable potential monitoring, analyses shall be conducted using the commercially available and reasonably achievable detection levels that are lower than the WQOs/WQC or the effluent limitations, whichever is lower. The objective is to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to the Minimum Levels given below. All Minimum Levels are expressed as µg/L approximately equal to parts per billion (ppb).

Table E-1 lists the test method the Discharger may use for compliance and reasonable potential monitoring for the pollutants with effluent limits.

Table E-1. Test Methods and Minimum Levels for Pollutants with Reasonable Potential

CTR #	Constituent	Types of Analytical Methods [a]											
		Minimum Levels (µg/L)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGF AA	HYD RIDE	CVAF	DCP
8.	Mercury [b]								0.5			0.0005	
13.	Zinc					20		20	1	10			
14.	Cyanide				5								
	TCDD TEQ [c]	USEPA 1613, 5-50 pg/L											

Footnotes for Table E-1:

[a] Analytical Methods / Laboratory techniques are defined as follows:

- GC = Gas Chromatography;
- GCMS = Gas Chromatography/Mass Spectrometry;
- Color = Colorimetric;
- GFAA = Graphite Furnace Atomic Absorption;
- ICPMS = Inductively Coupled Plasma/Mass Spectrometry;
- SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e. EPA 200.9); and
- CVAF = Cold Vapor Atomic Fluorescence.

[b] The Discharger shall use ultra-clean sampling (USEPA 1669), and ultra-clean analytical methods (USEPA 1631) for mercury monitoring, which specifies an ML of 0.5 ng/l, or 0.0005 µg/l.

[c] The Discharger shall achieve MLs for 2,3,7,8-TCDD and all other 16 congeners using USEPA 1613 developed in collaboration with BACWA as levels that were achievable by BACWA participants (see BACWA Letter dated April 23, 2002). These MLs range from 5 to 50 pg/L.

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-2. Description of Monitoring Stations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	M-INF	At any point in the treatment facility's headworks at which all waste tributary to the system is present and preceding any phase of treatment.
001	M-001A	At the Rodeo Sanitary District Water Pollution Control Plant effluent wet well down stream of the dechlorination point (may be the same as M-001B)
001	M-001B	At any point in the treatment and disposal facilities following dechlorination. This location may be the same as M-001A, and is for performing the flow-through bioassay.
--	R-001	At any location in San Pablo Bay that is affected by the effluent discharge or overflows, including near the shoreline.
--	B-001	Biosolids monitoring.
--	P-001 through P-"n"	Located at the corners and midpoints of the perimeter fence-line surrounding the treatment facilities. (A sketch showing the location of the stations will accompany each annual report.)
--	O-001 through O-"n"	Bypass or overflow from manholes, pump stations, and collection systems.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location M-INF

1. The Discharger shall monitor influent to the facility at monitoring location M-INF as follows:

Table E-3. Influent Monitoring Requirements for Conventional Pollutants

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate [1]	MGD	Continuous	Continuous	
CBOD ₅ , 20°C [2]	mg/l	24-hr composite	1 time/week	
Total Suspended Solids	mg/l	24-hr composite	1 time/week	

Footnotes for Table E-3:

[1] and [2] – please refer to footnotes of Table E-4 below.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations M-001A and M-001B

1. The Discharger shall monitor its dechlorinated effluent in the wet well at monitoring location **M-001A** as follows:

Table E-4. Schedule of Sampling, Measurement, and Analysis

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate [1]	MGD	Continuous	Continuous
CBOD 5-day 20°C [2]	mg/L and kg/day	24-hr Composite	1 / week
Total Suspended Solids	mg/L and kg/day	24-hr Composite	1 / week
Oil and Grease [3]	mg/L and kg/day	24-hr Composite	1 / 2 weeks
Turbidity	NTU	Grab	1 / month
pH [4]	Std Units	Continuous	Continuous
Chlorine Residual [5]	mg/L	Continuous	Continuous
Total Coliform [6]	MPN/100 ml	Grab	3 / week
Dissolved Oxygen [7]	mg/L and % saturation	Grab	1 / day
Dissolved Sulfides [7]	mg/L	Grab	1 / day
Temperature	°F and °C	Continuous	Continuous
Mercury [8]	µg/L	C-24/Grab	1 / month
Zinc	µg/L	C-24	1 / month
Cyanide	µg/L	Grab	1 / month
2,3,7,8-TCDD and congeners [9]	µg/L	Grab	2 / year (1/wet, 1/dry season)
Ammonia Nitrogen [10]	mg/L as N	Grab	1 / week
Standard Observations	--	--	1 / week
All other priority pollutants	µg/L	According to the August 6, 2001 Letter	1 / year

Legend:

<u>C-24</u>	<u>24-hour composite</u>
1 / day	Once per day
1 / week	Once per week
3 / week	Three times per week
5 / week	Five times per week
1 / month	Once per month
1 / quarter	Once per quarter
2 / year	Twice per year

Footnotes for Table E-4:

[1] Flow Monitoring:

For effluent flows, the following information shall also be reported monthly:

Daily: Total Daily Flow Volume (MG)

Daily: Daily Average Flow (MG)

- Monthly: Monthly Average Flow (MGD)
- Monthly: Maximum Daily Flow (MGD)
- Monthly: Minimum Daily Flow (MGD)
- Monthly: Total Flow Volume (MG)

- [2] The percent removal for CBOD and TSS shall be reported for each calendar month in accordance with Effluent Limitation IV.A.1.a
- [3] Each oil & grease sampling event shall consist of a composite sample comprised of three grab samples taken at equal intervals during the sampling date, with each grab sample being collected in a glass container. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent as soon as possible after use, and the solvent rinsings shall be added to the composite sample for extraction and analysis.
- [4] If pH is monitored continuously; the minimum and maximum pH values for each day shall be reported in monthly self-monitoring reports.
- [5] Chlorine residual: The Discharger may record discrete readings from the continuous monitoring every hour on the hour, and report, on a daily basis, the maximum concentration observed following dechlorination. Total chlorine dosage (kg/day) shall be recorded on a daily basis (individual plants only).
- [6] When replicate analyses are made of a coliform sample, the reported result shall be the arithmetic mean of the replicate analysis sample.
- [7] Sulfide analysis shall be conducted when dissolved oxygen concentrations fall below 2.0 mg/L.
- [8] Mercury: The Discharger may, at its option, sample effluent mercury either as grab or as 24-hour composite samples. The Discharger shall use ultra-clean sampling (U.S. EPA 1669) to the maximum extent practicable and ultra-clean analytical methods (U.S. EPA 1631) for mercury monitoring. The Discharger may use alternative methods if the method has an ML of 5 ng/l or less, and approval is obtained from the Executive Officer prior to conducting the monitoring.
- [9] Chlorinated dibenzodioxins and chlorinated dibenzofurans shall be analyzed using the latest version of USEPA Method 1613; the Discharger shall collect 4-liter samples to lower the detection limits to the greatest extent practicable. Alternative methods of analysis must be approved by the Executive Officer.
- [10] Ammonia (as N) shall be measured as Total Ammonia; the unionized fraction shall be calculated based on the total ammonia, pH, total dissolved solids or salinity, and temperature.

2. The Discharger shall monitor its dechlorinated effluent for the purpose of flow-through bioassay at monitoring location **M-001B** as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency
Acute Toxicity [1]	% survival	Continuous	1 / month

[1] Acute bioassay test shall be performed in accordance with Section V.A of this MRP.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor acute toxicity at monitoring location M-001B as follows:

A. Whole Effluent Acute Toxicity

1. Compliance with the acute toxicity effluent limitations of this Order shall be evaluated by measuring survival of test organisms exposed to 96-hour continuous flow-through bioassays.
2. Test organisms shall be fathead minnows and rainbow trout unless specified otherwise in writing by the Executive Officer.
3. All bioassays shall be performed according to the most up-to-date protocols in 40 CFR Part 136, currently in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," 5th Edition.
4. If ammonia in the discharge can be demonstrated by the Discharger as being rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after the test samples are adjusted to remove the influence of ammonia. Written approval from the Executive Officer must be obtained to authorize such an adjustment.
5. Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If a violation of acute toxicity requirements occurs or if the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new batches of fish and shall continue back to back until compliance is demonstrated.

B. Chronic Toxicity

1. Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests, and definitions of terms used in the chronic toxicity monitoring are identified in Attachment G to this Order. The Discharger shall comply with these requirements, and conduct screening phase monitoring, as outlined in **Attachment G**. The Discharger may reduce the total number of required test species from 5 to 3 during stage one screening.

VI. LAND DISCHARGE MONITORING REQUIREMENTS (NOT APPLICABLE)

This Order does not specify land discharge monitoring requirements for the Discharger, as there is no direct land discharge from the Facility. Requirements for monitoring sludge are described in Section IX.

VII. RECLAMATION MONITORING REQUIREMENTS (NOT APPLICABLE)

This Order does not specify reclamation monitoring requirements for the Discharger, as there is no reclamation from the Facility.

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location R-001

1. The Discharger shall monitor San Pablo Bay at monitoring location R-001 as follows:

Table E-5. Receiving Water (San Pablo Bay) Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Standard Observations	--	Visual Observation	1 / month or each occurrence [1]

[1] “Each occurrence” means during a plant upset, spill, or overflow that potentially impacts the San Pablo Bay.

IX. OTHER MONITORING REQUIREMENTS

A. Sludge Monitoring (B-001)

The Discharger shall continue to analyze sludge as necessary to comply with the Regional Water Quality Control Board Standard Provisions (Attachment H), and Provision 7 of this Order.

B. Overflows and Bypasses (O-001 thru O-“n”)

The Discharger shall monitor bypass or overflows from manholes, pump stations, collection systems or any sludge drying bed areas.

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Standard Observations	--	observation	each occurrence	N/A

C. Land Observances (P-001 thru P-“n”)

The Discharger shall observe the periphery of the waste treatment or disposal facilities at P-001 thru P-“n” as follows:

Constituent	Units	Sample Type	Minimum Sampling Frequency	Required Test Method
Standard Observations	--	observation	each occurrence	N/A

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

B. Modifications to Part A of Self-Monitoring Program (Attachment H)

1. If any discrepancies exist between SMP Part A, August 1993 (**Attachment H**) and this MRP, this MRP prevails.
2. Sections C.3. and C.5. are satisfied by participation in the Regional Monitoring Program.
3. Amend Section E as Follows:

Records to be Maintained

Written reports, electronic records, strip charts, equipment calibration and maintenance records, and other records pertinent to demonstrating compliance with waste discharge requirements, including monitoring and reporting requirements, shall be maintained by the Discharger 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. These records shall be retained by the Discharger for a minimum of 3 years. This minimum period of retention 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 the USEPA, Region IX.

Records to be maintained shall include the following:

1. Parameter Sampling and Analyses, and Observations

For each sample, analysis, or observation conducted, records shall include the following:

- a. Parameter.
- b. Identity of sampling and observation stations, consistent with the station descriptions given in the MRP (**Attachment E**).
- c. Date and time of sampling and/or observations.
- d. Method of sampling (e.g., grab, composite, or other method).
- e. Date and time analyses are started and completed, and name of personnel or contract laboratory performing the analyses.
- f. Reference or description of procedure(s) and analytical method(s) used.

- g. Analytical method detection limits and related quantification parameters.
- h. Results of the analyses and/or observations.

2. Flow Monitoring Data

For all required flow monitoring (e.g., influent and effluent flows), records shall include the following:

- a. Total flow or volume, for each day.
- 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 and/or mass quantification of solids removed from each unit (e.g., grit, skimmings, undigested biosolids) for each calendar month.
 - 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 and/or mass quantification of dewatered biosolids for each calendar month.
 - 2) Solids content of the dewatered biosolids.
 - 3) Final disposition of dewatered biosolids (point of disposal location and disposal method).

4. Disinfection Process

For the disinfection process, records shall be maintained documenting process operation and performance, including the following:

For bacteriological analyses:

- 1) Date and time of each sample collected.
- 2) Wastewater flow rate at the time of sample collection.
- 3) Results of sample analyses (e.g., bacterial count).

- 4) Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in waste discharge requirements).

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. Date(s) and times of bypass beginning and end.
- c. Total bypass duration.
- d. Estimated total volume.
- e. Description of, or reference to other report(s) describing, the bypass event, the cause, corrective actions taken, and any additional monitoring conducted.

6. Collection System Overflows

4. Modify Section F.1 as follows:

1. Spill of Oil or Other Hazardous Material Reports

- a. A report shall be made of any spill of oil or other hazardous material.
- b. The spill shall be reported by telephone as soon as possible and no later than 24 hours following occurrence or Discharger's knowledge of occurrence. Spills shall be reported by telephone as follows:

During weekdays, during office hours of 8 am to 5 pm, to the Regional Water Board:
(510) 622-5633, (510) 622-2460 (FAX).

During weekends and non-office hours, to the State Office of Emergency Services:
(800) 852-7550.

- c. A written report shall be submitted to the Regional Water Board within five (5) working days following telephone notification, unless directed otherwise by Regional Water Board staff. A report submitted by facsimile transmission is acceptable for this reporting. The written report shall include the following:

[The rest of the section remains unchanged]

5. Modify Section F.2 (first paragraph) as follows:

2. Reports of Plant Bypass, Treatment Unit Bypass and Order Violation

The following requirements apply to all treatment plant bypasses and significant non-compliance occurrences, except for bypasses under the conditions contained in 40 CFR Part 122.41 (m)(4) as stated in Standard Provision A.13. In the event the Discharger violates or threatens to violate the conditions of the waste discharge requirements and prohibitions or intends to experience a plant bypass or treatment unit bypass due to:

[And add at the end of Section F.2 the following:]

The Discharger shall report in monthly and annual monitoring reports occurrence of blending events, their duration and certify that the blending was in compliance with effluent limits and O&M Plans.

6. Modify Section F.4 as follows:

Self-Monitoring Reports

For each calendar month, a self-monitoring report (SMR) shall be submitted to the Regional Water Board in accordance with the requirements listed in Self-Monitoring Program, Part A. The purpose of the report is to document treatment performance, effluent quality and compliance with waste discharge requirements prescribed by this Order, as demonstrated by the monitoring program data and the Discharger's operation practices.

[And add at the end of Section F.4 the following:]

g. If the Discharger wishes to invalidate any measurement, the letter of transmittal will include a formal request to invalidate the measurement; the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports the 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. The invalidation of a measurement requires the approval of Water Board staff and will be based solely on the documentation submitted at that time.

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 the process approved by the Executive Officer in a letter dated December 17, 1999, Official Implementation of Electronic Reporting System (ERS) and in the Progress Report letter dated December 17, 2000, or in a subsequently approved format that the Permit has been modified to include.

- 2) **Monthly or Quarterly Reporting Requirements:** For each reporting period (monthly or quarterly as specified in SMP Part B), an electronic SMR shall be submitted to the Regional Water Board in accordance with Section F.4.a-g. above. However, until USEPA approves the electronic signature or other signature technologies, Dischargers that are using the ERS must submit a hard copy of the original transmittal letter, an ERS printout of the data sheet, a violation report, and a receipt of the electronic transmittal.
- 3) **Annual Reporting Requirements:** Dischargers who have submitted data using the ERS for at least one calendar year are exempt from submitting an annual report electronically, but a hard copy of the annual report shall be submitted according to Section F.5 below.

7. Add at the end of Section F.5, Annual Reporting, the following:

- d. A plan view drawing or map showing the Discharger's facility, flow routing and sampling and observation station locations.

C. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit self-monitoring reports in accordance with the requirements described below.
2. The Discharger shall submit monthly Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Monthly reports shall be due no later than 30 days following the end of each calendar month. Annual reports shall be due on February 1 following each calendar year.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
Continuous	Day after permit effective date	All
1 / day	Day after 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 , 3/week, 5/week	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday
1 / month	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 st day of calendar month through last day of calendar month
1 / quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
2 / year	January 1 following (or on) permit effective date	One during November 1 through April 30 One during May 1 through October 31
1 / 5 years	Within three years of permit expiration date	any
Each Occurrence	Anytime during the discharge event or as soon as possible after aware of the event	At a time which sampling can characterize the discharge event

4. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

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

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

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
- d. The Dischargers shall instruct laboratories to establish calibration standards so that the RL value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. The Discharger shall not use

analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

5. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations.
6. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the standard provisions (Attachment D), to the address listed below:

San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn: NPDES Division
8. The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. The Electronic Reporting System (ERS) format includes, but is not limited to, a transmittal letter, summary of violation details and corrective actions, and transmittal receipt. If there are any discrepancies between the ERS requirements and the "hard copy" requirements listed in the MRP, then the approved ERS requirements supersede.

D. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit discharge monitoring reports (DMRs) in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy of the DMR to the address listed below:

State Water Resources Control Board
Discharge Monitoring Report Processing Center
Post Office Box 671
Sacramento, CA 95812
3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.

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ATTACHMENT F – FACT SHEET

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	2 071039001
Discharger	Rodeo Sanitary District
Name of Facility	Rodeo Sanitary District Water Pollution Control Facility and its collection system
Facility Address	800 San Pablo Avenue
	Rodeo, California 94572
	Contra Costa County
Facility Contact, Title and Phone	Steven S. Beall, Engineer-Manager, 510-799-2970
Authorized Person to Sign and Submit Reports	Steven S. Beall, Engineer-Manager
Mailing Address	Same as above
Billing Address	Same as above
Type of Facility	POTW
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	No
Reclamation Requirements	None
Facility Permitted Flow	1.14 million gallons per day (MGD)
Facility Design Flow	1.14 million gallons per day (MGD)
Watershed	San Pablo Bay Basin
Receiving Water	San Pablo Bay
Receiving Water Type	Estuarine

- A. Rodeo Sanitary District (hereinafter Discharger) is the owner and operator of Rodeo Sanitary District Water Pollution Control Facility (hereinafter Facility) a POTW.
- B. The Facility discharges wastewater to San Pablo Bay, a water of the United States and is currently regulated by Order No. 01-107 which was adopted on October 1, 2001 and expires on September 30, 2006. By letter dated May 17, 2006, the Water Board administratively extended the terms and conditions of Order No. 01-107.

- C. The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on March 30, 2006. Supplemental Information was requested on May 2, 2006 and received on May 9, 2006.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

1. Service Area and Population and collection system: The Facility provides secondary level treatment for domestic wastewater collected within the boundaries of the Rodeo Sanitary District service area in Cities of Rodeo (population of 8,717) and Tormey (approximate population of 30). The system consists of approximately 25 miles of sewer pipes and two pump stations. The Discharger has indicated the Rodeo Sanitary District is currently built-out, and so the service population is not expected to significantly change over time.
2. Wastewater Treatment Process: The wastewater treatment process at the facility consists of communicators at the influent pump station, grit removal (aerated), primary clarification (one primary clarifier), activated sludge biological treatment (one aeration basin), secondary clarification (two secondary clarifiers), disinfection with sodium hypochlorite, dechlorination with sodium bisulfite, and effluent disposal via an effluent pump station to a shared deep water outfall.
3. Discharge Volume and Plant Capacity: The treatment plant has an average dry weather flow design capacity of 1.14 million gallons per day (mgd), and can treat up to 3.34 mgd during peak wet weather flows. The Discharger's Report of Waste Discharge indicates an average dry weather flow of about 0.64 mgd, and an annual average effluent flow of about 0.77 mgd. This is less than indicated in the prior permit (dry weather flow was about 0.8 mgd, and the annual average effluent flow was 0.88 mgd). The Discharger believes that the unexpected decrease in discharge volume is the result from a switch to a new magnetic flow meter, which is reportedly more accurate than the previous parshall flume meter. Through a Waste Treatment Plant Capacity Study, dated March 30, 2006, the Discharger has formally requested that its design capacity be increased to 1.5 mgd, because it believes the facility treatment upgrades it has undertaken since 2000 has increased the capacity.
4. Sludge Treatment Process: Sludge from plant operations is anaerobically digested, and sent to a centrifuge for dewatering. The dewatered sludge is currently disposed of at a landfill in Richmond in Contra Costa County.

B. Discharge Points and Receiving Waters

1. Discharge Location: Treated wastewater (Waste 001) is currently discharged into San Pablo Bay, a water of the State and the United States, through a submerged deepwater diffuser about 3,600 feet offshore at a depth of about 18 feet below mean lower low water (Latitude 38°03'06"; Longitude 122°14'55"). The outfall (E-001) is used jointly by Rodeo and the Cities of Pinole and Hercules.

2. Replacement of Eductor Station: Prior to 2005, an eductor was used to draw Rodeo's treated wastewater to the combined deepwater outfall, by utilizing the motive force of Pinole-Hercules' effluent which had acquired velocity from flowing downhill. The capacity of the old eductor station during winter months was often exceeded, forcing the City of Pinole to use its shallow water outfall, against the prohibitions of their permit, and sometimes causing a manhole and/or sludge removal sump at the Discharger's treatment plant to overflow. To address this problem, the Discharger in 2005 completed a new effluent pump station with the capacity to convey peak wet weather flows. The effluent pump station consists of two low flow pumps with a capacity of about 1.2 mgd each and two high capacity pumps with the capacity of about 5 mgd each. The eductor and the pressure sustaining valve were also removed as part of this project. Pumping primarily occurs during wet weather periods. Gravity operation occurs generally 80 percent of the year. The Discharger indicates the removal of the pressure-sustaining valve of the old system has increased the capacity of the land outfall from the Pinole-Hercules plant, and the Discharger now believes Pinole-Hercules has adequate capacity for discharge during high intensity storm events (as was seen during the 2005-2006 wet weather season).
3. There are viable shellfish beds in San Pablo Bay that could be affected by the discharged wastewater. To protect the shellfish beds, the Board has required, and will continue to require, that the wastewater receive an initial dilution of at least 45:1 in the receiving water.

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

Effluent limitations contained in Order No. 01-107 for discharges from the Discharger's outfall (Monitoring Location M-001) and representative monitoring data from the term of the previous Order are shown in Tables F-2 and F-3 below.

Table F-2. Historic Conventional Substances Effluent Limitations and Monitoring Data

Parameter	(units)	Effluent Limitations			Monitoring Data (a)	
		Monthly Average	Weekly Average	Instantaneous Maximum	Mean Discharge	Maximum Discharge
CBOD ₅	mg/L	25	40	--	<6.2	17
TSS	mg/L	30	45	--	<6.9	21
Settleable Matter	ml/L-hr	0.1	--	0.2	<0.1	2.0
Total Chlorine Residual	mg/L	--	--	0.0	<0.0	4.8
pH		6.0 to 9.0			--	6.3 to 7.8
Total coliform	MPN/100 ml	240[1]	--	10,000	<65	1,600

Footnotes

- (a) CBOD₅, TSS, pH, and Total coliform are from the Report of Waste Discharge. Total Chlorine Residual and Settleable Matter are from Self-Monitoring Reports, January 2004 to December 2005.

Table F-3. Historic Toxic Substances Effluent Limitations and Monitoring Data

Parameter	Units	Water Quality-Based Effluent Limits (WQBELs)		Interim Limits		Monitoring Data (From 2001 To 2006)	
		Daily Maximum	Monthly Average	Daily Maximum	Monthly Average	Mean Discharge	Maximum Discharge
Copper	µg/L	37	17			4.4 (a)	8
Mercury	µg/L			0.087		0.0049 (a)	0.014
Cyanide	µg/L			12		<3.0 (b)	8.0

Footnotes

- (a) Mean Discharge values include Non-detected and Detected but Not Quantified (DNQ) values in the computation. DNQs were assumed to be at the reported values. For ND data the MDL value was used in the calculation.
- (b) Because 62 percent of cyanide measurements were non-detected, the median (<3.0 µg/L) is given here, instead of the average, which is more sensitive to non-detected values.

D. Compliance Summary

1. Compliance with Numeric Effluent Limits.

During the permit term of Order No. 01-107, from October 2001, to March 2006, the Discharger had 25 violations of numeric effluent limitations. This involved eleven total residual chlorine violations, eight total coliform violations, one oil and grease violation, and five settleable solids violations. As described below, the Discharger has plans in 2006 to acquire a Supervisory Control and Data Acquisition (SCADA) system, and a new chemical feed tank system, that will reportedly resolve the residual chlorine and total coliform violations.

2. Compliance with Permit Provisions.

During the permit term of Order No. 01-107, the Discharger was unable to consistently comply with the requirement to report the daily discharge flow rate. This is because during wet weather, the flows sometimes exceeded the maximum range of the flow meter of 3 MGD. To address this violation, the Discharger installed a new effluent pump station, which allows it to measure flows up to 5 mgd (before installation of the pump station, the Discharger's parshall flume would be submerged).

3. Compliance with Submittal of Self-Monitoring Reports. The Discharger submitted all Self-Monitoring Reports on or before the due date during the term of Order No. 01-107.

E. Planned Changes

- 1. **Purpose.** The Discharger is currently implementing modification and improvement of the Facility. The purpose of the improvements is to ensure better or continued adequate and reliable treatment and management of current and anticipated future wastewater flows.

2. New Plant and Process.

- a. Chemical Feed and Storage System: This project replaces the 1,000 gallon sodium hypochlorite and sodium bisulfite tanks and temporary pumping facilities with 3,500 gallon tanks, new pumping equipment, all new double contained feed piping, and a new chemical pump building. This project was scheduled to be complete in June 2006.
- b. Supervisory Control And Data Acquisition (SCADA): The Discharger, prior to this project, has not had a SCADA computer system. This project will place automated/manual control of the influent pump station, effluent pump station, and the chemical storage and feed system on a computer in the operations building. Coupled with this project is the conversion of all Discharger's alarming to a SCADA-monitored and controlled auto dialing call out system. Project completion was scheduled for June 2006.
- c. Collection System Rehabilitation Project: The Collection System Rehabilitation Project is designed to be the first step in complying with the Regional Water Board's and the State Water Board's requirements for Sanitary Sewer Overflow reduction. This project will include but not be limited to: (1) Rehabilitation of sewer lines to reduce Inflow and Infiltration; (2) Installation of a 600 foot bypass on 3rd Street; (3) Installation of 200 feet of new line in Investment Street to alleviate a structural deficiency; (4) Development and implementation of a Private Lateral Condition Ordinance. The projected completion date for this project is spring 2007.
- d. Miscellaneous Plans: Although none of the following projects are scheduled, the Discharger also has future plans to:
 - (1) Replace the secondary clarifier mechanisms
 - (2) Construct a new headworks and primary clarifier
 - (3) Rehabilitate the influent pump station and replace the influent force main
 - (4) Install a new digester heating boiler
 - (5) Continue the collection system rehabilitation

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed 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 Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste

Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.

B. California Environmental Quality Act (CEQA)

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC.

C. State and Federal Regulations, Policies, and Plans

- 1. Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the San Francisco Bay Basin (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan.
- 2. Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.
- 3. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995 and November 9, 1999, and the CTR on May 18, 2000, which was amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.
- 4. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- 5. Antidegradation Policy.** Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation

policy. Resolution 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16.

6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All effluent limitations in the Order are at least as stringent as the effluent limitations in the previous Order.
7. **Monitoring and Reporting Requirements**
Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement Federal and State requirements. This MRP is provided in Attachment E of this Order. The MRP may be amended by the Executive Officer pursuant to USEPA regulation 40 CFR 122.62, 122.63, and 124.5.
8. **Federal Water Pollution Control Act.**
Water quality objectives (WQOs) and water quality criteria (WQC), effluent limitations, and calculations contained in this Order are also based on Sections 201 through 305, and 307 of The Federal Water Pollution Control Act, and amendments thereto, as applicable.

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

On June 6, 2003, the USEPA approved a revised list of impaired water bodies prepared by the State (hereinafter referred to as the 303(d) list), prepared pursuant to provisions of Section 303(d) of the Federal CWA requiring 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. San Pablo Bay is listed as an impaired waterbody. The pollutants impairing San Pablo Bay include chlordane, DDT, diazinon, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, nickel, PCBs, dioxin-like PCBs, and selenium. The SIP requires final effluent limitations for all 303(d)-listed pollutants to be consistent with total maximum daily loads and associated waste load allocations.

1. Total Maximum Daily Loads

The Regional Water Board plans to adopt Total Maximum Daily Loads (TMDLs) for pollutants on the 303(d) list in San Pablo Bay within the next ten years. Future review of the 303(d)-list for San Pablo Bay may result in revision of the schedules or provide schedules for other pollutants.

2. Waste Load Allocations

The TMDLs will establish waste load allocations (WLAs) for point sources and load allocations (LAs) for non-point sources, and will result in achieving the water quality standards for the waterbodies. Final WQBELs for 303(d)-listed pollutants in this discharge will be based on WLAs contained in the respective TMDLs.

3. Implementation Strategy

The Regional Water Board's strategy to collect water quality data and to develop TMDLs is summarized below:

- a. **Data Collection.** The Regional Water Board has given the dischargers the option to collectively assist in developing and implementing analytical techniques capable of detecting 303(d)-listed pollutants to at least their respective levels of concern or WQOs/WQC. This collective effort may include development of sample concentration techniques for approval by the USEPA. The Regional Water Board will require dischargers to characterize the pollutant loads from their facilities into the water-quality limited waterbodies. The results will be used in the development of TMDLs, and may be used to update or revise the 303(d) list or change the WQOs/WQC for the impaired waterbodies including Lower San Francisco Bay.
- b. **Funding Mechanism.** The Regional Water Board has received, and anticipates continuing to receive, resources from Federal and State agencies for TMDL development. To ensure timely development of TMDLs, the Regional Water Board intends to supplement these resources by allocating development costs among dischargers through the RMP or other appropriate funding mechanisms.

E. Other Plans, Polices and Regulations

This Order is also based on the following plans, polices, and regulations:

1. The Federal *Water Pollution Control Act*, Sections 301 through 305, and 307, and amendments thereto, as applicable (CWA);
2. The State Water Board's March 2, 2000 *Policy for the USEPA's May 18, 2000 Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* or CTR, 40 C.F.R. §131.38(b) and amendments,;
3. The USEPA's *Quality Criteria for Water* [EPA 440/5-86-001, 1986] and subsequent amendments (the USEPA Gold Book);
4. Applicable Federal Regulations [40 CFR §§ 122 and 131];
5. 40 CFR §131.36(b) and amendments [Federal Register Volume 60, Number 86, 4 May 1995, pages 22229-22237];

6. USEPA's December 10, 1998 National Recommended Water Quality Criteria compilation [Federal Register Vol. 63, No. 237, pp. 68354-68364];
7. USEPA's December 27, 2002 Revision of National Recommended Water Quality Criteria compilation [Federal Register Vol. 67, No. 249, pp. 79091-79095]; and
8. Guidance provided with State Water Board Orders remanding permits to the Regional Water Board for further consideration.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

Several specific factors affecting the development of limitations and requirements in this Order are discussed as follows:

A. Discharge Prohibitions

1. **Prohibition III.A (no discharges other than as described in the Permit):** This condition prohibits discharging wastewater in a manner different from that described in the findings of this Order. It is the same as the previous permit and based on CWC Section 13260, which requires filing of a report of waste discharge before discharges can occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore discharges not described in this Order are prohibited.
2. **Prohibition III.B (no discharge receiving less than 45:1 dilution):** This condition prohibits discharges not receiving 45:1 dilution. There are viable shellfish beds in San Pablo Bay that could be affected by the discharged wastewater. To protect the shellfish beds, the Board has required, and will continue to require, that the wastewater receive an initial dilution of at least 45:1 in the receiving water. It is based on the previous permit condition. The Basin Plan (Chapter 4, Discharge Prohibition No. 1) also requires a minimum dilution of 10:1. This Order grants a 10:1 dilution credit for the discharge (see later sections), and some effluent limits are calculated based on this credit. As such, these

limits would not be protective if the discharge did not achieve 10:1 dilution, therefore necessitating the prohibition.

3. Discharge Prohibition III.C (no bypass of untreated or partially treated wastewaters:

This prohibition is based on the Basin Plan. The Basin Plan prohibits the discharge of partially treated and untreated wastes (Chapter 4, Discharge Prohibition No.15). This prohibition is based on general concepts contained in Sections 13260 through 13264 of the CWC that relate to the discharge of waste to State waters without filing for and being issued a permit. Under certain circumstances, as stated in 40 CFR §122.41(m), facilities may bypass waste streams to waters of the State in order to prevent loss of life, personal injury, or severe property damage, or if there were no feasible alternatives to the bypass and the Discharger submitted notices of the anticipated bypass to waters of the State.

4. Discharge Prohibition III.D. (average dry weather flow not to exceed dry weather design capacity): This prohibition is based on the historic and tested reliable treatment capacity of the plants. Exceedance of the treatment plants' average dry weather flow design capacity may result in lowering the reliability of achieving compliance with water quality requirements.

5. Discharge Prohibition III.e. (no nuisance shall be caused by the discharge): This prohibition is based on the Basin Plan.

B. Technology-Based Effluent Limitations

1. Scope and Authority

The Code of Federal Regulations (CFR) at 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on Secondary Treatment Standards at 40 CFR §133. Permit effluent limitations for conventional pollutants are technology-based. Technology-based effluent limitations are put in place to ensure that full secondary treatment is achieved by the wastewater treatment facility, as required under 40 CFR §133.102. Effluent limitations for these conventional pollutants are defined by the Basin Plan, Table 4-2. Further, these conventional effluent limits are the same as those from the previous permit for the following constituents:

- Carbonaceous Biochemical oxygen demand (CBOD),
- CBOD percent removal,
- Total suspended solids (TSS),
- TSS percent removal,
- pH,
- Oil and grease, and
- Total chlorine residual.

The settleable solids effluent limitations are no longer required per the 2004 Basin Plan amendment.

2. Applicable Technology-Based Effluent Limitations

Technology-based effluent limitations for the outfall (001) are summarized below.

Table F-4. Summary of Technology-based Effluent Limitations Discharge Point 001 (Effluent Limitations IV.A.1)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Carbonaceous Biochemical Oxygen Demand (CBOD)	mg/L	25	40	--	--	--
CBOD ₅ percent removal	%	85	--	--	--	--
Total Suspended Solids (TSS)	mg/L	30	45	--	--	--
TSS percent removal	%	85				
pH	standard units	--	--	--	6.0	9.0
Oil and Grease	mg/L	10	--	20	--	--
Total Chlorine Residual	mg/L	--	--	--	0.0	0.0

- a. *CBOD*. This effluent limitation is unchanged from the previous permit, and is based on the Basin Plan (Chapter 4, Table 4-2).
- b. *TSS*. This effluent limitation is unchanged from the previous permit, and is based on the Basin Plan (Chapter 4, Table 4-2).
- c. *CBOD and TSS Percent Removal*. The effluent limitations for CBOD and TSS monthly removal are technology-based. They are unchanged from the previous permit and are based on Basin Plan requirements, derived from federal requirements (40 CFR §133.102; definition in §133.101). Compliance has been demonstrated by existing Facility performance.
- d. *pH*. This effluent limitation is unchanged from the previous permit, and is based on the Basin Plan (Chapter 4, Table 4-2).

Pursuant to 40 CFR 401.17, pH effluent limitations under continuous monitoring, the Discharger shall be in compliance with the pH limitation specified herein, provided that both of the following conditions are satisfied: (i) The total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26

minutes in any calendar month; and (ii) No individual excursion from the range of pH values shall exceed 60 minutes.

- e. *Oil and grease*. This effluent limitation is based on the Basin Plan (Chapter 4, Table 4-2).
- f. *Total Chlorine Residual*. This effluent limitation is unchanged from the previous permit, and is based on the Basin Plan (Chapter 4, Table 4-2).
- g. Effluent Limit IV.A.2 (*Total Coliform Bacteria*). This effluent limit requires that the Most Probable Number (MPN) of total Coliform bacteria in any five (5) consecutive samples shall not exceed 240 MPN/100ml; and any single sample shall not exceed 10,000 MPN/100ml. It is based on the existing permit and Basin Plan (Chapter 4, Table 4-2).

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

- a. As specified in section 122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have the reasonable potential to cause, or contribute to an in-stream excursion above any state water quality standard. WQBELs in this Order are revised and updated from the limitations in the previous permit, and their presence in this Order is based on an evaluation of the Discharger's data as described below under the Reasonable Potential Analysis. Under State Law (SIP) numeric WQBELs are required for all constituents that have a reasonable potential to cause or contribute to an excursion above any State water quality standard. Reasonable potential is determined and final WQBELs are developed using the methodology outlined in the SIP. If the Discharger demonstrates that the final limitations will be infeasible to meet and provides justification for a compliance schedule, then interim limitations are established, with a compliance schedule to achieve the final limits.
- b. Maximum Daily Effluent Limitations (MDELs) are used in this permit to protect against acute water quality effects. It is impracticable to use weekly average limitations to guard against acute effects. Although weekly averages are effective for monitoring the performance of biological wastewater treatment plants, the MDELs are necessary for preventing fish kills or mortality to aquatic organisms, as further explained in subsections c through e, below.
- c. NPDES regulations, the SIP, and USEPA's Technical Support Document (TSD) provide the basis to establish MDELs. NPDES regulations at 40 CFR §122.45(d) state:

“For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as:

- (1) Maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works; and
 - (2) Average weekly and average monthly discharge limitations for POTWs.”
(Emphasis added.)
- d. The amended SIP (p. 8, Section 1.4) requires that WQBELs be expressed as MDELs and average monthly effluent limitations (AMELs). For aquatic life-based calculations (only), the amended SIP indicates MDELs are to be used in place of average weekly limitations for POTWs.
- e. The TSD (p. 96) states that a maximum daily limitation is appropriate for two reasons:
- (1) The basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards.
 - (2) The 7-day average, which could be comprised of up to seven or more daily samples, could average out peak toxic concentrations, and therefore the discharge’s potential for causing acute toxic effects would be missed. A maximum daily limitation would be toxicologically protective of potential acute toxicity impacts.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

- a. *Applicable Beneficial Uses.* Beneficial uses applicable to San Pablo Bay are from the Basin Plan and are as follows:

Table F-5. Basin Plan Beneficial Uses of San Pablo Bay

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	San Pablo Bay	<p><u>Existing:</u></p> <ul style="list-style-type: none"> - Ocean, commercial, and sport fishing (COMM) - Estuarine habitat (EST) - Industrial service supply (IND) - Fish migration (MIGR) - Navigation (NAV) - Preservation of rare and endangered species (RARE) - Water contact recreation (REC-1) - Non-contact recreation (REC-2) - Shellfish harvesting (SHELL) - Fish spawning (SPWN) - Wildlife habitat (WILD). <p><u>Potential:</u> None</p>

b. The WQOs/WQC applicable to the receiving water of this discharge are from the Basin Plan, CTR, and NTR.

(1) The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic, cadmium, chromium (VI), copper in fresh water, and lead, mercury, nickel, silver, zinc, and total polynuclear aromatic hydrocarbons (PAHs) in salt water. The narrative toxicity objective states in part “[a]ll waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.” The bioaccumulation objective states in part “[c]ontrollable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered.” Effluent limitations and provisions contained in this Order are designed to implement these objectives, based on available information.

(2) The CTR specifies numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries such as San Francisco Bay, except where the Basin Plan’s Tables 3-3 and 3-4 specify numeric objectives for certain of these priority toxic pollutants. The Basin Plan’s numeric objectives apply over the CTR (except in the South Bay south of the Dumbarton Bridge).

(3) The NTR established numeric aquatic life criteria for selenium, numeric aquatic life and human health criteria for cyanide, and numeric human health criteria for 34

toxic organic pollutants for waters of San Francisco Bay upstream to, and including, Suisun Bay and the Sacramento-San Joaquin Delta. This includes the receiving water for this Discharger.

- c. Where RP exists, but numeric WQOs/WQC have not been established or updated in the Basin Plan, CTR, or NTR, 40 CFR §122.44(d) and Chapter 4 of the Basin Plan specify that WQBELs may be set based on USEPA criteria, supplemented where necessary by other relevant information, to attain and maintain narrative WQC to fully protect designated beneficial uses. This Fact Sheet discusses the specific bases and rationales for the effluent limitations, and is incorporated as part of the Order.
- d. *Basin Plan Amendment.* On January 21, 2004, the Regional Water Board adopted Resolution No. R2-2004-0003 amending the Basin Plan to (1) update the dissolved WQOs for metals to be identical to the CTR WQC except for cadmium; (2) to change the Basin Plan definitions of marine, estuarine and freshwater to be consistent with the CTR definitions; (3) to update NPDES implementation provisions to be consistent with the SIP; (4) to remove settleable matter effluent limitations for POTWs, and other editorial changes. Subsequent to approval by the State Water Resources Control Board (State Water Board) and the Office of Administrative Law (OAL) (July 22, 2004, and October 4, 2004, respectively), USEPA approved the amendment on January 5, 2005.
- e. *Basin Plan and CTR Receiving Water Salinity Policy.* The Basin Plan and CTR state that the salinity characteristics (i.e., freshwater versus saltwater) of the receiving water shall be considered in determining the applicable WQOs/WQC. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than 1 ppt at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to waters with salinities in between these two categories, or tidally influenced fresh waters that support estuarine beneficial uses, the criteria shall be the lower of the salt- or freshwater criteria (the freshwater criteria for some metals are calculated based on ambient hardness) for each substance.
- f. *Receiving Water Salinity.* The receiving water for the subject discharge is San Pablo Bay, which is a tidally influenced waterbody, with significant fresh water inflows during the wet weather season. It is characterized by the RMP station nearest to the discharge location, Davis Point. It is classified as estuarine by the CTR, since it is not fresh water (greater than 4.1 ppt 87 percent of time), nor is it salt water (greater than 9.9 ppt less than 52.2 percent of time). The statistical values are derived from 23 measurements at Davis Point from March 1993 through August 2001, as shown in Table A below. As a result, this Order's Reasonable Potential Analysis (RPA) and effluent limitations are based on the lower of the marine and fresh water WQOs/WQC.

Table F-6. Salinity Measurements at Davis Point

Station	Date	Salinity (by SCT) (o/oo)	Rank	Percentile
Davis Point	1/27/97	0	1	4.3%
Davis Point	2/2/98	0.6	2	8.7%
Davis Point	4/19/95	4.2	3	13.0%
Davis Point	2/12/96	4.5	4	17.4%
Davis Point	4/14/98	4.7	5	21.7%
Davis Point	2/8/99	5.5	6	26.1%
Davis Point	4/22/96	8	7	30.4%
Davis Point	3/4/93	8.4	8	34.8%
Davis Point	5/26/93	8.9	9	39.1%
Davis Point	2/13/95	9	10	43.5%
Davis Point	2/7/00	9.9	11	47.8%
Davis Point	4/19/99	12.5	12	52.2%
Davis Point	7/27/98	13.8	13	56.5%
Davis Point	7/23/96	14.8	14	60.9%
Davis Point	8/21/95	16.3	15	65.2%
Davis Point	2/8/94	18.5	16	69.6%
Davis Point	4/26/94	19.7	17	73.9%
Davis Point	9/15/93	20	18	78.3%
Davis Point	8/4/97	20	19	82.6%
Davis Point	7/17/00	20.7	20	87.0%
Davis Point	8/22/94	22.5	21	91.3%
Davis Point	8/6/01	23.1	22	95.7%
Davis Point	7/19/99	30	23	100.0%

- g. *Receiving Water Hardness.* Some metal WQOs/WQC are hardness dependent. In determining the WQOs/WQC for this Order, the Board used a hardness of 48 mg/L as calcium carbonate. This is the lowest of the 12 measurements taken from April 1995 through August 2001, at the RMP Davis Point sampling station, as shown in Table B below. Due to the few number of measurements, the lowest value was selected to ensure protection of the environment.

Table F-7. Hardness Measurements at Davis Point

Station	Date	Cruise	Hardness (mg/L)
Davis Point	4/19/95	1995-04	630
Davis Point	2/12/96	1996-02	780
Davis Point	1/27/97	1997-01	48
Davis Point	2/2/98	1998-01	194
Davis Point	4/14/98	1998-04	828
Davis Point	2/8/99	1999-02	1080
Davis Point	4/19/99	1999-04	2100
Davis Point	7/19/99	1999-07	3640
Davis Point	2/7/00	2000-02	1780
Davis Point	7/17/00	2000-07	3700
Davis Point	2/12/01	2001-02	3550
Davis Point	8/6/01	2001-08	4200

3. Determining the Need for WQBELs

- a. As specified in 40 CFR §122.44(d)(1)(i), permits are required to include WQBELs for all pollutants “which the Director 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.” Using the method prescribed in Section 1.3 of the SIP, the Regional Water Board has analyzed the effluent data to determine whether the discharge, which is the subject of this Order, has a reasonable potential to cause or contribute to an excursion above an applicable water quality standard (reasonable potential analysis or RPA). For all parameters that have reasonable potential, numeric WQBELs are required. The RPA compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric WQC from the NTR and the CTR.
- (1) *WQOs and WQC.* The RPA uses Basin Plan WQOs, including narrative toxicity objectives in the Basin Plan and applicable WQC in the CTR/NTR.
 - (2) *Methodology.* The RPA uses the methods and procedures prescribed in Section 1.3 of the SIP. Regional Water Board staff has analyzed the effluent and background data and the nature of facility operations to determine if the discharge has reasonable potential to cause or contribute to exceedences of applicable WQOs or WQC. **Attachment 3** of this Fact Sheet shows the step-wise process described in Section 1.3 of the SIP.
 - (3) Ambient background values are used in the reasonable potential analysis and in the calculation of effluent limitations. The receiving water concentration data at the Yerba Buena Island station is based on two primary sources: the Regional Monitoring Program (RMP), and the BACWA San Francisco Bay Ambient Water Monitoring Interim Report (May 16, 2003). The RMP measurements are from 1993 through 2001. The BACWA measurements (from 2002 through 2003) supplement the RMP data for those priority pollutants not measured or adequately measured by the RMP.
- b. *Reasonable Potential Methodology.* The method for determining reasonable potential involves identifying the observed maximum pollutant concentration in the effluent (MEC) for each constituent, based on effluent concentration data. There are three triggers in determining reasonable potential.
- (1) The first trigger (Trigger 1) is activated when the MEC is greater than the lowest applicable WQO/WQC, which has been adjusted for pH, hardness (for freshwater WQO/WQC only), and translator data, if appropriate. If the MEC is greater than the adjusted WQO/WQC, then that pollutant has reasonable potential and a WQBEL is required.

- (2) The second trigger (Trigger 2) is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO/WQC ($B > WQO$ or WQC), and the pollutant was detected in the effluent samples.
- (3) The third trigger (Trigger 3) is activated if a review of other information determines that a WQBEL is required even though both MEC and B are less than the WQO or WQC, or effluent and background data are unavailable or insufficient (e.g., all nondetects). A limit is required only under certain circumstances to protect beneficial uses.

c. RPA Determination

- (1) Regional Water Board staff conducted an RPA based on approximately 5 years of effluent data collected approximately from February 2001 through March 2006, for priority pollutants using the method prescribed in Section 1.3 of the SIP. A detailed presentation of the RPA is given in Appendix F-1 of this Order.
- (2) The MECs, WQOs/WQC, basis for the WQOs/WQC, background concentrations and reasonable potential conclusions are listed in the table below for all constituents analyzed. The RPA results for some of the constituents in the CTR were not determined because of lack of an objective/criteria. Based on the RPA methodology in the SIP, the following constituents have been found to have reasonable potential to cause or contribute to an excursion above WQOs/WQC: mercury, cyanide, zinc and Dioxin-TEQ (dioxins and furans).

Table F-8. Summary of Reasonable Potential Analysis

CTR No.	Priority Pollutants	No. of Data Pts	Governing WQO/WQC ($\mu\text{g/L}$)	Basis ¹	MEC or Minimum MDL ² ($\mu\text{g/L}$)	Maximum Background or Minimum MDL ² ($\mu\text{g/L}$)	RPA Results ³
1	Antimony	14	4300	CTR HH	0.47	1.8	No
2	Arsenic	20	36	BP SW	8.2	2.46	No
3	Beryllium	14	No Criteria		<0.06	0.215	---
4	Cadmium	20	1.4	BP FW	<0.1	0.1268	No
5.1	Chromium (III) or total	0	113.5	BP FW	No Data	No Data	Can't Determine
5.2	Chromium (VI)	19	11.0	BP FW	1.2	4.4	No
6	Copper	51	7.2	BP SW	6.5	2.45	No
7	Lead	22	1.2	BP FW	0.57	0.8	No
8	Mercury	28	0.025	BP FW	0.014	0.0086	Yes (Trigger 3)
9	Nickel	20	103.5	BP FW	6	3.7	No
10	Selenium	21	5.0	NTR FW	1.1	0.39	No
11	Silver	19	1.1	BP FW	0.1	0.0516	No
12	Thallium	13	6.3	CTR HH	0.06	0.21	No
13	Zinc	20	64.3	BP FW	68	4.4	Yes

CTR No.	Priority Pollutants	No. of Data Pts	Governing WQO/ WQC ($\mu\text{g/L}$)	Basis ¹	MEC or Minimum MDL ² ($\mu\text{g/L}$)	Maximum Background or Minimum MDL ² ($\mu\text{g/L}$)	RPA Results ³
14	Cyanide	46	1	NTR FW	8	<0.4	Yes
15	Asbestos	0	No Criteria		No Data	No Data	---
16	2,3,7,8 - TCDD	5	1.40E-08	CTR HH	<6.3 E-07	<3.5 E-07	No
	Dioxin-TEQ	5	1.40E-08	BP HH	4.13E-08	7.1E-08	Yes
17	Acrolein	8	780	CTR HH	<0.56	<0.5	No
18	Acrylonitrile	8	0.66	CTR HH	<0.33	0.03	No
19	Benzene	8	71	CTR HH	<0.06	<0.05	No
20	Bromoform	8	360	CTR HH	1.2	<0.5	No
21	Carbon Tetrachloride	8	4.4	CTR HH	<0.06	0.06	No
22	Chlorobenzene	8	21000	CTR HH	<0.06	<0.5	No
23	Chlordibromomethane	8	34	CTR HH	14	<0.05	No
24	Chloroethane	8	No Criteria		<0.07	<0.5	---
25	2-Chloroethylvinyl Ether	8	No Criteria		<0.1	<0.5	---
26	Chloroform	8	No Criteria		29	<0.5	---
27	Dichlorobromomethane	8	46	CTR HH	20	<0.05	No
28	1,1-Dichloroethane	8	No Criteria		<0.05	<0.05	---
29	1,2-Dichloroethane	8	99	CTR HH	<0.06	0.04	No
30	1,1-Dichloroethylene	8	3.2	CTR HH	<0.06	<0.5	No
31	1,2-Dichloropropane	8	39	CTR HH	<0.05	<0.05	No
32	1,3-Dichloropropylene	16	1700	CTR HH	<0.06	<0.2	No
33	Ethylbenzene	8	29000	CTR HH	<0.06	<0.5	No
34	Methyl Bromide	8	4000	CTR HH	3.4	<0.5	No
35	Methyl Chloride	8	No Criteria		<0.04	<0.5	---
36	Methylene Chloride	8	1600	CTR HH	<0.07	0.5	No
37	1,1,2,2-Tetrachloroethane	8	11	CTR HH	<0.06	<0.05	No
38	Tetrachloroethylene	8	8.85	CTR HH	<0.06	<0.05	No
39	Toluene	8	200000	CTR HH	0.5	<0.3	No
40	1,2-Trans-Dichloroethylene	8	140000	CTR HH	<0.05	<0.5	No
41	1,1,1-Trichloroethane	8	No Criteria		<0.06	<0.5	---
42	1,1,2-Trichloroethane	8	42	CTR HH	<0.07	<0.05	No
43	Trichloroethylene	8	81	CTR HH	<0.06	<0.5	No
44	Vinyl Chloride	8	525	CTR HH	<0.05	<0.5	No
45	Chlorophenol	9	400	CTR HH	<0.4	<1.2	No
46	2,4-Dichlorophenol	9	790	CTR HH	<0.3	<1.3	No
47	2,4-Dimethylphenol	9	2300	CTR HH	<0.3	<1.3	No
48	2-Methyl-4,6-Dinitrophenol	9	765	CTR HH	<0.4	<1.2	No
49	2,4-Dinitrophenol	9	14000	CTR HH	<0.3	<0.7	No
50	2-Nitrophenol	9	No Criteria		<0.3	<1.3	---
51	4-Nitrophenol	9	No Criteria		<0.2	<1.6	---
52	3-Methyl-4-	9	No Criteria		<0.3	<1.1	---

CTR No.	Priority Pollutants	No. of Data Pts	Governing WQO/ WQC (µg/L)	Basis ¹	MEC or Minimum MDL ² (µg/L)	Maximum Background or Minimum MDL ² (µg/L)	RPA Results ³
	Chlorophenol						
53	Pentachlorophenol	9	7.9	CTR SW	<0.4	<1	No
54	Phenol	9	4600000	CTR HH	<0.2	<1.3	No
55	2,4,6-Trichlorophenol	9	6.5	CTR HH	<0.2	<1.3	No
56	Acenaphthene	8	2700	CTR HH	<0.029	0.0015	No
57	Acenaphthylene	8	No Criteria		<0.019	0.00053	---
58	Anthracene	8	110000	CTR HH	<0.029	0.0005	No
59	Benzidine	9	0.00054	CTR HH	<0.3	<0.0015	Can't Determine
60	Benzo(a)Anthracene	8	0.049	CTR HH	<0.019	0.0053	No
61	Benzo(a)Pyrene	8	0.049	CTR HH	<0.019	0.00029	No
62	Benzo(b)Fluoranthene	8	0.049	CTR HH	<0.029	0.0046	No
63	Benzo(ghi)Perylene	8	No Criteria		<0.029	0.0027	---
64	Benzo(k)Fluoranthene	8	0.049	CTR HH	<0.039	0.0015	No
65	Bis(2-Chloroethoxy) Methane	9	No Criteria		<0.3	<0.3	---
66	Bis(2-Chloroethyl)Ether	9	1.4	CTR HH	<0.3	<0.3	No
67	Bis(2-Chloroisopropyl) Ether	9	170000	CTR HH	<0.6	<0.6	No
68	Bis(2-Ethylhexyl)Phthalate	9	5.9	CTR HH	2	<0.5	No
69	4-Bromophenyl Phenyl Ether	9	No Criteria		<0.4	<0.23	---
70	Butylbenzyl Phthalate	9	5200	CTR HH	<0.4	<0.52	No
71	2-Chloronaphthalene	9	4300	CTR HH	<0.3	<0.3	No
72	4-Chlorophenyl Phenyl Ether	9	No Criteria		<0.4	<0.3	---
73	Chrysene	8	0.049	CTR HH	<0.039	0.0024	No
74	Dibenzo(a,h)Anthracene	8	0.049	CTR HH	<0.029	0.00064	No
75	1,2-Dichlorobenzene	10	17000	CTR HH	<0.05	<0.3	No
76	1,3-Dichlorobenzene	10	2600	CTR HH	<0.07	<0.3	No
77	1,4-Dichlorobenzene	10	2600	CTR HH	1.5	<0.3	No
78	3,3'-Dichlorobenzidine	9	0.077	CTR HH	<0.3	<0.001	Can't Determine
79	Diethyl Phthalate	9	120000	CTR HH	<0.4	<0.24	No
80	Dimethyl Phthalate	9	2900000	CTR HH	<0.4	<0.24	No
81	Di-n-Butyl Phthalate	9	12000	CTR HH	<0.4	<0.5	No
82	2,4-Dinitrotoluene	9	9.1	CTR HH	<0.3	<0.27	No
83	2,6-Dinitrotoluene	9	No Criteria		<0.3	<0.29	---
84	Di-n-Octyl Phthalate	9	No Criteria		<0.4	<0.38	---
85	1,2-Diphenylhydrazine	9	0.54	CTR HH	<0.3	0.0037	No
86	Fluoranthene	8	370	CTR HH	<0.029	0.011	No
87	Fluorene	8	14000	CTR HH	<0.02	0.00208	No
88	Hexachlorobenzene	9	0.00077	CTR HH	<0.4	0.0000202	Can't Determine
89	Hexachlorobutadiene	9	50	CTR HH	<0.2	<0.3	No
90	Hexachlorocyclo-	9	17000	CTR HH	<0.1	<0.31	No

CTR No.	Priority Pollutants	No. of Data Pts	Governing WQO/WQC (µg/L)	Basis ¹	MEC or Minimum MDL ² (µg/L)	Maximum Background or Minimum MDL ² (µg/L)	RPA Results ³
	pentadiene						
91	Hexachloroethane	9	8.9	CTR HH	<0.2	<0.2	No
92	Indeno(1,2,3-cd) Pyrene	8	0.049	CTR HH	<0.029	0.004	No
93	Isophorone	9	600	CTR HH	<0.3	<0.3	No
94	naphthalene	8	No Criteria		<0.019	0.0023	---
95	Nitrobenzene	9	1900	CTR HH	<0.3	<0.25	No
96	N-Nitrosodimethylamine	9	8.1	CTR HH	<0.4	<0.3	No
97	N-Nitrosodi-n-Propylamine	9	1.4	CTR HH	<0.3	<0.001	No
98	N-Nitrosodiphenylamine	9	16	CTR HH	<0.4	<0.001	No
99	Phenanthrene	8	No Criteria		<0.029	0.0061	---
100	Pyrene	8	11000	CTR HH	<0.029	0.0051	No
101	1,2,4-Trichlorobenzene	9	No Criteria		<0.3	<0.3	---
102	Aldrin	9	0.00014	CTR HH	<0.002	<?	Can't Determine
103	alpha-BHC	9	0.013	CTR HH	<0.002	0.000496	No
104	beta-BHC	9	0.046	CTR HH	<0.001	0.000413	No
105	gamma-BHC	9	0.063	CTR HH	<0.001	0.0007034	No
106	delta-BHC	9	No Criteria		<0.001	0.000042	---
107	Chlordane	9	0.00059	CTR HH	<0.005	0.00018	Can't Determine
108	4,4-DDT	9	0.00059	CTR HH	<0.001	0.000066	Can't Determine
109	4,4-DDE	9	0.00059	CTR HH	<0.001	No Data	Can't Determine
110	4,4-DDD	9	0.00084	CTR HH	<0.001	0.000313	Can't Determine
111	Dieldrin	9	0.00014	CTR HH	<0.002	No Data	Can't Determine
112	alpha-Endosulfan	9	0.0087	CTR SW	<0.002	0.000031	No
113	beta-Endosulfan	9	0.0087	CTR SW	<0.001	0.000069	No
114	Endosulfan Sulfate	9	240	CTR HH	<0.001	0.0000819	No
115	Endrin	9	0.0023	CTR SW	<0.002	0.000036	No
116	Endrin Aldehyde	9	0.81	CTR HH	<0.002	<0.002	No
117	Heptachlor	9	0.00021	CTR HH	<0.0029	0.000019	Can't Determine
118	Heptachlor Epoxide	9	0.00011	CTR HH	<0.002	0.000094	Can't Determine
119	PCB-1016	9	0.00017	CTR HH	<0.029	No Data	Can't Determine
125.5	PCBs sum	9	0.00017	CTR HH	<0.059	No Data	Can't Determine
126	Toxaphene	9	0.0002	CTR FW	<0.15	<?	Can't Determine
	Tributyltin	0	0.01	BP SW	No Data	No Data	Can't Determine
	Total PAHs	8	15	BP SW	<0.039	No Data	Can't Determine

[1] RPA based on the following: BP = Basin Plan; CTR = California Toxics Rule; NTR=National Toxics Rule; FW = freshwater; FW = saltwater; HH= human health; H= ambient hardness value.

[2] Values for MEC or maximum background are the actual detected concentrations, otherwise the values shown are the minimum detection levels.

NA = Not Available (there is no monitoring data or WQO/WQC for this constituent).

[3] RP = Yes, if either MEC > WQO/WQC, or background > WQO/WQC when pollutant is detected in the effluent.

RP = No, if both MEC or background < WQO/WQC or all effluent concentrations non-detect and background < WQO/WQC or no background available.

“—” = undetermined because no objective promulgated

“can’t determine” = undetermined due to lack of effluent data

D. WQBEL Calculations

a. Toxic substances are regulated by WQBELs derived from the Basin Plan (Tables 3-3 and 3-4), the CTR, the NTR, and/or BPJ. WQBELs in this Order are revised and updated from the limitations in the previous Order, and their presence in this Order is based on the evaluation of the Discharger’s data as described in the above Reasonable Potential Analysis. Numeric WQBELs are required for all constituents that have a reasonable potential to cause or contribute to an excursion above any State water quality standard. In this case, there is reasonable potential for mercury, zinc, cyanide, and dioxin-TEQ. For these pollutants, final WQBELs are developed using the methodology outlined in the SIP. If the Discharger demonstrates that the final limitations will be infeasible to meet and provides justification for a compliance schedule, then interim limitations are established with a compliance schedule to achieve the final limits. Detailed WQBEL calculation is demonstrated in Appendix F-2 of the Fact Sheet.

b. Dilution and Assimilative Capacity. In response to the State Water Board’s Order No. 2001-06, the Regional Water Board has evaluated the assimilative capacity of the receiving water for 303(d)-listed pollutants for which the Discharger has reasonable potential to cause or contribute to an excursion above any State water quality standard in its discharge. The evaluation included a review of RMP data (local and Central Bay stations), effluent data, and WQOs/WQC. From this evaluation, it is determined that the assimilative capacity is highly variable because of the complex hydrology of the receiving water. Therefore, there is uncertainty associated with the representative nature of the appropriate ambient background data to conclusively quantify the assimilative capacity of the receiving water. Pursuant to Section 1.4.2.1 of the SIP, “dilution credit may be limited or denied on a pollutant-by-pollutant basis....”

1) For certain bioaccumulative pollutants, based on BPJ, dilution credit is not included in calculating the final WQBELs. This determination is based on available data on concentrations of these pollutants in aquatic organisms, sediment, and the water column. The Regional Water Board placed selenium, mercury, and polychlorinated biphenyls (PCBs) on the CWA Section 303(d) list. U.S. EPA added dioxin and furan compounds, chlordane, dieldrin, and 4,4'-DDT to the CWA Section 303(d) list. Dilution credit is not included for mercury or dioxin and furans. The following factors suggest that there is no more assimilative capacity in the Bay for these pollutants.

San Francisco Bay fish tissue data show that these pollutants exceed screening levels. The fish tissue data are contained in *Contaminant Concentrations in Fish from San Francisco Bay 1997* (May 1997). Denial of dilution credits for these pollutants is

further justified by fish advisories to the San Francisco Bay. The Office of Environmental Health and Hazard Assessment (OEHHA) performed a preliminary review of the data from the 1994 San Francisco Bay pilot study, *Contaminated Levels in Fish Tissue from San Francisco Bay*. The results of the study showed elevated levels of chemical contaminants in the fish tissues. Based on these results, OEHHA issued an interim consumption advisory covering certain fish species from the Bay in December 1994. This interim consumption advice was issued and is still in effect owing to health concerns based on exposure to sport fish from the Bay contaminated with mercury, dioxins, and pesticides (e.g., DDT).

- 2) Furthermore, Section 2.1.1 of the SIP states that for bioaccumulative compounds on the 303(d) list, the Regional Water Board should consider whether mass-loading limits should be limited to current levels. The Regional Water Board finds that mass-loading limits are warranted for mercury for the receiving waters of this Discharger. This is to ensure that this Discharger does not contribute further to impairment of the narrative objective for bioaccumulation.
- 3) For non-bioaccumulative constituents, a conservative allowance of 10:1 dilution for discharges to the Bay has been assigned for protection of beneficial uses. The basis for using 10:1 is that it was granted in the previous permit. This 10:1 is also based on the Basin Plan's prohibition number 1, which prohibits discharges like those from 001 with less than 10:1 dilution. The Discharger designed and installed its submerged diffuser to comply with this prohibition. Furthermore, submerged outfalls with diffusers are capable of attaining at least 10:1 dilution. However, it is appropriate to limit the dilution granted. Limiting the dilution credit is based on SIP provisions in Section 1.4.2. The following outlines the basis for derivation of the dilution credit.
 - i. A far-field background station is appropriate because the receiving waterbody (the Bay) is a very complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs.
 - ii. Because of the complex hydrology of the San Francisco Bay, a mixing zone has not been established.
 - iii. Previous dilution studies do not fully account for the cumulative effects of other wastewater discharges to the system.
 - iv. The SIP allows limiting a mixing zone and dilution credit for persistent pollutants (e.g., zinc).

The main justification for using a 10:1 dilution credit is the uncertainty in accurately determining both ambient background and the mixing zone in a complex estuarine system with multiple wastewater discharges.

c. Final Water Quality Based Effluent Limitations. The table below lists the WQBELs for the toxic pollutants that the Regional Water Board determines to have reasonable potential.

**Summary of Water Quality-based Effluent Limitations
 Discharge Points 001**

Parameter	Unit	WQBELs	
		MDEL	AMEL
Mercury	µg/L	0.041	0.021
Zinc	µg/L	6.0×10^2	3.6×10^2
Cyanide	µg/L	6.4	3.1
Dioxin –TEQ	µg/L	2.8×10^{-8}	1.4×10^{-8}

a. Mercury

- 1) *Mercury WQOs/WQC.* Both the Basin Plan and the CTR include objectives and criteria that govern mercury in the receiving water. The Basin Plan specifies objectives for the protection of fresh water aquatic life of 0.025 µg/L as a 4-day average and 2.1 µg/L as a 1-hour average. The CTR specifies a long-term average criterion for protection of human health of 0.051 µg/L.
- 2) *Mercury WQBELs.* The mercury WQBELs calculated according to SIP procedures are 0.041 µg/L as the MDEL and 0.021 µg/L as the AMEL. No dilution credit was incorporated in the calculation of WQBELs. The previous permit contained interim WQBEL of 0.087 µg/L as AMEL and no MDEL. The newly calculated WQBELs are based on recent performance data, while the previous WQBELs were calculated using a default coefficient of variation of 0.6. Therefore, the new WQBELs are more up to date and equally protective as it is based on Facility specific data consistent with the SIP. Therefore, the new WQBELs are established as the effluent limitations in this Order. When the final Bay-wide mercury TMDL becomes effective, the Regional Water Board will amend the effluent limitations in this Order to be consistent with the WLA and other requirements specified in the TMDL.
- 3) *Discharger's Performance and Attainability.* During the period from January 2001 through February 2006, the Discharger's maximum effluent mercury concentration was 0.014 µg/L. Since all effluent concentrations were below the AMEL, the Discharge should be able to comply with effluent limits for mercury.
- 4) *Mercury TMDL.* The current 303(d) list includes San Pablo Bay as impaired by mercury due to high mercury concentrations in the tissue of fish from the Bay. Methyl-mercury, the highly toxic form of mercury, is a persistent bioaccumulative pollutant. There is no evidence to show that the mercury discharged is taken out of the hydrologic system by processes such as evaporation before reaching San Pablo Bay. Absent this evidence, the Regional Water Board assumes that the mercury

reaches the Bay through either sediment transport or water flows. The Regional Water Board intends to establish a TMDL that will lead toward overall reduction of mercury mass loadings into San Pablo Bay. The final mercury effluent limitations will be based on the Discharger's WLA in the TMDL. While the TMDL is being developed, the Discharger will comply with mercury concentration and mass-based limitations to cooperate in maintaining current ambient receiving water conditions.

- 5) *Mercury Source Control Strategy.* The Regional Water Board is developing a TMDL to control mercury levels in San Pablo Bay. The Regional Water Board, together with other stakeholders, will cooperatively develop source control strategies as part of TMDL development. Municipal discharge point sources are not a significant source of mercury to San Pablo Bay. Therefore, the currently preferred strategy is to apply interim mass loading limitations to point source discharges while focusing mass reduction efforts on other more significant sources. While the TMDL is being developed, the Discharger will cooperate in maintaining ambient receiving water conditions by complying with performance-based mercury mass emission limits. Therefore, this Order includes an interim mass loading effluent limitation for mercury, as described in the findings below. The Discharger is required to implement source control measures and cooperatively participate in special studies as described below.
- 6) *Final Mercury Limitations.* Final mercury limitations may be revised/established to be consistent with the WLA assigned in the final mercury TMDL. While the TMDL is being developed, the Discharger will comply with the final WQBELs and mass-based limitations to cooperate in maintaining current ambient receiving water conditions.
- 7) *Antibacksliding/Antidegradation.* The mercury effluent limitations are equally protective as those in the previous permit; therefore, the antibacksliding/antidegradation requirements are satisfied.

b. **Zinc**

- 1) *Zinc WQOs.* The Basin Plan contains numeric zinc salt water WQOs, which are 64 µg/L for chronic protection and 64 µg/L for acute protection, as total recoverable metal.
- 2) *WQBELs.* The zinc WQBELs calculated according to SIP procedures are 600 µg/L as the MDEL and 360 µg/L as the AMEL. A dilution credit of 10:1 was incorporated in the calculation of WQBELs.
- 3) *Discharger's Performance and Attainability.* During the period from January 2001 through February 2006, the Discharger's maximum effluent zinc concentration was 68 µg/L. Since all effluent concentrations were below the AMEL, the Discharger should be able to comply with final effluent limits for zinc.

- 4) *Anti-backsliding/Anti-degradation*. The anti-backsliding and anti-degradation requirements are satisfied because there were no zinc effluent limitations in the previous permit.

c. **Cyanide**

- 1) *Cyanide WQC*. The NTR includes WQC that govern cyanide for the protection of aquatic life in saltwater. The NTR specifies a saltwater Criterion Maximum Concentration (CMC) and Criterion Chronic Concentration (CCC) of 1 µg/L.
- 2) *WQBELs*. The cyanide WQBELs calculated according to SIP procedures are 6.4 µg/L MDEL and 3.1 µg/L AMEL. A dilution credit of 10:1 was incorporated in the calculation of WQBELs.
- 3) *Immediate Compliance Infeasible*. The Discharger's Infeasibility Study, dated June 1, 2006, asserts the Discharger cannot immediately comply with these WQBELs for cyanide. Due to high censoring of the effluent data, it is not possible to perform a meaningful statistical analysis. Since the MEC is greater than the AMEL, the Regional Water Board concurs with the Discharger's assertion of infeasibility to comply with final cyanide WQBELs.
- 4) *Interim Effluent Limitation*. Because it is infeasible for the Discharger to immediately comply with the cyanide WQBELs, an interim effluent limitation is required. Regional Water Board staff considered the Discharger's effluent monitoring data to develop an interim limitation. Historically, interim performance-based effluent limits have been referenced to the 99.87th percentile value of recent performance data. However, due to the high number of censored values (over 60%), a statistical analysis of the cyanide effluent data is not possible, and therefore, the previous interim effluent limit of 12 µg/L, expressed as a daily maximum, was used.
- 5) *Plant Performance and Attainability*. During the period 2001 through February 2006, the Discharger's maximum effluent concentration for cyanide was 8 µg/L. Therefore, it is expected that the Discharger can comply with the cyanide interim effluent limitation
- 6) *Alternative Limit for Cyanide*. As described in *Draft Staff Report on Proposed Site-Specific Water Quality Objectives and Effluent Limit Policy for Cyanide for San Francisco Bay*, dated November 10, 2005, the Regional Water Board is proposing to develop SSOs for cyanide. In this report, the proposed SSOs for saltwater are 2.9 µg/L as a four-day average and 9.4 µg/L as a one-hour average. Based on these assumptions, and the Discharger's current cyanide data, final water quality based effluent limitations for cyanide will be 43 µg/L as a MDEL and 20. µg/L as an AMEL. These alternative limitations will become effective only if the SSOs

adopted for cyanide contains the same assumptions in the staff report, dated November 10, 2005.

- 7) *Anti-backsliding/Anti-degradation.* The new WQBELs are more stringent than the effluent limitations in the previous permit; therefore, anti-backsliding/anti-degradation requirements are satisfied. The adoption of alternate limits for cyanide also complies with the anti-backsliding/anti-degradation requirements, as the Discharger has demonstrated that it is not feasible to comply with the final WQBELs based on existing WQC under current treatment technology. Therefore, CWA Section 402(o)(2)(c) provides an exception to antibacksliding that is applicable to less stringent limitations for cyanide. The CWA states "relaxation is allowed only to the treatment levels actually achieved" if "the permittee has installed treatment facilities required to meet effluent limitations in the previous permit and has operated and maintained the facilities but still has been unable to meet the effluent limitations."

d. Dioxins and Furans (Dioxin-TEQ)

- 1) *RPA Results.* The dioxin-TEQ MEC of 4.1×10^{-8} $\mu\text{g/L}$ and maximum background concentration of 7.1×10^{-8} $\mu\text{g/L}$ is above the governing WQC (1.4×10^{-8} $\mu\text{g/L}$), triggering reasonable potential using Trigger 1 and Trigger 2.
- 2) *WQBELs.* The dioxin and furans WQBELs calculated using SIP procedures are 1.4×10^{-8} $\mu\text{g/L}$ average monthly and 2.8×10^{-8} $\mu\text{g/L}$ maximum daily, and are included in the Fact Sheet as a point of reference. No dilution credit was incorporated in the calculation of WQBELs.
- 3) *Immediate Compliance Infeasible.* The Discharger's Infeasibility Study, dated June 1, 2006, asserts the Discharger cannot immediately comply with these WQBELs for dioxin-TEQ. Due to insufficient effluent data, it is not possible to perform a meaningful statistical analysis. Since the MEC is greater than the AMEL, the Regional Water Board concurs with the Discharger's assertion of infeasibility to comply with final dioxin-TEQ WQBELs.
- 4) *No Interim Effluent Limitation.* As mentioned above, there are insufficient data to perform a meaningful statistical analysis on dioxin-TEQ. In addition, the Minimum Levels (MLs) developed for 2,3,7,8-TCDD and 16 congeners (referred to as dioxin-TEQ) by the Regional Water Board and BACWA range from 5 pg/L to 50 pg/L, which are higher than the WQBELs. Furthermore, the previous permit did not include a dioxin-TEQ limit that could be carried over in this permit. For these reasons, this permit does not contain an interim limitation for this pollutant.
- 5) *Anti-backsliding/Anti-degradation.* The anti-backsliding and anti-degradation requirements are satisfied because there were no dioxin-TEQ effluent limitations in the previous permit.

E. Compliance Schedules

1. Section 2.1.1 of the SIP states:

“the compliance schedule provisions for the development and adoption of a TMDL only apply when: ... (b) the Discharger has made appropriate commitments to support and expedite the development of the TMDL. In determining appropriate commitments, the RWQCB should consider the discharge’s contribution to current loadings and the Discharger’s ability to participate in TMDL development.”

The Discharger has agreed to assist the Regional Water Board in TMDL development through active participation in and contribution to the Clean Estuary Project through BACWA. The Regional Water Board adopted Resolution No. 01-103 on September 19, 2001, authorizing the Executive Officer of the Regional Water Board to enter into a Memorandum of Understanding with BACWA and other parties to accelerate the development of Water Quality Attainment Strategies (WQAS), including TMDLs, for the San Francisco Bay-Delta and its tributaries.

2. The SIP and the Basin Plan authorize compliance schedules in a permit if an existing Discharger cannot immediately comply with a new and more stringent effluent limitation. Compliance schedules for limitations derived from CTR WQC are based on Section 2.2 of the SIP, and compliance schedules for limitations derived from NTR or Basin Plan WQOs are based on the Basin Plan. Both the SIP and the Basin Plan require the Dischargers to demonstrate the infeasibility of achieving immediate compliance with the new limitation to qualify for a compliance schedule.

The SIP and Basin Plan require the following documentation to be submitted to the Regional Water Board to support a finding of infeasibility:

- Descriptions of diligent efforts the Dischargers have made to quantify pollutant levels in the discharge, sources of the pollutant in the waste stream, and the results of those efforts.
- Descriptions of source control and/or pollutant minimization efforts currently under way or completed.
- A proposed schedule for additional or future source control measures, pollutant minimization, or waste treatment.
- A demonstration that the proposed schedule is as short as practicable.

The Basin Plan provides for a 10-year compliance schedule to implement measures to comply with new standards as of the effective date of those standards. This provision applies to the objectives adopted in the 2004 Basin Plan Amendment. Additionally, the provision authorizes compliance schedules

for new interpretations of other existing standards if the new interpretation results in more stringent limitations

3. Until final WQBELs or WLAs are adopted for 303(d)-listed pollutants, State and Federal anti-backsliding and antidegradation policies and the SIP require that the Regional Water Board include interim effluent limitations for them. The interim effluent limitations will be the lower of the current performance or the previous permit's limitations.
4. This Order establishes a compliance schedule until April 27, 2010 for cyanide, as allowed by the Basin Plan. The final WQBELs for cyanide shall become effective on April 28, 2010, or when the Regional Water Board adopts the SSOs for cyanide. For dioxin-TEQ, this Order establishes a compliance schedule until November 1, 2016, as allowed by the Basin Plan. Since the compliance schedule for dioxin-TEQ extends beyond the length of this permit, the final effluent limitations for this pollutant are included in the Fact Sheet as a point of reference. Appendix F-3 of the Fact Sheet details the general basis for final compliance dates.

F. Whole Effluent Toxicity (WET)

- a. **Whole Effluent Acute Toxicity.** This Order includes effluent limitations for whole-effluent acute toxicity that are unchanged from the previous Order. They are based on the Basin Plan's narrative water quality objective for toxicity that protects beneficial uses against mixtures of pollutants typically found in aquatic systems. All bioassays shall be performed according to the USEPA approved method in 40 CFR §136, currently "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition." The Discharger is required to use the 5th Edition method for compliance determination upon the effective date of this Order.
- b. **Whole Effluent Chronic Toxicity.** To determine if the discharge exhibits chronic toxicity, this permit requires that the Discharger conduct screening phase monitoring before the next permit reissuance. This is a reasonable balance of monitoring for the facility since it is unlikely to exhibit significant chronic toxicity in the receiving water. This is because the Discharger (1) uses a deepwater outfall which allows greater than 10:1 dilution of its effluent, (2) discharges on average less than 1 MGD, and (3) does not receive waste from any major industries.

G. Land Discharge Specifications (Not Applicable)

H. Reclamation Specifications (Not Applicable)

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

- A. Receiving Water Limitations V.A and V.B. (conditions to be avoided): These limitations are in the existing permit and are based on water quality objectives for physical, chemical, and biological characteristics from Chapter III of the Basin Plan.
- B. Receiving Water Limitation V.C (special limitations): This limitation is in the existing permit, requires compliance with Federal and State law, and is self-explanatory.
- C. **Groundwater (Not Applicable)**

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

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

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are contained in the MRP (**Attachment E**) and Self-Monitoring Program, Part A (**Attachment H**). Part A of the monitoring program (**Attachment H**) is a standard requirement in almost all NPDES permits issued by the Regional Water Board. Most of the requirements are also existing requirements for the Discharger. Part A contains definitions, specifies general sampling and analytical protocols, and specifies reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board policy. The MRP (**Attachment E**) of this Order is specific for the Discharger. It defines the stations, constituents, and frequency of monitoring, and additional reporting requirements. Constituents required to be monitored include all parameters for which effluent limitations are specified. This is to allow determination of compliance with permit limitations in accordance with 40 CFR §122.44(i). Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future RPAs.

A. Influent Monitoring

This Order requires monitoring of the influent for the same parameters as those in the previous Order.

B. Effluent Monitoring

The MRP includes monitoring at the outfall for conventional, non-conventional, and toxic pollutants, and acute toxicity. This Order requires monthly monitoring for mercury, zinc and cyanide to demonstrate compliance with the effluent limits. The Discharger will sample twice per year (once during the wet, once during the dry season) for all the 2,3,7,8-TCDD congeners.

The Discharger is required to sample for all 126 priority pollutants once each year during the permit term, according to the Regional Water Board's 13267 Letter dated August 6, 2001, and submit the results with its permit renewal application.

C. Whole Effluent Toxicity Testing Requirements

This Order requires monthly monitoring of the acute toxicity with rainbow trout and fathead minnow. The monitoring frequency is unchanged from the previous permit

D. Receiving Water Monitoring

1. Regional Monitoring Program (RMP)

On April 15, 1992, the Regional Water Board adopted Resolution No. 92-043 directing the Executive Officer to implement the Regional Monitoring Program (RMP) for the San Francisco Bay. Subsequent to a public hearing and various meetings, Regional Water Board staff requested major permit holders in this region, under authority of section 13267 of California Water Code, to report on the water quality of the estuary. These permit holders responded to this request by participating in a collaborative effort, through the San Francisco Estuary Institute. This effort has come to be known as the San Francisco Bay Regional Monitoring Program for Trace Substances. This Order specifies that the Discharger shall continue to participate in the RMP, which involves collection of data on pollutants and toxicity in water, sediment and biota of the estuary.

2. Receiving water monitoring is not required in this Order pursuant to Regional Water Board Resolution 92-043 as described above. Since the Discharger's outfall structure is 4 miles offshore into the Bay, there are RMP stations near the discharge outfall, therefore, the Discharger is exempt from doing its own receiving water monitoring, provided it participates in a collaborative study.

E. Pretreatment Monitoring Requirements (Not Applicable)

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which in accordance with 40 CFR §§122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in **Attachment D** to the Order.

B. Special Provisions

1. Reopener Provisions

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

2. Special Studies and Additional Monitoring Requirements

- a. Effluent Characterization Study. This Order does not include effluent limitations for the selected constituents addressed in the August 6, 2001 Letter that do not demonstrate Reasonable Potential, but this provision requires the Discharger to continue monitoring for these pollutants as described in the August 6, 2001 Letter and as specified in the MRP of this Order. If concentrations of these constituents increase significantly, the Discharger will be required to investigate the source of the increases and establish remedial measures, if the increases result in reasonable potential to cause or contribute to an excursion above the applicable WQO/WQC. This provision is based on the Basin Plan and the SIP.
- b. Ambient Background Receiving Water Study. This provision is based on the Basin Plan, the SIP, and the August 6, 2001 Letter for priority pollutant monitoring. As indicated in the permit, this requirement may be met by participating in the collaborative BACWA study.
- c. Permitted Treatment Plant Flows: This provision is to accommodate the Discharger's desire to more accurately reflect the Plant's design flow that resulted from recent upgrades made to address operation and compliance issues. The Discharger requested that such a provision be included in its permit as it might annex portions of the City of Hercules' service area.
- d. Optional Mass Offset: This option is provided to encourage the Discharger to further implement aggressive reduction of mass loads to San Pablo Bay.
- e. Status Report on 303(d)-Listed Pollutants, Site-Specific Objective and TMDL: This Order grants maximum compliance schedules based on the Basin Plan for cyanide and dioxin-TEQ because of work on a TMDL and SSO. It is appropriate for the Discharger to annually report on and track its efforts to support the TMDL and SSO.

3. Requirement to Support SSO and TMDL, and Assure Compliance Schedules with Final Limits

Maximum allowable compliance schedules are granted to the Discharger for Dioxin-TEQ and cyanide because of the uncertainty in the time it takes to complete the TMDL and SSO for these pollutants. Therefore, it is appropriate to require the Discharger participate and support the development of the TMDL and SSO. For Dioxin-TEQ and cyanide, the requirement to submit a report of further measures to reduce these pollutants and assure compliance with the final limits should the TMDL or SSO not be completed is based on the Basin Plan, Chapter 4 (Implementation of Effluent Limits, [F] Compliance Schedules). The

Basin Plan states in part: *“The primary goal in setting compliance schedules is to promote the completion of source control and waste minimization measures...Justification for compliance schedules will include...(c) a proposed schedule for additional source control measures or waste treatment.”* Additional source control or treatment was not thoroughly addressed in the Discharger’s Infeasibility Study, in recognition of ongoing TMDL and SSO efforts that would lead to different final WQBELs than those specified in this Order. However, should the TMDL and SSO not be completed in time, the Discharger will need to reduce its discharge concentrations to meet the final WQBELs in this Order. As such, this requirement is necessary to identify additional steps for the Discharger to take to comply with the final limits specified in this Order.

4. Best Management Practices and Pollutant Minimization Program

This provision is based on Chapter 4 of the Basin Plan and Sections 2.2.1 and 2.4.5 of the SIP.

5. Alternative Bacteria Limitation Study - Receiving Water Beneficial Use Study Program and Schedule

Allowance to develop an alternative bacteria limitation to total coliform, is based on Table 4-2 of the Basin Plan.

6. Construction, Operation, and Maintenance Specifications

- a. Wastewater Facilities, Review and Evaluation, Status Reports: This provision is based on the previous permit and the Basin Plan.
- b. Operations and Maintenance Manual, Review and Status Reports: This provision is based on the Basin Plan, the requirements of 40 CFR §122, and the previous permit.
- c. Contingency Plan, Review and Status Reports: This provision is based on the Basin Plan, the requirements of 40 CFR §122, and the previous permit.

7. Special Provisions for POTWs

- a. Pretreatment Program: A pretreatment program is not required for the Discharger because its design flow is less than 5 mgd on average (40 CFR Part 403).
- b. Sludge Management Practices Requirements: This provision is based on the Basin Plan (Chapter IV) and 40 CFR §§257 and 503.
- c. Sanitary Sewer Overflows and Sewer System Management Plan: This provision is to explain the Order’s requirements as they relate to the Discharger’s collection system, and to promote consistency with the State Water Resources Control Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Overflow (SSO)

WDRs) and a related Monitoring and Reporting Program (Order No. 2006-0003-DWQ). The bases for these requirements are described elsewhere in this Fact Sheet for those requirements.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Rodeo Sanitary District Water Pollution Control Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following (a) paper and electronic copies of this Order were relayed to the Discharger, and (b) the Martinez News-Gazette published a notice that this item would appear before the Board on September 13, 2006.

B. Written Comments

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

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on August 14, 2006.

C. Public Hearing

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

Date: September 13, 2006
Time: 9:00 AM
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612
Contact: Dan Leva, (510) 622-2415, [email dleva@waterboards.ca.gov](mailto:dleva@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, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is www.waterboards.ca.gov/sanfranciscobay where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

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

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

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m. except from noon to 1:00 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (510) 622-2300.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Dan Leva at 510-622-2415, or email address dleva@waterboards.ca.gov.

IX. APPENDICES

- Appendix F-1:** RPA Results for Priority Pollutants
- Appendix F-2:** Calculation of Final WQBELs
- Appendix F-3:** General Basis for Final Compliance Dates
- Appendix F-4:** Discharger's Feasibility Analysis

Rodeo Sanitary District
Water Pollution Control Facility
ORDER NO. R2-2006-0062
NPDES NO. CA0037826

Appendix F-1: RPA Results for Priority Pollutants

**Appendix F-2
 Calculation of Final WQBELs**

PRIORITY POLLUTANTS	Mercury	Zinc	Cyanide	Dioxin-TEQ
Basis and Criteria type	BP FW	BP FW	NTR FW	BP HH
Lowest WQO	0.025	64.	1.0	1.4E-08
Dilution Factor (D) (if applicable)	0	9	9	0
no. of samples per month	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	N
HH criteria analysis required? (Y/N)	Y	N	Y	Y
Applicable Acute WQO	2.1	64.	9.4	
Applicable Chronic WQO	0.025	64.	2.9	
HH criteria	0.051		220000.	1.4E-08
Background (max conc for Aquatic Life calc)	0.0086	4.4	0.40	7.1E-08
Background (avg conc for carcinogenic HH calc)	0.0086			7.1E-08
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	Y	N	N	Y
Is pollutant carcinogenic(Y/N)?	Y	N	N	Y
ECA acute	2.1	604.	90.4	N/A
ECA chronic	0.025	604.	25.4	N/A
ECA HH	0.051	N/A	2.2E+06	1.4E-08
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	Y
avg of data points	0.0048	38.	2.7	N/A
SD	0.0028	15.	1.8	N/A
CV calculated	0.58	0.40	0.66	N/A
CV (Selected) – Final	0.58	0.40	0.66	0.60
ECA acute mult99	0.33	0.44	0.30	N/A
ECA chronic mult99	0.54	0.64	0.50	N/A
LTA acute	0.69	264.	26.8	N/A
LTA chronic	0.013	388.	12.7	N/A
minimum of LTAs	0.013	264.	12.7	N/A
AMEL mult95	1.5	1.4	1.6	1.6
MDEL mult99	3.0	2.3	3.4	3.1
AMEL (aq life)	0.021	360.	20.4	N/A
MDEL(aq life)	0.041	604.	42.8	N/A
MDEL/AMEL Multiplier	2.0	1.7	2.1	2.0
AMEL (human hlth)	0.051	N/A	2.2E+06	1.4E-08
MDEL (human hlth)	0.10	N/A	4.6E+06	2.8E-08
minimum of AMEL for Aq. life vs HH	0.021	360.	20.4	1.4E-08
minimum of MDEL for Aq. Life vs HH	0.041	604.	42.8	2.8E-08
Current limit in permit (30-d avg)				
Final Limit – Calculated AMEL	0.021	360.	3.1	1.4E-08
Final Limit – Calculated MDEL	0.041	604.	6.4	2.8E-08
Interim Limit if compliance schedule granted			7.6	

Appendix F-3
General Basis for Final Compliance Dates [1]
 for Discharges North of the Dumbarton Bridge
Revised March 23, 2006

Constituent	Reference for applicable standard	Maximum compliance schedule allowed	Compliance date and Basis
Cyanide Selenium	NTR	10 years	10-yr, but no later than April 28, 2010 (10 years from effective date of SIP). Basis is the Basin Plan, see note [2].
Copper (salt)	CTR	5 years	5-yr, but no later than May 18, 2010. Bases are CTR and SIP. See note [4]
Mercury PAH EPA 610	Numeric Basin Plan (BP)	10 years	10-yr, but no later than April 28, 2010 , which is 10 years from effective date of SIP (April 28, 2000). Basis is the Basin Plan, See note [2a].
Arsenic Cadmium Chromium (VI) Copper (fresh) Lead Nickel Silver (CMC) Zinc	Numeric BP	10 years	10-yr, but no later than January 1, 2015. This is 10 years (using full months) from effective date of 2004 BP amendment (January 5, 2005). Basis is the Basin Plan section 4.3.5.6. See note [2b]. Also, see note [3] for permits issued prior to effective date of 2004 BP amendment.
Dioxins/Furans Tributyltin Other toxic pollutants not in CTR	Narrative BP using SIP methodology	10 years	10-yr from effective date of permit (which is when new standard is adopted; no sunset date). Basis is the Basin Plan, see note [2c].
Other priority pollutants on CTR and not listed above	CTR	5 years	5-yr, but no later than May 18, 2010 (this is 10 years from effective date of CTR/SIP). Basis is the CTR and SIP. See note [4]

[1] These dates are maximum allowable compliance dates applicable. As required by the Basin Plan, CTR, SIP, and 40CFR122.47, compliance should be as short as possible. These are only applicable for discharges north of the Dumbarton Bridge because applicable criteria for the south bay are different than those cited above.

- a. For pollutants where there are planned TMDLs or SSOs, and final WQBELs may be affected by those TMDLs and SSOs, maximum timeframes may be appropriate due the uncertain length of time it takes to develop the TMDL/SSO.
- b. However, for pollutants without planned TMDLs or SSOs, the State Board in the EBMUD remand order (WQO 2002-0012), directs the Regional Water Board to establish schedules that are as short as feasible in accordance with requirements.

[2] The Basin Plan provides for a 10-year compliance schedule for implementation of measures to comply with new standards as of the effective date of those standards. This provision has been construed to authorize compliance schedules for new interpretations of existing standards, such as the numeric and narrative water quality objectives specified in the Basin Plan, if the new interpretations result in more stringent limits than in the previous permit.

- c. For the numeric standards and objectives in place prior to the SIP (these include the 1995 Basin Plan objectives, and NTR criteria that were implemented in accordance with the Basin Plan), due to the adoption of the SIP, the Water Board has newly interpreted these objectives and standards. The effective date of this new interpretation is the effective date of the SIP (April 28, 2000) for implementation of these numeric Basin Plan objectives.
- d. For numeric objectives for the seven pollutants adopted in the 2004 Basin Plan (amendments), the Water Board has newly adopted these objectives. The effective date of these new objectives is the approval date of the 2004 Basin Plan by U.S. EPA (January 5, 2005) for implementation of these numeric Basin Plan objectives. December is the last full month directly preceding the sunset date. Compliance should be set on the first day of the month to ease determination of monthly average limits. Therefore, compliance must begin on January 1, 2015.
- e. For narrative objectives, the Board must newly interpreted these objectives using best professional judgment as defined in the Basin Plan for each permit. Therefore, the effective date of this new interpretation will be the effective date of the permit.

[3] The schedules established in permits effective prior to the 2004 Basin Plan (amendments) should be continued into subsequent permits reissued after the 2004 Basin Plan. For example, Permit XX, adopted Nov 2004 became effective Feb 1, 2005. Permit XX establishes a compliance schedule for copper to end April 1, 2010. When next reissued in 2010, the compliance deadline for the same copper limit should remain April 1, 2010. However, if in applying the 2004 BP objective results in a more stringent limit for copper, then a new compliance schedule may extend to the new date in 2015, provided discharger XX justifies the need for the longer compliance schedule.

[4] Permits effective after SIP/CTR that specified 5-yr compliance schedules pursuant to SIP §2.1 for CTR pollutants do not qualify for another compliance schedule for those same CTR pollutants during reissuance.

- a. An exception to this would be if new data collected during the term of the permit results in more stringent limitations, then a compliance schedule may be allowable for the more stringent limits up to May 18, 2010.
- b. Another exception applies to pollutants granted a compliance schedule pursuant to the 2000 SIP §2.2.2, Interim Requirements for Providing Data (note 2005 SIP amendment deleted this section as it is not applicable to permits effective after May 18, 2003). Because SIP §2.1 provides for a maximum 5-year compliance schedule, and permittees granted §2.2.2 schedules have not been previously granted such a schedule under §2.1, those permittees who can demonstrate infeasibility to achieve immediate compliance with limits calculated using the data collected, qualify for a §2.1 schedule up to the maximum statutory date (April 28, 2010).

Cyanide was one pollutant for which the Water Board granted a §2.2.2 compliance schedules to collect better ambient data for cyanide, because the Regional Monitoring Program data were not complete primarily due to inadequate detection limits. BACWA and WSPA funded an effort to collect these data as part of the collaborative receiving water monitoring for other CTR pollutants. The Regional Water Board has received these data, which form the basis for current permits. However, upon further consideration, the SIP §2.2.2 compliance schedule was granted in error, because cyanide is an NTR criterion and not a CTR criterion, and the SIP compliance schedule provisions apply to "...CTR criterion and/or effluent limitations." Thus, it is more appropriate to apply the Basin Plan's compliance schedule provision, which was the implementation tool for NTR criteria prior to the SIP superceding the provisions in the Basin Plan related to calculation of water quality based effluent limitations. As such, the compliance schedule for cyanide should follow note [2a], above.

Appendix F-4
Rodeo Sanitary District Feasibility Analysis
May 31, 2006



RODEO SANITARY DISTRICT

Infeasibility Analysis

Permit CA0037826 Renewal

May 2006

Prepared by

The Rodeo Sanitary District

Prepared for

**Regional Water Quality Control
Board**

Introduction

This study of the feasibility of achieving compliance with proposed effluent limits for dioxin and cyanide is being provided in response to the water quality-based effluent limitations that are proposed in the Rodeo Sanitary District (District) National Pollutant Discharge Elimination System (NPDES) permit renewal.

Discharge to San Francisco Bay is regulated by National Pollutant Discharge Elimination System (NPDES) Permit No. CA0037826. Currently the permitted average dry weather flow is 1.12 million gallons per day (MGD). However, the District is seeking to increase the permitted capacity to 1.50 mgd based on the previously submitted Capacity Evaluation Study (March 2006). Treated wastewater is discharged to the San Pablo Bay through a deep water outfall approximately 3900 feet from shore.

Background

In March 2000, *The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) established statewide policy for NPDES permitting. The SIP provides for the situation where an existing NPDES discharger cannot immediately comply with an effluent limitation derived from a *California Toxics Rule* (CTR) or Basin Plan criterion. The SIP allows for the adoption of interim effluent limitations and a schedule to come into compliance with the final limit in such cases. To qualify for interim limits and a compliance schedule, the SIP requires that an existing discharger demonstrate that it is infeasible to achieve immediate compliance with the CTR-, NTR- or Basin Plan-based limit. The term "infeasible" is defined in the SIP as "not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors".

The SIP requires that the following information be submitted to the Regional Water Quality Control Board (RWQCB) to support a finding of infeasibility:

- Documentation that diligent efforts have been made to quantify pollutant levels in the discharge and sources of the pollutant in the waste stream, including the results of those efforts;
- Documentation of source control and/or pollution minimization efforts currently under way or completed;
- A proposed schedule for additional and future source control measures, pollutant minimization, or waste treatment; and
- A demonstration that the proposed schedule is as short as practicable.

The following analysis pertains to the proposed water quality-based effluent limitations.

Effluent Limit Attainability

The proposed final and interim effluent limits for dioxin and cyanide are compared to the maximum observed effluent concentration in Table 1.

Table 1 – Proposed Effluent Limits for the Rodeo Sanitary District

Pollutant	Water Quality-Based Effluent Limits (µg/L)		Performance Based Interim Effluent Limits (µg/L)		San Pablo Bay Effluent Quality (µg/L)
	AMEL	MDEL	Daily Maximum	Monthly Average	MEC
Dioxin - TEQ	2.8×10^{-8}	1.4×10^{-8}	20×10^{-8}	15×10^{-8}	14.8×10^{-8}
Cyanide	3.1	6.4	15	10	8

The Water Quality Based Effluent Limits shown above were calculated by the RWQCB using procedures described in Section 1.4 of the SIP. Background values are based on the San Francisco Estuary Institute's (SFEI) Regional Monitoring Program for Trace Substances (RMP) data collected at the Yerba Buena station. Dilution was taken as 10:1 (receiving water to effluent) and the receiving water was classified as saltwater. Other variables in the effluent limitation calculation included coefficient of variation for different pollutants.

Maximum observed effluent concentrations are based on Rodeo Sanitary District effluent quality data (2000-2005). As shown in Table 1, the District will not be able to immediately comply with the proposed effluent limits for dioxin and cyanide. The feasibility analyses and pollution prevention efforts for these constituents are described below.

Dioxin

The District's effluent characteristics for dioxin indicate that immediate compliance with the final effluent limits is not possible. Effluent dioxin concentrations in the District's effluent during the semi-annual testing from October 2002 through October 2005 range from 3.57×10^{-8} ug/L to 14.8×10^{-8} ug/L (7 samples) for the three congeners OCDD, OCDF, and 1,2,3,4,6,7,8-HpCDD. All detected values taken from the 7 samples would result in permit violations at the proposed AMEL of 1.4×10^{-8} ug/L. Therefore, interim effluent limits for dioxin are necessary.

As the District is predominantly a bedroom community with only limited commercial accounts, the source of the dioxin is unknown. Commercial accounts in the District range from restaurants and other food service establishments to hardware and retail sales.

To attempt to reduce dioxin through source control efforts, the District proposes to survey the commercial establishments to determine if any sell pesticides. Additionally, the District will send a newsletter to all residents in Rodeo requesting that disposal of such pesticides follows guidelines established by the Richmond Sanitary Service (refuse collection company). The District anticipates completing the survey and the news letter within 18 months of permit adoption. The District will also participate in any TMDL activities that the RWQCB requests.

Even with these completed projects, the District anticipates that no noticeable reductions of the dioxin congeners will be realized. As a result, the District proposes to monitor the dioxin compounds on a quarterly basis to facilitate a more complete and accurate measurement of the concentrations of these compounds. The District will also make same day measurements of the potable water to determine if any background levels are detected.

Cyanide

District effluent characteristics for cyanide indicate that immediate compliance with the final effluent limits is not possible. Effluent cyanide concentrations at the District during the March 2000 through December 2005 period range from $<3.0 \mu\text{g/L}$ to $8.0 \mu\text{g/L}$ (51 samples). Sixteen of the observed effluent concentration would result in permit violations at the proposed AMEL of $3.1 \mu\text{g/L}$. Therefore, an interim effluent limit for cyanide for the District and a compliance schedule to attempt to meet final cyanide limits should be granted.

As the RWQCB has noted previously, "Cyanide is a regional problem associated with the analytical protocol for cyanide analysis due to matrix inferences. A body of evidence exists to show that cyanide measurements in effluent may be an artifact of the analytical method. This question is being explored in a national research study sponsored by the Water Environment Research Foundation (WERF)." (2002 Napa Sanitation District Permit Amendment).

The District supports efforts to develop a site-specific objective for cyanide in the Bay, given that cyanide does not persist in the environment and that the current water quality objective (WQO) was based on testing with East Coast species. A cyanide SSO for Puget Sound, Washington, using West Coast species has been approved by EPA Region X. The Permittee is participating in a regional effort to conduct a study for development of site-specific objectives. The cyanide study plan was submitted on October 29, 2001. A final report was submitted to the RWQCB on June 29, 2003. The Basin Plan Amendment is currently being developed. The RWQCB has indicated that it intends to include a final limit based on the study results.

The District will begin an influent cyanide assessment to determine if cyanide is present in the influent to the District's Water Pollution Control Plant. It is also possible that cyanide is likely generated in the treatment processes. Therefore, rather than pursuing pollution prevention which would not be effective for cyanide, the District will support regional cyanide projects such as working with the RWQCB to develop a site-specific objective for cyanide.

Summary

Based upon the above analysis, the District concludes that it is infeasible to meet the final effluent limitations proposed in the permit for dioxin and cyanide. Furthermore, it is expected to remain infeasible within a five-year time schedule to meet these limits. As described in this analysis, however, the District will continue to conduct current pollution prevention activities, participate in the RWQCB's efforts to adopt a site-specific objective for cyanide, and work to implement planned programs for the future.

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.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Beall", written in a cursive style.

Steven S. Beall, P.E.
Engineer-Manager

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-Kärber. 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. Prior to permit reissuance. 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 G-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 G-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 100%, 50%, 25%, 10%, 5%, 0 %, 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 Discharge shall commence with screening phase monitoring.

Appendix G-2

SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

Critical Life Stage Toxicity Tests for Estuarine Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Alga	<i>(Skeletonema costatum)</i> <i>(Thalassiosira pseudonana)</i>	Growth rate	4 days	1
Red alga	<i>(Champia parvula)</i>	Number of cystocarps	7-9 days	3
Giant kelp	<i>(Macrocystis pyrifera)</i>	Percent germination; germ tube length	48 hours	2
Abalone	<i>(Haliotis rufescens)</i>	Abnormal shell development	48 hours	2
Oyster Mussel	<i>(Crassostrea gigas)</i> <i>(Mytilus edulis)</i>	Abnormal shell development; percent survival	48 hours	2
Echinoderms - Urchins Sand dollar	<i>(Strongylocentrotus purpuratus,</i> <i>S. franciscanus)</i> <i>(Dendraster excentricus)</i>	Percent fertilization	1 hour	2
Shrimp	<i>(Mysidopsis bahia)</i>	Percent survival; growth	7 days	3
Shrimp	<i>(Holmesimysis costata)</i>	Percent survival; growth	7 days	2
Topsmelt	<i>(Atherinops affinis)</i>	Percent survival; growth	7 days	2
Silversides	<i>(Menidia beryllina)</i>	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	<i>(Pimephales promelas)</i>	Survival; growth rate	7 days	4
Water flea	<i>(Ceriodaphnia dubia)</i>	Survival; number of young	7 days	4
Alga	<i>(Selenastrum capricornutum)</i>	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]	0	1 or 2	3
Marine/Estuarine	4	3 or 4	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.