

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO. 77-94

NPDES NO. CA0037621

WASTE DISCHARGE REQUIREMENTS  
FOR  
CITY OF SUNNYVALE,  
SANTA CLARA COUNTY

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

1. The City of Sunnyvale (hereinafter discharger), by application dated February 10, 1977 has applied for waste discharge requirements and a permit to discharge wastes under the National Pollutant Discharge Elimination System.
2. The discharger presently discharges domestic and industrial wastes from its sewage treatment plant into Guadalupe Slough, a water of the United States, at 37° 26' 04" latitude and 122° 01' 29" longitude.
3. The report of waste discharge describes the existing discharge as follows:  

Average Flow: 16.2 million gallons per day (mgd)  
Design Flow: 22.5 million gallons per day (mgd)
4. 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.
5. 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.
6. The State Water Resources Control Board, on May 16, 1974 adopted a Water Quality Control Policy for the Enclosed Bays and Estuaries of California. The Policy includes the following:

"The State Board and the San Francisco Regional Board shall take such action as is necessary to assure the elimination of wastewater discharges to waters of the San Francisco Bay, south of the Dumbarton Bridge, at the earliest practicable date."

7. A Water Quality Control Plan for the San Francisco Bay Basin was adopted by the Board on April 8, 1975. The Basin Plan contains water quality objectives for Guadalupe Slough, Sunnyvale West Channel and San Francisco Bay.
8. The beneficial uses of Guadalupe Slough, Sunnyvale West Channel and San Francisco Bay are:
  - a. Recreation
  - b. Fish migration and habitat
  - c. Habitat and resting for water fowl and migratory birds
  - d. Industrial water supply
  - e. Esthetic enjoyment
  - f. Navigation
9. The discharge is presently governed by Waste Discharge Requirements Order No. 74-170 which allows discharge to Guadalupe Slough.
10. The discharger and interested agencies and persons have been notified of the Board's intent to revise 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.
11. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.
12. 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 Administrative Code.

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

A. Prohibitions

1. The discharge of waste to waters of the San Francisco Bay, south of Dumbarton Bridge or tributaries thereto is prohibited.
2. There shall be no bypass or overflow of untreated wastewater to waters of the State, either at the treatment plant or from the collection system.
3. The average dry weather flow shall not exceed 22.5 mgd. Average shall be determined over three consecutive months per year.

B. Effluent Limitations

1. Prior to achieving compliance with limitations specified in B.2., B.7. and B.8. below, the following interim limitations shall apply:

	<u>30 Day Average</u>
a. BOD	50 mg/l 13095 lbs/day
b. Suspended Solids	110 mg/l 28809 lbs/day
c. Settleable Matter	0.1 ml/l-hr
d. Oil & Grease	25 mg/l 6548 lbs/day
e. The effluent shall have a most probable number of total coliform organisms less than 1,000 per 100 ml. provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml. and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml.	

2. The discharge of an effluent containing constituents in excess of the following limits is prohibited:

<u>Constituent</u>	<u>Units</u>	<u>30-Day Average</u>	<u>Maximum Daily</u>	<u>Instantaneous Maximum</u>
a. BOD	mg/l	10	20	
	lbs/day	2619	5238	
	kg/day	1190	2380	
b. Suspended Solids	mg/l	10	20	
	lbs/day	2619	5238	
	kg/day	1190	2380	
c. Oil and Grease	mg/l	5	10	
	lbs/day	1309	2618	
	kg/day	595	1190	
d. Turbidity	JTU			10
e. Settleable Matter	ml/l-hr	0.1		0.2

3. Chlorine residual shall not exceed an instantaneous maximum of 0.0 mg/l.
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 test organisms acceptable to the Regional Board in 96-hour bioassays of the effluent 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 exceed the following limits more than the percentage of time indicated:(a)

<u>Constituent</u>	<u>Unit of Measurement</u>	<u>50% of Time</u>	<u>10% of Time</u>
Arsenic	mg/l(kg/day)	0.01(0.852)	0.02(1.70)
Cadmium	mg/l(kg/day)	0.02(1.70)	0.03(2.55)
Total Chromium	mg/l(kg/day)	0.005(0.426)	0.01(0.852)
Copper	mg/l(kg/day)	0.2(17.0)	0.3(25.5)
Lead	mg/l(kg/day)	0.1(8.52)	0.2(17.0)
Mercury	mg/l(kg/day)	0.001(0.085)	0.002(0.17)
Nickel	mg/l(kg/day)	0.1(8.52)	0.2(17.0)
Silver	mg/l(kg/day)	0.02(1.70)	0.04(3.40)
Zinc	mg/l(kg/day)	0.3(25.5)	0.5(42.6)
Cyanide	mg/l(kg/day)	0.1(8.52)	0.2(17.0)
Phenolic Compounds	mg/l(kg/day)	0.5(42.6)	1.0(85.2)
Total Identifiable Chlorinated Hydrocarbons	mg/l(kg/day) <sup>(b)</sup>	0.002(0.17)	0.004(0.34)

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

(b) 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.

7. The arithmetic mean of values for BOD and suspended solids in effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of respective values for influent samples collected at approximately the same times during the same period (i.e. 85 percent removal).

8. At some point in the treatment process, the waste shall not exceed a median MPN of coliform organisms of 2.2/100 ml as determined from the results of the previous consecutive seven (7) days for which analysis have been completed.

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 concentration(s) 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 0.2 pH units.
  - d. Un-ionized Ammonia  
    as N      0.025 mg/l, annual median  
              0.4 mg/l maximum

D. Land Disposal Requirements

1. Sewage sludge shall not be discharged in any manner where it is, or can be, carried from the sludge lagoons and deposited in waters of the State.

2. The sludge lagoons 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 disposal site. Adequate protection is defined as protection from at least a 100-year storm, and from the highest tidal stage that may occur.

E. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 74-170 adopted by the Board on December 6, 1974. Order No. 74-170 is hereby rescinded.
2. The discharger shall comply with the following time schedule to assure compliance with specifications of this Order:

- a. Compliance with Effluent Limitations B.2., B.5., B.7., B.8.; Receiving Water Limitations C.1.a., c., and C.2.a., d.;

<u>Task</u>	<u>Completion Date</u>
Full Compliance	July 1, 1977

- b. Compliance with Prohibition A.1.:

<u>Task</u>	<u>Completion Date</u>	<u>Report of Compliance Due</u>
Status Report	-	August 2, 1977
Submit Draft EIS	February 1, 1978	February 15, 1978
Submit Project Report and Final EIS	June 15, 1978	June 30, 1978
Submit a time schedule to comply with Prohibition A.1.	August 1, 1978	August 15, 1978

- c. Compliance with effluent limitation B.6.:

<u>Task</u>	<u>Completion Date</u>	<u>Report of Compliance Due</u>
Status Report on compliance with program for source control	-	December 15, 1977
Status Report	-	June 15, 1978
Documentation of compliance with effluent limitation	December 1, 1978	December 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.

- d. The discharger shall comply with all other effluent and receiving water limitations, prohibitions and provisions of this Order immediately upon adoption.
3. 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 willfull and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
4. The discharger shall comply with the self-monitoring program as ordered by the Executive Officer.
5. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definations" dated April 1977 except B.3.
6. This Order expires on July 1, 1982 and 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 July 19, 1977.

FRED H. DIERKER  
Executive Officer

Attachments:

Standard Provisions, Reporting Requirements & Definations  
Self-Monitoring Program Part A & B

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM  
FOR

CITY OF SUNNYVALE, WATER

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POLLUTION CONTROL PLANT

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NPDES NO. CA 0037621

ORDER NO. 77-94

SMP CONSISTS OF

PART A

AND

PART B revised 7/19/77

PART B - CITY OF SUNNYVALE

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

<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.

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-1-1	At a point in the dredged channel located within 100 feet downcurrent from the old point of discharge E-1 (see attached map)
C-1-2	At a point in Guadalupe Slough located within 2500 feet easterly from the point of discharge from outfall E-3. (see attached map)
C-1-3	At a point in Guadalupe Slough located within 100 feet westerly from the point of discharge from outfall E-3. (see attached map)
C-2-0	At a point in Guadalupe Slough located not closer than 2000 feet easterly from Station C-3-0.
C-3-0	At a point in Guadalupe Slough located at the confluence with the dredged channel (conforms approximately with old Monitoring Program Station C-2).
C-4-0	At a point in Guadalupe River located in the vicinity of the Moffett NAS fuel dock and not closer than 500 feet from the point of discharge from Outfall E-3 (conforms to old Monitoring Program Station C-4).
C-4-2	At a point in Guadalupe Slough located 2000 feet bayward from Station C-4-0.
C-4-4	At a point in Guadalupe Slough located 4000 feet bayward from Station C-4-0.

- C-4-6 At a point in Guadalupe Slough located 6000 feet bayward from Station C-4-0.
- C-5-0 At a point in Guadalupe Slough located at the PG&E Company power line crossing near the mouth of Guadalupe River (conforms to old Monitoring Program Station C-5).

D. LAND OBSERVATION

<u>Station</u>	<u>Description</u>
P-1 thru p-'n'	Located at the corners and midpoints of the perimeter fenceline surrounding the treatment facilities. (A sketch showing the locations of these stations will accompany each report.)
L-1 thru L-'n'	Located along the perimeter levee at equidistant intervals not to exceed 500 feet. (A sketch showing the locations of these stations will accompany each report.)

E. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
OV-1 thru OV-'n'	Bypass or overflows from manholes, pump stations or collection system
	Note: Initial SMP report to include map and description of each known bypass or overflow location
	<u>Reporting</u> - Shall be submitted monthly and include date time and period of each overflow or bypass

II. SCHEDULE OF SAMPLING AND ANALYSIS

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

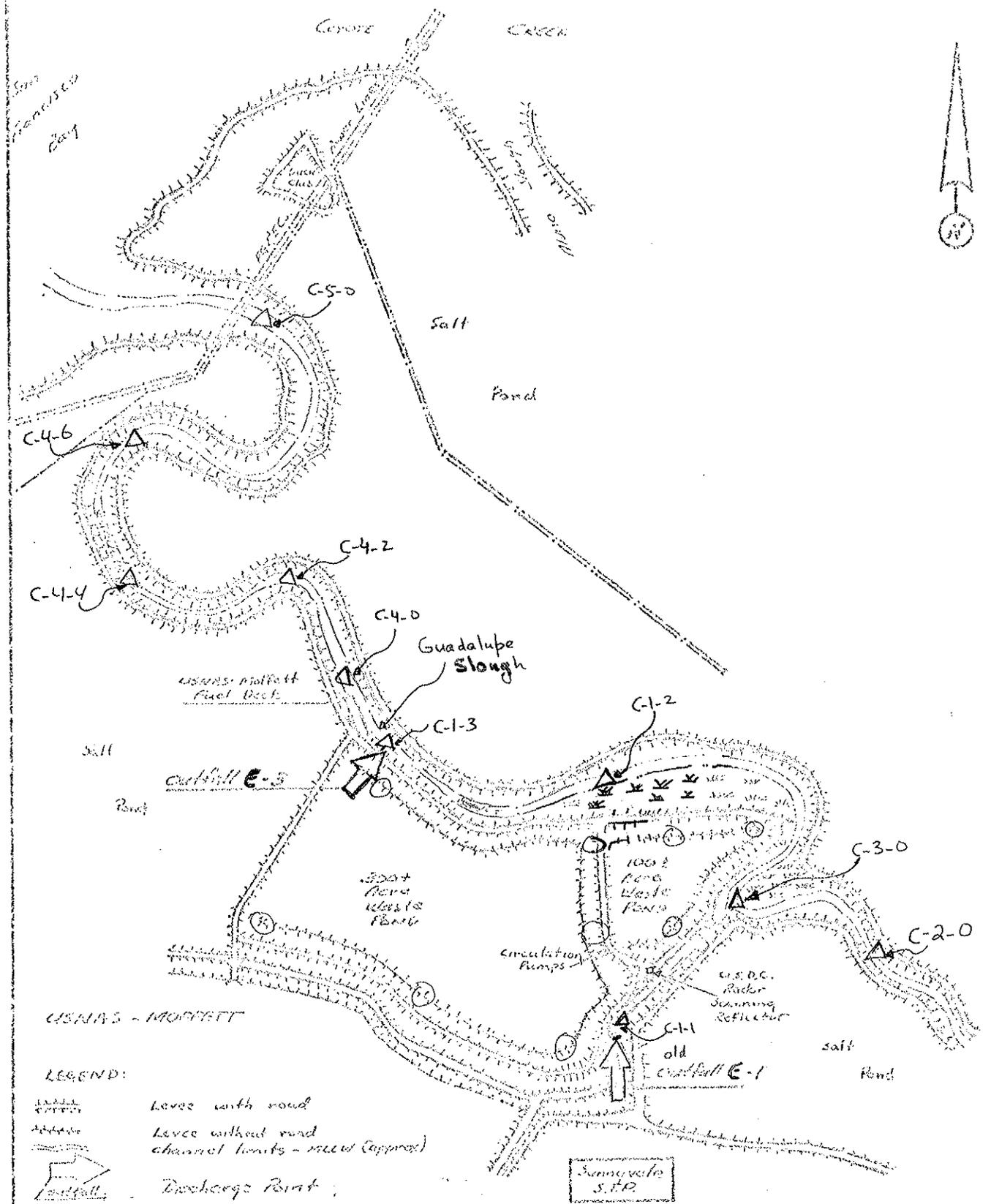
I, Fred H. Dierker, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure 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. 74-170.
2. Does not include the following paragraphs of Part A: C-3, C-4.
3. Has been ordered by the Executive Officer on December 6, 1974, and has become effective immediately.
4. 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 ordered by the Executive Officer.

Attachment(s): Map  
Table I

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FRED H. DIERKER  
Executive Officer



USNS - MOFFETT

LEGEND:

- Levee with road
- Levee without road
- channel limits - 100% (approx)
- Discharge Point
- C-1-0 Receiving Water Sampling Station
- L-1-0 Levee Observation Station

SAN FRANCISCO BAY REGIONAL  
WATER POLLUTION CONTROL BOARD

SINNYVALE Water Pollution  
Control Plant

Monitoring Program Sampling Stations  
Locations

Scale 1/4" = 2000 Feet

DRAWN BY: MHK / DATE: 7/10/84 / DRWG NO. 2



**TABLE I (continued)**  
**SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS**

Sampling Station	A-001	E-001-D		C-2-0 thru C-5-0	All C	(2) P	(2) L	OV					
	C-24	G	C-24	G	G	O	G	O					
Mercury (mg/l & kg/day)			2/Y										
Nickel (mg/l & kg/day)			2/Y										
Zinc (mg/l & kg/day)			2/Y										
Phenoic Compounds (mg/l & kg/day)			2/Y										
All Applicable Standard Observations		D		M	2/M	W	W	E					
Bottom Sediment Analyses and Observations													
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)			2/Y										
Un-ionized NH <sub>4</sub> OH as N				M									

- (1) During any day when bypassing occurs from any treatment unit(s) in the plant, the monitoring program for the effluent shall include the following in addition to the above schedule for sampling, measurement and analyses:
1. Composite sample for BOD, Total suspended solids, oil and grease (influent & effluent)
  2. Grab sample for Coliform (Total and Fecal), Settleable matter, and chlorine residual (continuous or every two hours)
  3. Continuous monitoring of flow
- (2) Sampling at each station shall be as follows: Alternating times of sampling between 0800 - 1000 hours and 1400 - 1600 hours.

(3) once every shift.

LEGEND FOR TABLE

TYPES OF SAMPLES

- G = grab sample
- C-24 = composite sample - 24-hour
- C-X = composite sample - X hours  
(used when discharge does not continue for 24-hour period)
- Cont = continuous sampling
- DI = depth-integrated sample
- BS = bottom sediment sample
- O = observation

TYPES OF STATIONS

- I = intake and/or water supply stations
- A = treatment facility influent stations
- E = waste effluent stations
- C = receiving water stations
- P = treatment facilities perimeter stations
- L = basin and/or pond levee stations
- B = bottom sediment stations
- OV = Overflow and Bypass

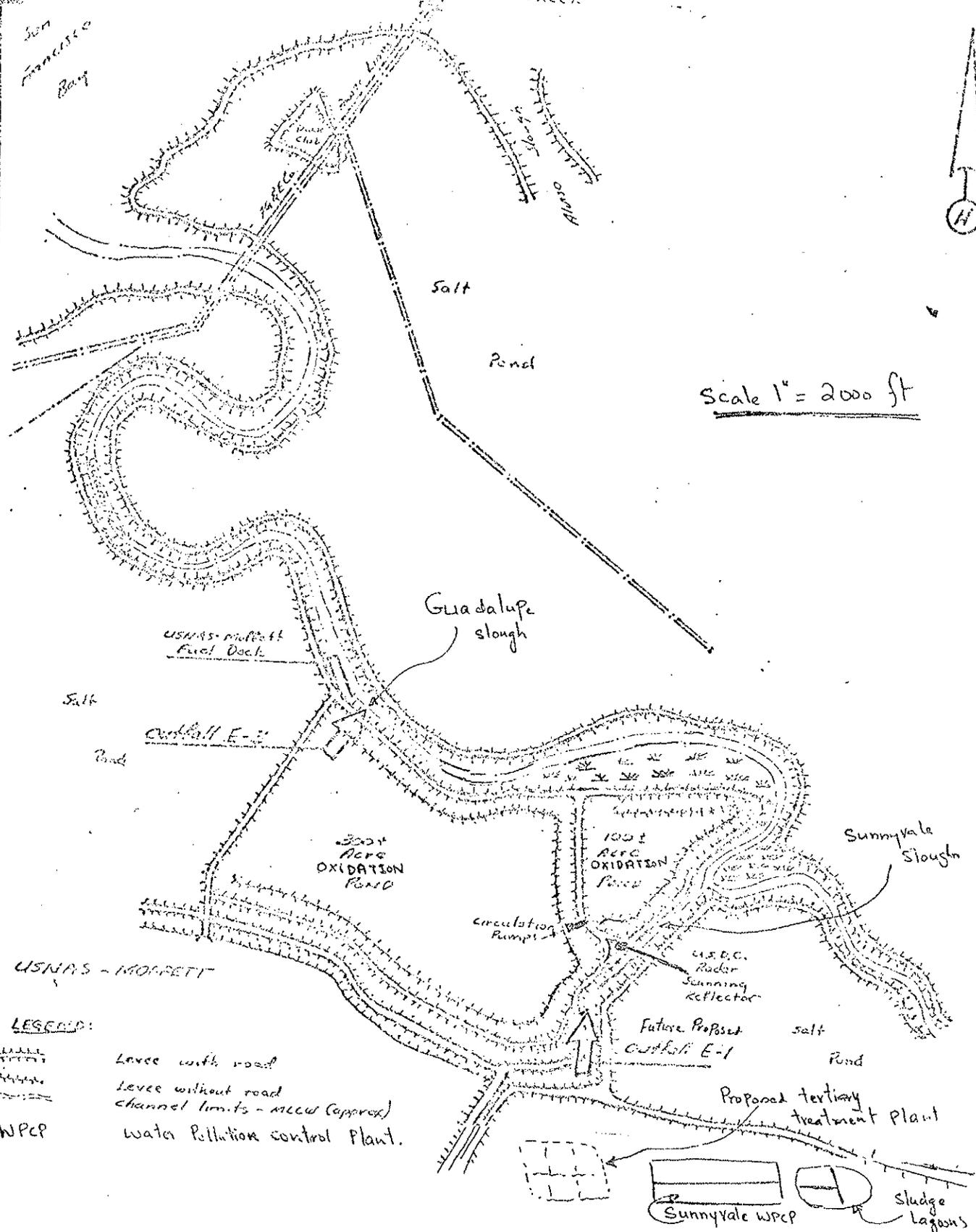
FREQUENCY OF SAMPLING

- B = 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/E = 2 days per week
- 5/W = 5 days per week
- 2/M = 2 days per month
- 2/Y = once in April and once in September
- 2H = every 2 hours
- 2D = every 2 days
- 2W = every 2 weeks
- 3M = every 3 months
- Cont = continuous

San Francisco Bay



Scale 1" = 2000 ft



USNAs - MOGGETT

LEGEND:

- Levee with road
- Levee without road
- channel limits - allow (approx)
- WPCP water Pollution control Plant.

STATE OF CALIFORNIA  
REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

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City of Sunnyvale water Pollution control Plant  
Sunnyvale, Santa Clara County

Map showing Location of Plant and oxidation Ponds.

ORDER NO. \_\_\_\_\_ NPDES No: CA0037621

DRAWN BY: MHK | DATE: 7/2/74 | DRWG. NO. 1

ATTACHMENT A