

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 97-142
NPDES PERMIT NO. CA0037702

AMENDING WASTE DISCHARGE REQUIREMENTS FOR:

EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1
WATER QUALITY CONTROL PLANT
OAKLAND, ALAMEDA COUNTY

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

1. On September 21, 1994, the Board adopted waste discharge requirements for the East Bay Municipal Utility District, Special District No. 1 (hereinafter called the discharger), to discharge wastewater to the waters of the State and the United States through common outfall under the National Pollutant Discharge Elimination System (NPDES) in Order No. 94-127.
2. The discharger owns and operates the East Bay Municipal Utility District, Special District No.1, wastewater treatment plant, located in Oakland, Alameda County. The facility has capacity to provide secondary level treatment for 120 million gallons per day (mgd) of domestic, commercial, and industrial wastewater from the cities of Albany, Alameda, Berkeley, Emeryville, Oakland, and Piedmont and the Stege Sanitary District. The average flow for 1993 at the treatment plant was 71.5 mgd.
3. The treatment facility consists of prechlorination and grit removal, primary clarification, high purity activated sludge, secondary clarification, disinfection by chlorination, and dechlorination by sulfonation. The treated wastewater is discharged into Central San Francisco Bay, a water of the State and United States, through a submerged diffuser adjacent to the San Francisco-Oakland Bay Bridge about 5,664 feet offshore at a depth of 45 feet below mean lower low water (Longitude 122 deg., 20 min., 55 sec.; Latitude 37 deg., 49 min., 2 sec.).
4. Table 4-2 and its footnotes in the Basin Plan allows fecal coliform limitations to be substituted with total coliform limitation, provided that the discharger demonstrates that there is no unacceptable adverse impact on the receiving waters. On June 1996, the discharger initiated a study to measure the effect of reduced chlorine residual on fecal coliform numbers in the effluent and receiving waters. The information contained in its report, "Chlorine Reduction/Fecal Coliform Study," indicated that there are no negative impacts on the receiving waters due to the reduction of chlorine residual and subsequent

increase in the fecal coliform numbers in the effluent. The report concluded that fecal coliform concentrations in the receiving waters did not exceed water quality objectives when representative effluent with average fecal coliform value of 1,480 MPN/100 ml and values as high as 70,000 MPN/100 ml. Therefore, the discharger has requested a revision of the permit to reflect this situation.

5. Above mentioned report provides new information not available at the time the permit was issued which justifies application of a different coliform limit. Therefore, this revised effluent limit does not violate the anti-backsliding provision of sections 402(o)(1)-(3) and 303(d)(4) of the Clean Water Act. The revised effluent limit will not result in any decrease in water quality and therefore it is consistent with the State Board Resolution 68-16 (antidegradation policy) and with the Federal Antidegradation Rule (40 CFR 131.12).
6. The amendment of an NPDES permit is exempt from the provisions of Chapter 3 (commencing with Section 21100 of Division 13) of the Public Resources Code (CEQA) pursuant to Section 13389 of the Water Code.
7. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity to submit their written views and recommendations.
8. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that:

- A. Section B.1a under "EFFLUENT LIMITATIONS" of Order No. 94-127 shall be amended to read as follows:
 1. Effluent discharged to the outfall shall not exceed the following limits.

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>Instantaneous Max</u>
a. Carbonaceous BOD (CBOD ₅ , 20°C)	mg/l	25	40	--	--

B. Section B.3. under "EFFLUENT LIMITATIONS" of Order No. 94-127 shall be amended to read as follows:

Fecal Coliform Bacteria:

The treated wastewater, at some place in the treatment process prior to discharge, shall meet the following limits of bacteriological quality: The five day log mean fecal coliform density shall not exceed 500 MPN/100 ml, and the ninetieth percentile value shall not exceed 1100 MPN/100 ml.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on December 17, 1997.


LORETTA K. BARSAMIAN
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1
OAKLAND, ALAMEDA COUNTY

NPDES NO. CA0037702
ORDER NO. 97-142

CONSISTING OF
PART A, DATED AUGUST 1993
AND PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

<u>Station</u>	<u>Description</u>
A-1	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment or sidestream.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-1	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present.
E-1-D	At any point in the disinfection facilities at which point adequate contact with the disinfectant is assured.

C. RECEIVING WATERS (SAN FRANCISCO BAY)

<u>Station</u>	<u>Description</u>
C-11	At a point in San Francisco Bay directly over the diffuser structure of the outfall line and 500 feet easterly of Diffuser Station 18. Diffuser Station 18 is also over the diffuser structure and is located at 37 deg., 49 min., 02 sec. W and 122 deg., 20 min., 55 sec. E. See attached Location Map.
C-4, C-9	At points in San Francisco Bay, located in the vicinity of the terminal of the outfall, as shown in the attached Location Map.
C-16	At a point in San Francisco Bay, located at the intersection of two range lines, described as follows: (1) A line passing through the SIREN on the northerly of two wharf systems on the easterly side of Treasure Island and the flashing white light situated at the northernmost point of Treasure Island, and

(2) A line passing through the BELL on the southerly of two wharf systems on the easterly side of Treasure Island and the stack on shore, and approximately on line with the pier extending into the wharf system on which the BELL is situated.

C-17

At a point in San Francisco Bay, located at the intersection of two range lines, described as follows:

(1) A line passing through Buoy "1" and Buoy "3" markers for the northerly side of Oakland Outer Harbor Entrance Channel, and

(2) A line passing through Buoy "2", marker for the southerly side of Oakland Outer Harbor Entrance Channel, and Buoy "3" marker for the northerly side of Oakland Middle Harbor Entrance Channel.

D. LAND OBSERVATIONS

Station

Description

P-1 through P-n

Located at equidistance intervals, not to exceed 300 feet on the fenceline in the closest proximity to the main pumping station and the primary sedimentation tanks. (A sketch showing the location of these stations, and the assigned designations and appurtenances will accompany each report)

E. OVERFLOWS AND BYPASSES

Station

Description

O-1 through O-n

Bypass or overflows from treatment facility, manholes, pump stations, interceptors under the discharger's control.

NOTE:

1. A map and description of each known or observed overflow or bypass location shall accompany each monthly report. A summary of these occurrences and their locations shall be included with the Annual Report for each calendar year.

II. CHRONIC TOXICITY MONITORING REQUIREMENT

- A. Test Species and Frequency: The discharger shall collect a 24-hour composite sample of the treatment plant effluent at the station E-1 or E-2, for critical life stage toxicity testing in accordance with the attached Table 1. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.
- B. Methodology: Sample collection, handling and preservation shall be in accordance with EPA protocols. The test methodology used shall be in accordance with the references cited in Order No. 92-104, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.
- C. Dilution Series: The discharger shall conduct tests at 50%, 40%, 25%, and 15%. The "%" represents percent effluent as discharged.

III. CHRONIC TOXICITY REPORTING REQUIREMENTS

- A. Routine Reporting: Toxicity test results for the current reporting period shall include at a minimum, for each test
 1. sample date(s)
 2. test initiation date
 3. test species
 4. end point values for each dilution (e.g. number of young, growth rate, percent survival)
 5. NOEC value(s) in percent effluent
 6. IC₁₅, IC₂₅, IC₄₀, and IC₅₀ values (or EC₁₅, EC₂₅ ... etc.) in percent effluent
 7. TUC values (100/NOEC, 100/IC₂₅, and 100/EC₂₅)
 8. Mean percent mortality ("s.d.) after 96 hours in 100% effluent (if applicable)
 9. NOEC and LOEC values for reference toxicant test(s)
 10. IC₅₀ or EC₅₀ value(s) for reference toxicant test(s)
 11. Available water quality measurements for each test (e.g. pH, D.O, temperature, conductivity, hardness, salinity, ammonia)
- B. Compliance Summary: Each self-monitoring report shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include the items listed above under Section A item numbers 1, 3, 5, 6(IC₂₅ or EC₂₅), 7, and 8.
- C. Reporting Raw Data in Electronic Format: On a quarterly basis, by February 15, May 15, August 15, and December 15 of each year, the discharger shall report all

chronic toxicity data for the previous calendar quarter in the format specified by the Statewide Chronic Toxicity Database Management System.

IV. SCHEDULE OF SAMPLING, ANALYSIS AND OBSERVATIONS

The schedule of sampling, analysis and observation shall be that given in Table 1.

VI. REPORTING REQUIREMENTS

1. General Reporting Requirements are described in Section C of this Board's "Standard Provisions and Reporting Requirements", dated August 1993.
2. Self-Monitoring Reports for each calendar month shall be submitted monthly, by the 22nd day of the following month. The required contents of these reports are described in Section F.4. of Part A.
3. An Annual Report for each calendar year shall be submitted to the Board by February 15th of the following year. The required contents of the annual report are described in Section G.5. of Part A.
4. Any overflow, bypass or significant non-compliance incident that may endanger health or the environment shall be reported according to the Sections F.1 and F.2 of Part A.

I, Loretta K. Barsamian, Executive Officer, hereby certify that this Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order Nos. 94-127 and 97-142.
2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be authorized by the Executive Officer.
3. Is effective on December 17, 1997.


LORETTA K. BARSAMIAN
Executive Officer

Attachment:

A. Location Map

B. Table 1

TABLE 1 (1,8,11)
 SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS
 EAST BAY MUNICIPAL UTILITY DISTRICT, SPECIAL DISTRICT NO.1

SAMPLING STATION	A-1	E-1			E-1-D			All C Sta.	All P Sta.	All O Sta.
	C-24	G(4)	C-24	Cont.	G(4)	C-24	Cont	G	O	
Flow Rate (mgd)	D			D						
CBOD, 5-day, 20° C (mg/l & Kg/day) (1,3)	D		D							
Total Suspended Solids (mg/l & Kg/day) (1,3)			D							
Chlorine Residual & Dosage (mg/l & Kg/day) (10)					H or Cont.					
Settleable Matter (ml/l-hr. & Cu. ft./day)		D								
Coliform (Fecal) (MPN/100 ml)					D			2/M		
Acute Fish Toxicity, 96-hr. (% survival) (5,6,7)				2/M						
Chronic Toxicity (6)			M							
Oil & Grease (mg/l & Kg/day) (2)		W								
Ammonia Nitrogen (mg/l & Kg/day)			2/W ⁹							
Nitrate Nitrogen (mg/l & Kg/day)										
Nitrite Nitrogen (mg/l & Kg/day)			2/W ⁹							
pH (Units)		D						2/M		
Dissolved Oxygen (mg/l & % Saturation)		D						2/M		
Temperature (°C)		D						2/M		
Apparent Color (color units)			W					2/M		
Secchi Disc (inches)								2/M		

TABLE 1 (Continued)
 SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS
 EAST BAY MUNICIPAL UTILITY DISTRICT, SPECIAL DISTRICT NO. 1

SAMPLING STATION	A-1	E-1			E-1-D			All C Sta.	All P Sta.	All O Sta.
TYPE OF SAMPLE	C-24	G(4)	C-24	Cont.	G(4)	C-24	Cont	G	O	
Sulfides (If DO < 5.0 mg/l) Total & Dissolved (mg/l)		D						2/M		
Arsenic (µg/l & Kg/day)	Q		W							
Cadmium (µg/l & Kg/day)	Q		W							
Chromium (µg/l & Kg/day)	Q		W							
Copper (µg/l & Kg/day)	Q		W							
Cyanide (µg/l & Kg/day)	Q		W							
Lead (µg/l & Kg/day)	Q		W							
Mercury (µg/l & Kg/day)	Q		W							
Nickel (µg/l & Kg/day)	Q		W							
Selenium (µg/l & Kg/day)	Q		W							
Silver (µg/l & Kg/day)	Q		W							
Zinc (µg/l & Kg/day)	Q		W							
PAHs (µg/l & Kg/day)	Q		W							
All applicable Standard Observations								2/M	W	E
Organic Priority Pollutants (µg/l & Kg/day) (12)			Y							
Un-ionized Ammonia (mg/l)								2/M		

LEGEND

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample (24-hour)
Cont. = continuous sampling
O = observation

TYPES OF STATIONS

E = waste effluent stations
C = receiving water stations
L = basin and/or pond levee stations
P = treatment facilities perimeter stations

FREQUENCY OF SAMPLING

E = each occurrence
H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/Y = twice per year
Q = quarterly, once each in
Mar., June, Sept., & Dec.

2H = every 2 hours
2D = every two days
2W = every two weeks
2M = every two months
Cont. = continuous

NOTES FOR TABLE 1:

- (1) During any day when bypassing occurs from any treatment unit(s) in the plant or to the emergency outfall, the monitoring program for the effluent and any nearshore discharge shall include the following in addition to the above schedule for sampling, measurement and analysis:
 - a. Composite sample for CBOD and Total Suspended Solids.
 - b. Grab samples for Total and Fecal Coliform, Settleable Matter, and Oil and Grease.
 - c. Continuous monitoring of flow.
 - d. Continuous or every two hour monitoring of chlorine residual.
- (2) Oil and Grease sampling shall consist of a grab sample. In the event that sampling for oil and grease every two week or less frequency shows an apparent violation of the waste discharge permit, 30-day average limitation (considering the results of one or two day's sampling as a 30-day average), then the sampling frequency shall be increased to weekly so that a true 30-day average can be computed and compliance can be determined.
- (3) Percent removal (effluent vs. influent) shall also be reported.
- (4) Grab samples shall be taken on day(s) of composite sampling.
- (5) Compliance with the acute toxicity limitations shall be determined using tests with Fathead Minnow and Three-spine Stickleback. All tests shall be conducted in accordance with USEPA protocols.
- (6) Sample date for bioassay and one for all other specified parameters shall coincide with composite sample(s).
- (7) If a continuous bioassay is to be run, sample may be from E-1 prior to disinfection instead of dechlorinating E-1 effluent.
- (8) If any effluent sample is in violation of limits, except those for metals, cyanide, and organics, sampling shall be increased for that parameter to at least daily or grater until compliance is demonstrated in two successive samples. Receiving water violations shall be reported in the monthly report; increased receiving water monitoring may be required. Compliance measurements represent compliance status for the time period between measurements.
- (9) These parameters shall be tested for on the same composite sample used for the bioassay.

- (10) Chlorine residual analyzers shall be calibrated against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, grab samples shall be taken every 30 minutes until compliance is achieved.
- (11) All flow other than to the outflow (e.g. sludge, etc.) shall also be reported monthly. Daily records shall be kept of the quantity (cu. yds. or cu. ft.) and solids content (%) of dewatered sludge disposed of and the location of disposal.
- (12) Organic priority pollutants and other constituents of the September 16, 1992 Basin Plan amendments must be monitored on a monthly basis for three months pursuant to Provision E.6. of this permit (i.e. three months wet season and three month dry season) to determine whether any of these constituents are present in excess of their corresponding effluent limits. The frequency of sampling will revert to once per year, as indicated in Table 1, for constituents that are determined to be non-detectable, with the exception of TCDD equivalents, for which the frequency of sampling will revert to once per permit reissuance. If the three months of monitoring show that concentrations of a specific pollutant are near or above its effluent limit, the Board may require sampling frequencies grater than once per year.