CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 77-76
NPDES PERMIT NO. CA0037591

WASTE DISCHARGE REQUIREMENTS FOR:
UNION SANITARY DISTRICT,
ALVARADO PLANT, ALAMEDA COUNTY

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

1. Union Sanitary District (hereinafter called the discharger) applied on December 30, 1976 to the Board for waste discharge requirements and a permit to discharge wastes under the National Pollutant Discharge Elimination System (NPDES) for its Alvarado wastewater treatment plant.

2. The discharger presently discharges treated domestic and industrial wastewater into the San Francisco Bay from Alameda Creek at 37° 35' 40" latitude and 122° 5' 29" longitude.

3. The discharger currently discharges an average of 3.8 million gallons (14,380m^3) of wastewater each day. The treatment facility has a design capacity of 4.5 million gallons (17,030m^3) per day.

4. The discharger is a pariticpant in the East Bay Dischargers Authority (EBDA) Water Quality Management Program Phase I Project. The EBDA Project will eliminate the shallow discharges currently originating from Hayward, Oro Loma, San Leandro, Union/Alvarado, Union/Newark, and Union/Irvington sewage treatment plants and will discharge a combined effluent in twenty-five feet of water approximately three miles offshore of the San Leandro Marina in lower San Francisco Bay. The EBDA Project will be operational in 1980. The Alvarado plant will be renovated to accept effluent from Newark and Irvington plants by November, 1980.

5. Section 301(b) of the Federal Water Pollution Control Act Amendments of 1972 requires all publicly-owned treatment plants to achieve effluent limitations based upon secondary treatment no later than July 1, 1977. Secondary treatment has been defined by the EPA Administrator in 40 CFR 133, dated July 26, 1976.

6. The Board intends to consider adoption of an Enforcement Order for Issuance of a Time Schedule for the discharger to insure timely compliance with secondary treatment requirements. The discharger will not meet the secondary treatment standards prescribed by the Federal Act prior to the July 1, 1977 deadline.

7. A Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) was adopted by the Board on April 8, 1975. This Basin Plan contains water quality objectives for the San Francisco Bay and Alameda Creek.

8. The beneficial uses of Alameda Creek and San Francisco Bay are:

   a. Water contact recreation
   b. Non-contact water recreation
   c. Navigation
   d. Open commercial and sport fishing
   e. Wildlife habitat
   f. Fish spawning and migration
   g. Industrial uses
   h. Preservation of rare and endangered species
   i. Shell fishing (not approved for human consumption)

9. The discharger is presently governed by Waste Discharge Requirements Order No. 74-144, which allows discharge until July 1, 1977.

10. This project involves the continued operation of a publicly-owned facility to provide sewerage service with negligible or no expansion of use beyond that previously existing. Consequently, this project will not have a significant effect on the environment based upon the exemption provided in Section 15101, Title 14, California Water Code.

11. The discharger and interested persons and agencies have been notified of the Board's intent to revise requirements for the existing discharge and have been provided with the opportunity to submit their written views and recommendations.

12. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Federal Water Pollution Control Act Amendments of 1972, and regulations and guidelines adopted thereunder, that the discharger shall comply with the following:

A. Prohibitions

1. Bypass or overflow of untreated wastewater to waters of the State, either at the treatment plant or from the collection system, is prohibited.

2. Average dry weather flow greater than 4.5 million gallons ($17,030 m^3$) per day is prohibited until completion of plant expansion in November, 1980. After November 1, 1980, average dry weather flow greater than 20.0 million gallons ($75,700 m^3$) per day is prohibited.

3. Discharge of waste at any point where it does not receive a minimum initial dilution of 10:1 is prohibited.

B. Effluent Limitations

1. Effluent discharged shall not exceed the following limits:

	Constituent	Units	30-Day Average	7-Day Average	Daily Maximum	Instantaneous Maximum
a.	Chlorine Residual	mg/l	-	-	-	0.0
b.	Biochemical Oxygen Demand	mg/l	30	45	60	-
		lbs/day	1130	1690	2255	
		kgs/day	515	770	1021	
c.	Suspended Solids	mg/l	30	45	60	-
		lbs/day	1130	1690	2255	
		kgs/day	515	770	1021	
d.	Settleable Matter	ml/l-hr	0.1	-	-	0.2
e.	Grease & Oil	mg/l	10	-	20	-
		lbs/day	380	-	775	-
		kg/day	170	-	340	

2. The arithmetic mean of the biochemical oxygen demand (5-day, 20° C) and 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 at approximately the same times during the same period (i.e. 85 percent removal).

3. Prior to compliance with items B.1.b, c, d, e & B.2., the following interim limitations shall apply:

a. Settleable Matter, in any grab sample:

The arithmetic average of any 6 or more samples collected on any day	0.5 ml/l-hr. maximum
80% of all individual samples collected during maximum daily flow over any 30-day period	0.4 ml/l-hr. maximum

b. BOD, 30-day Average — 60 mg/l, maximum; 2,260 lbs/day, maximum

c. Suspended Solids, 30-day Average — 75 mg/l, maximum; 2815 lbs/day, maximum

d. Grease & Oil , 30-Day Average — 15 mg/l, maximum; 565 lbs/day, maximum

4. The discharge shall not have a pH of less than 6.5 nor greater than 8.5.

5. In any representative set of samples, the waste as discharged shall meet the following limit of quality:

   TOXICITY: The survival of a test organism acceptable to this Regional Board in 96-hour bioassays of the effluent as discharged shall achieve a median of 90% survival for three consecutive samples and a 90 percentile value of not less than 70% survival for 10 consecutive samples.

6. Representative samples of the effluent shall not contain constituents in excess of the following limits:

	Unit of Measurement	50% of Time	10% of Time
Arsenic	mg/l	0.01	0.02
Cadmium	mg/l	0.02	0.03
Total Chromium	mg/l	0.005	0.01
Copper	mg/l	0.2	0.3
Lead	mg/l	0.1	0.2
Mercury	mg/l	0.001	0.002
Nickel	mg/l	0.1	0.2
Silver	mg/l	0.02	0.04
Zinc	mg/l	0.3	0.5
Cyanide	mg/l	0.1	0.2
Phenolic Compounds	mg/l	0.5	1.0
Total Idnetifiable Chlorinated Hydrocarbons[1/]	mg/l	0.002	0.004
Radioactivity	pci/l	100	-

[1/] 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 hydrocarbons.

7. The total coliform bacteria for a median of five consecutive effluent samples shall not exceed 240 per 100 milliliters. Any single sample shall not exceed a most probable number (MPN) of 10,000 total coliform bacteria when verified by a repeat sample taken within 48 hours.

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. Annual median - 80% saturation. When natural factors cause lesser concentrations than specified above, then 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 0.2 pH units.
d.	Ammonia (as N) (un-ionized)	Annual median: 0.025 mg/l Maximum at any time: 0.4 mg/l

3. Prior to connecting the service areas of the Irvington and Newark treatment plants to the proposed subregional facility at Alvarado, the Alvarado discharge shall not cause the waters of Alameda Creek to exceed the following limits of quality at any place more than 1500 feet downstream from the treatment plant discharge:

Dissolved Oxygen	5.0 mg/l, minimum

D. Provisions

1. The requirements prescribed by this Order supercede the requirements prescribed by Order No. 74-144, adopted by the Board on November 19, 1974. Order No. 74-144 is hereby rescinded.

2. The discharger shall implement and enforce a source control program approved by the Executive Officer to comply with the State Water Resources Control Board's "Guidelines for Determining the Effectiveness of Local Source Control Programs."

3. The discharger shall comply immediately with all requirements of this Order with the exception of those items delineated in time schedules contained in Provisions D.4. and D.5. below.

4. The discharger shall comply with the following time schedule to assure compliance with Prohibition A.3., Effluent Limitations B.1.(b)(c)(d)(e), B.2., B.5., Receiving Water Limitations C.1.(a)(c), C.2.(a)(d) of this Order:

Task	Compliance Date	Report of Compliance Date
Full compliance	July 1, 1977	July 15, 1977

5. The discharger shall comply with the following time schedule to assure compliance with Effluent Limitation B.6. of this Order:

Item	Compliance Date	Report of Compliance Date
a. Compliance with program for source control and compliance with pretreatment standards	August 1, 1977	August 15, 1977
b. Documentation of compliance with Effluent Limitation B.6.	February 1, 1978	February 15, 1978

This Regional Board will consider amendment of the Effluent Limitation B.6. if the discharger demonstrates that compliance cannot be achieved through a program acceptable to the Board for source control and pretreatment standards.

6. The discharger shall review and update annually 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 comply with the self-monitoring and reporting program as ordered by the Executive Officer.

8. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April, 1977, except B.3.

9. This order expires May 1, 1981. 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.

This order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control 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, Fred H. Dierker, 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 June 21, 1977.

FRED H. DIERKER
Executive Officer