

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 84-54
NPDES NO. CA0037702

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

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

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

1. East Bay Municipal Utility District, Special District No. 1, hereinafter called the discharger, submitted a report of waste discharge dated March 26, 1984, for reissuance of NPDES Permit No. CA0037702.
2. The discharger presently discharges an average dry weather flow of 77.3 million gallons per day (mgd) from its high purity oxygen activated sludge secondary treatment plant which has a dry weather design capacity of 120 mgd. This plant treats domestic and industrial wastewater from the Cities of Alameda, Albany, Berkeley, Emeryville, Oakland, Piedmont and the Stege Sanitary District which also own and operate the collection systems. 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.).
3. The discharger is presently governed by Waste Discharge Requirements, Order No. 79-100 which allows discharge into Central San Francisco Bay, and Order No. 76-102 which regulates the discharge from interceptor wet weather overflow structures under NPDES Permit No. CA0038440.
4. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for Central San Francisco Bay and contiguous waters.
5. The beneficial uses of Central San Francisco Bay and contiguous water bodies are:
 - o Water contact recreation
 - o Non-contact recreation
 - o Wildlife habitat
 - o Preservation of Rare and Endangered Species
 - o Estuarine Habitat
 - o Fish migration and spawning
 - o Industrial service supply
 - o Shellfish Harvesting
 - o Navigation
 - o Commercial and Sport Fishing

6. The discharger has an approved EPA Local Pretreatment Program for source control and application of pretreatment standards. The Basin Plan allows exceptions to certain conservative toxicants where an acceptable effective source control program has been established and the discharge of conservative toxicants has been reduced to the maximum extent feasible. The discharger currently discharges conservative toxicants in concentrations in excess of those recommended in the Basin Plan. Before the Board can consider exceptions to the Basin Plan conservative toxicant limits the discharger must demonstrate that it has taken all control measures to the maximum extent feasible. The Board intends to review this situation further prior to granting exceptions to the Basin Plan limits.
7. An Operations and Maintenance Manual is maintained by the discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, and recommended operating strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, this manual should be kept updated to reflect significant changes in plant facilities or activities.
8. This Order serves as an NPDES Permit, reissuance of which 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 California Water Code.
9. 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 with the opportunity for a public hearing and the opportunity to submit their written views and recommendations.
10. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that the discharger in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder shall comply with the following:

A. Discharge Prohibitions

1. Bypass or overflow of untreated wastewater to waters of the State either at the treatment plant or from any of the discharger's interceptor system and pump stations tributary to the treatment plant is prohibited except as permitted under NPDES Permit No. CA0038440.
2. The average dry weather flow shall not exceed 120 mgd. Average shall be determined over three consecutive months each year.

B. Effluent Limitation

1. Effluent discharged shall not exceed the following limits:

<u>Constituents</u>	<u>Units</u>	<u>30-day Average</u>	<u>7-day Average</u>	<u>Maximum Daily</u>	<u>Instan- taneous Maximum</u>
a. Settleable Matter	ml/l-hr	0.1	-	-	0.2
b. BOD (5-day) or Carbonaceous BOD (5-day)*	mg/l mg/l	30 25	45 40	- -	- -
c. Total Suspended Solids	mg/l	30	45	-	-
d. Oil & Grease	mg/l	10	-	20	-
e. Total Chlorine Residual **	mg/l	-	-	-	0.0

* Effective upon promulgation in a new secondary treatment definition by EPA.
 **Requirement defined as below the limit of detection in standard test method.

2. The arithmetic mean of the biochemical or carbonaceous oxygen demand (5-day@ 20 deg. C) and total suspended solids values, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected approximately the same times during the same period (i.e. 85 percent removal).
3. The pH of the discharge shall not exceed 9.0 nor be less than 6.0.
4. The survival of test organisms acceptable to the Executive Officer in 96-hour bioassays of the effluent shall achieve a 90 percentile value of not less than 50% survival based on the ten most recent consecutive samples.
5. Representative samples of the effluent shall not exceed the following limits (1):

<u>Constituent</u>	<u>Unit of Measurement</u>	<u>6 Month Median</u>	<u>Daily Maximum</u>
a. Arsenic	mg/l	0.01	0.02
b. Cadmium	mg/l	0.02	0.03
c. Total Chromium	mg/l	0.005	0.01
d. Copper	mg/l	0.2	0.3
e. Lead	mg/l	0.1	0.2
f. Mercury	mg/l	0.001	0.002
g. Nickel	mg/l	0.1	0.2
h. Silver	mg/l	0.02	0.04
i. Zinc	mg/l	0.3	0.5
j. Cyanide	mg/l	0.1	0.2
k. Phenolic Compounds	mg/l	0.5	1.0
l. Total Identifiable Chlorinated Hydrocarbons (2)	mg/l	0.002	0.004

Notes for Effluent Limitation B.5.:

(1) These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.

(2) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

6. The moving median value for the MPN of total coliform in any five (5) consecutive samples shall not exceed 240 coliform organisms per 100 milliliters. Any single sample shall not exceed 10,000.
7. Prior to achieving compliance with Effluent Limitation B.5.c. of this Order, the following interim limits shall apply to the discharge of wastewaters:

<u>Constituent</u>	<u>Unit of Measurement</u>	<u>6 Month Median</u>	<u>Daily Maximum</u>
Total Chromium	mg/l	0.04	0.16

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

- a. Dissolved oxygen 5.0 mg/l minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentrations than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
 - b. Dissolved Sulfide 0.1 mg/l maximum.
 - c. pH Variation from natural ambient pH by more than 0.5 pH units.
 - d. Un-ionized ammonia 0.025 mg/l as N Annual Median
 0.4 mg/l as N Maximum
3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control 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 Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

- 1. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 79-100. Order No. 79-100 is hereby rescinded.
- 2. Where concentrations limitations in mg/l are contained in this permit, the following mass emission limitations shall also apply as follows:

$$\text{Mass Emission Limit in kg/day} = \text{Concentration limit in mg/l} \times 3.79 \times \text{Actual Flow in mgd averaged over the time interval to which the limit applies.}$$
- 3. The discharger shall comply with all sections of this Order immediately upon adoption except for the compliance time schedule for Effluent Limitation B.5.c. (Total Chromium) as stipulated in Provision D.4. below.
- 4. The discharger shall comply with Effluent Limitation B.5. according to the following schedule:

<u>Task</u>	<u>Report of Compliance Due</u>
a. Submit outline of program to document reduction of Total chromium to the maximum extent feasible.	December 1, 1984
b. Status Report	July 1, 1985

<u>Task</u>	<u>Report of Compliance Due</u>
c. Submit report demonstrating reduction of Total Chromium to the maximum extent feasible.	January 31, 1986
d. Achieve full compliance with Effluent Limit B.5.c. (Total Chromium).	July 1, 1988*

*Note: The Regional Board may relax the Total Chromium limit as allowed in the Basin Plan upon submittal of a satisfactory report by the discharger of reducing the Total Chromium effluent discharge to the maximum extent feasible.

5. The discharger shall review and update his Operations and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted by April 15 of each year. A time schedule for completion of the initial revision shall be submitted by November 1, 1984. Documentation of operator input and review shall accompany each annual update.
6. The discharger shall review and update by January 31, 1985, and annually thereafter its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
7. The discharger shall implement its approved industrial Pretreatment Program in accordance with legal authorities, policies, and procedures described in its pretreatment document and in accordance with the federal Clean Water Act, Section 402(b)(8) and (9) and federal pretreatment regulations in 40 CFR 403.
 - a. The permittee shall maintain an adequate revenue program and enforce prohibitions of any applicable National Pretreatment Standards established by the U.S. Environmental Protection Agency (EPA).
 - b. The discharger shall provide EPA and the Board with an annual report describing the pretreatment program activities over the previous 12-month period. The report shall cover the calendar year and be transmitted to EPA and the Regional Board no later than January 31 and include:
 - 1) A summary of actions taken by the discharger which ensured industrial user compliance;
 - 2) An updated list of industrial users (by SIC categories) which were issued permits, enforcements orders, and status of compliance for each user; and

- 3) The name and address of each user that received revised discharge limits.
8. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.
9. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977 with the exception of Provision A.12. and Reporting Requirements B.2. and B.3.

Item C.2. of the Standard Provisions shall be amended to read as follows:

"The 30-day, or 7-day, average discharge is the total discharge by weight during a 30, or 7, consecutive calendar day period, respectively, divided by the number of days in the period that the facility was discharging. Where less than daily sampling is required by this permit, the 30-day, or 7-day, average discharge shall be determined by the summation of all the measured discharges by weight divided by the number of days during the 30, or 7 day, consecutive calendar day period when the measurements were made. For other than 30-day or 7-day periods, compliance shall be based upon the average of all measurements made during the specified period."

10. This Order expires September 19, 1989. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
11. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Roger B. James, Executive Officer, do hereby certify 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 September 19, 1984.

ROGER B. JAMES
Executive Officer

Attachments:

Standard Provisions, Reporting Requirements and Definitions--April 1977
Self-Monitoring Program
Resolution No. 74-10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

AMENDED
SELF-MONITORING PROGRAM
FOR

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

NPDES NO. CA 0037702

ORDER NO. 84--54

CONSISTING OF

PART A
(DATED JANUARY 1978)

AND

PART B
(ORDERED AUGUST 20, 1974)
(AMENDED SEPTEMBER 19, 1984)

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

<u>Station</u>	<u>Description</u>
A-001	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-001	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. (May be the same as E-001-D.)
E-001-D	At any point in the disinfection facilities for Waste E-001 at which point adequate contact with the disinfectant is assured.

C. RECEIVING WATERS

<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 37deg.49min.02sec.W and 122deg.20min.55sec.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 on the attached Location Map.
C-16	At a point in San Francisco Bay, located at the intersection of two range lines, described as follows: <ol style="list-style-type: none">(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-11	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

<u>Station</u>	<u>Description</u>
P-1 through P-°n'	Located at equidistant 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. SHORELINE OBSERVATIONS

Sampling program may be prescribed at a later date.

F. BOTTOM SEDIMENTS

Sampling program may be prescribed at a later date.

G. LOCAL EFFECTS MONITORING

Sampling program may be prescribed at a later date.

H. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
O-1 through O-°n°	Bypass or overflows from treatment facility, manholes, pump stations, or interceptor system under discharger's control.
Note:	SMP report will include map and description of bypass or overflow location.
Reporting:	Shall be submitted with monthly report when overflows or bypasses occur and include date, time, quantity, and period of each overflow or bypass and the cause.

II. SCHEDULE OF SAMPLING AND MONITORING

The schedule of sampling and analysis shall be that given as Table I.

III. MODIFICATION OF PART A, DATED JANUARY 1978 -- NONE

I, Roger B. James, Executive Officer, hereby certify that the following 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 No. 84-54.
2. Has been amended and ordered by the Regional Board on September 19, 1984.
3. May be reviewed at any time subsequent to the effective date shown upon written notice from the Executive Officer or request from the discharger and revisions may be ordered by the Executive Officer.

ROGER B. JAMES
Executive Officer

Attachments:

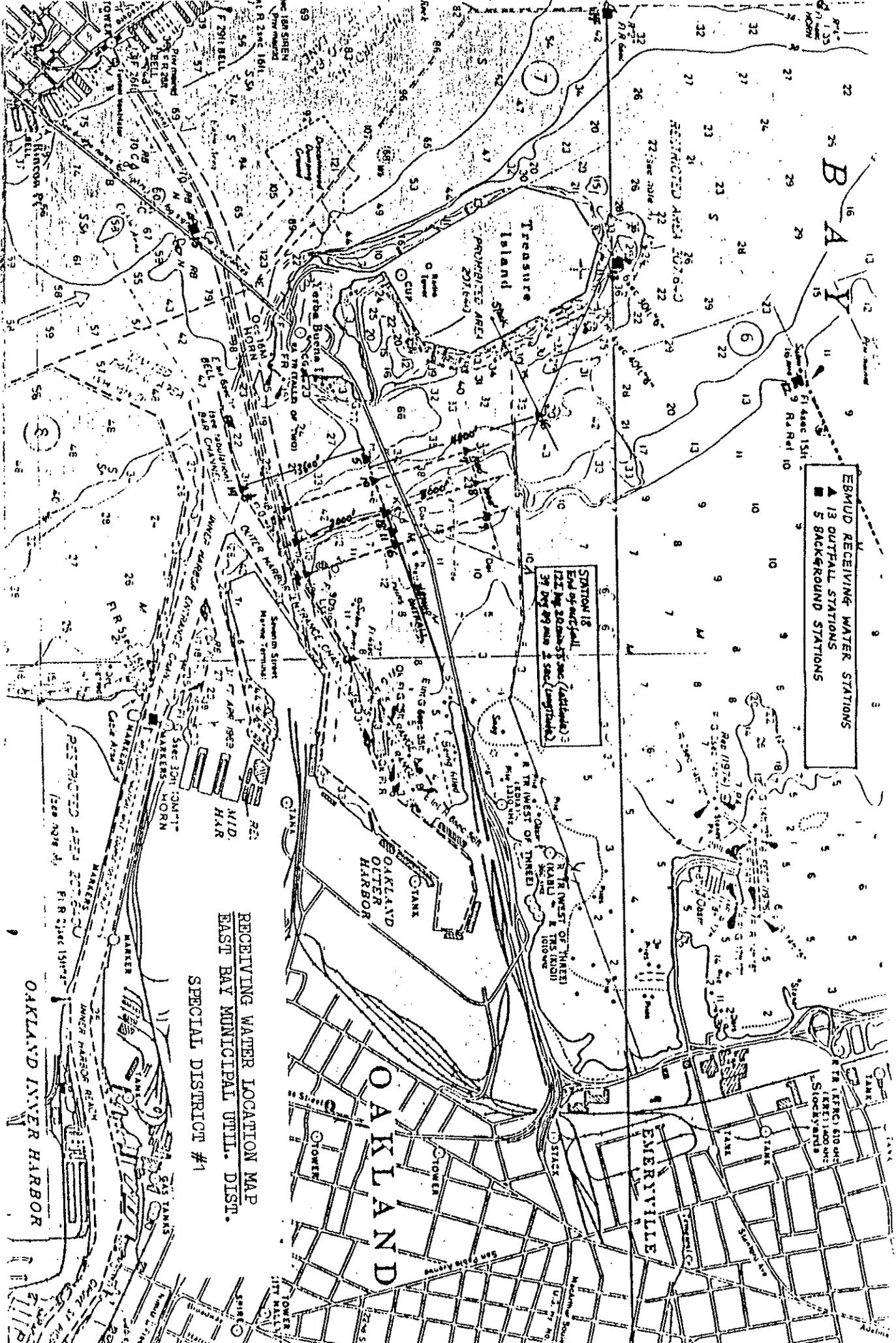
Table I with notes
Receiving Water Location Map

TABLE I
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS (1)(7)(10)

Sampling Station	A-001	E-001		E-001-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						
Flow Rate (mgd)	D			D											
BOD, 5-day, 20° C, or CBOD* (mg/l & kg/day) (1)(3)	D		D												
Chlorine Residual & Dosage (mg/l & kg/day) (8)							H or cont.								
Settleable Matter (ml/1-hr. & cu. ft./day)		D													
Total Suspended Matter (mg/l & kg/day) (1)(3)	D		D												
Oil & Grease (mg/l & kg/day) (2)		W													
Coliform (Total) (MPN/100 ml) per req't						5/W		2/M							
Fish Toxicity, 96-hr. (5)(6) % Survival in undiluted waste							2W								
Ammonia Nitrogen (mg/l & kg/day)			2/W ⁽⁹⁾					2/M							
Nitrate Nitrogen (mg/l & kg/day)															
Nitrite Nitrogen (mg/l & kg/day)			2/W ⁽⁹⁾												
Total Organic Nitrogen (mg/l & kg/day)															
Total Phosphate (mg/l & kg/day)															
Turbidity (Jackson Turbidity Units)															
pH (units)		D						2/M							
Dissolved Oxygen (mg/l and % Saturation)		D						2/M							
Temperature (°C)		D						2/M							
Apparent Color (color units)			W					2/M							
Secchi Disc (inches)								2/M							
Sulfides (if DO < 5.0 mg/l) Total & Dissolved (mg/l)		D						2/M							
Arsenic (mg/l & kg/day)			M(7)												
Cadmium (mg/l & kg/day)			M(7)												
Chromium, Total (mg/l & kg/day)			M(7)												
Copper (mg/l & kg/day)			M(7)												
Cyanide (mg/l & kg/day)			M(7)												
Silver (mg/l & kg/day)			M(7)												
Lead (mg/l & kg/day)			M(7)												

NOTES FOR TABLE I:

- 1/ During any day when bypassing occurs from any treatment unit(s) in the WPCP, the monitoring program for the effluent shall include the following in addition to the above schedule for sampling, measurement and analyses.
 - a. Composite sample for BOD and Total Suspended Solids.
 - b. Grab samples for Total Coliform, Settleable Matter and Oil and Grease.
 - c. Continuous monitoring of flow.
 - d. Continuous or every 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/ Sample date for bioassay and for one of all other specified parameters shall coincide with composite sample(s).
- 6/ If a continuous bioassay is to be run, sample may be from E-001 prior to disinfection instead of dechlorinating E-001 effluent.
- 7/ If any sample is in violation of limits, sampling shall be increased for that parameter to at least weekly or greater until compliance is demonstrated in two successive samples.
- 8/ Data shall be reported using forms provided by the Board or an approved equivalent; 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.
- 9/ These parameters shall be tested for on the same composite sample used for the bioassay.
- 10/ All flow other than to the outfall (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.



EBMUD RECEIVING WATER STATIONS
 ▲ OUTFALL STATIONS
 S BACKROUND STATIONS

STATION 18
 End of outfall
 121 mg 2000-05 sec (unpublished)
 37 mg 2000-05 sec (unpublished)

RECEIVING WATER LOCATION MAP
 EAST BAY MUNICIPAL UTIL. DIST.
 SPECIAL DISTRICT #1

OAKLAND INNER HARBOR

OAKLAND

ENERVILLE

Treasure Island

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