

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 88-060

WATER RECLAMATION REQUIREMENTS FOR:

CITY OF CALISTOGA; EUGENE FREDIANI; WALTER FOX;
CALISTOGA LITTLE LEAGUE ASSOCIATION; ROBERT MAXFIELD;
CALISTOGA SCHOOL DISTRICT; NAPA COUNTY FAIRGROUNDS ASSOCIATION;
CALISTOGA ELEMENTARY SCHOOL; CALISTOGA SOARING CENTER;
JACK CHANDLER; AND CALISTOGA MINERAL WATER COMPANY,
IN NAPA COUNTY

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

1. The City of Calistoga currently operates a tertiary wastewater treatment plant which has a permitted dry weather treatment and disposal capacity of 0.62 million gallons per day (MGD). Discharge of treated wastewater to the Napa River is allowed during the wet weather period of October 1 through May 15, and is governed by a separate set of Board Order under the National Pollutant Discharge Elimination System (NPDES Permit No. CA0037966). During the dry weather period of the year, treated wastewater is discharged to land through a water reclamation project which is currently governed by the Water Reclamation Requirements adopted by the Board on October 17, 1978 in Order No. 78-85.
2. The City of Calistoga filed a Report of Waste Discharge on March 4, 1988 on behalf of all the parties named above for an update of the Water Reclamation Requirements.
3. During dry weather periods, the City of Calistoga proposes to use treated and disinfected wastewater from the City's treatment plant for the following purposes:

<u>User</u>	<u>Purpose</u>	<u>Acreage/volume</u>
A. City's four polishing/percolation ponds	Storage, evaporation, and percolation of treated wastewater	2.7 acres
B. City's irrigation fields	Irrigation of grass land	13.5 acres
C. Eugene Frediani's property	Storage ponds	10 million gallons
	Frost protection of Vineyard	160 acres
D. Walter Fox's property	Irrigation of horses grazing area	14 acres

E.	Calistoga Little League Association	Irrigation of baseball field	0.5 acres
F.	Robert Maxfield's Property	Irrigation of horse and cattle grazing area	22 acres
G.	Calistoga School District	Irrigation of athletic fields, landscape	8 acres
H.	Napa County Fairgrounds Association	Irrigation of golf course, fairgrounds, inside of race track, and landscape	65 acres
I.	City's softball field	Irrigation of softball field	2 acres
J.	Calistoga Elementary School	Irrigation of athletic fields, landscape	2.5 acres
K.	Calistoga Soaring Center	Irrigation of areas adjacent to airport runways	9.3 acres
L.	Jack Chandler's property	Irrigation of landscape	5.5 acres
M.	Calistoga Mineral Water Company	Irrigation of landscape	1 acre

4. The City of Calistoga is hereinafter called the Producer of the reclaimed water. The City of Calistoga, Eugene Frediani, Walter Fox, Calistoga Little League Association, Robert Maxfield, Calistoga School District, Napa County Fairgrounds Association, Calistoga Elementary School, Calistoga Airport, Jack Chandler, and Calistoga Mineral Water Company are hereinafter collectively called the User. Both the Producer and the User are hereinafter collectively called the Discharger. The City of Calistoga, as the purveyor of the treated wastewater to the proposed user areas, will operate and maintain the major transmission facilities. Currently, regardless of the type of reuse, the Producer provides reclaimed water to all the user areas through a common transmission pipeline. Under normal conditions, the reclaimed water supplied in this manner is required to be acceptable for all uses. Attachment A is a map showing the location of the water reclamation sites and is hereby made a part of this Order.
5. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The water quality goals to be used in regulating water quality factors as set forth in the Basin Plan include maximum feasible reclamation or reuse of municipal, industrial, and agricultural wastewaters.
6. The Basin Plan identifies the beneficial uses of the main groundwater basins in the Region as:

- a. Municipal supply
 - b. Industrial process water supply
 - c. Industrial service supply
 - d. Agricultural supply
7. Section 13523 of the California Water Code provides that a Regional Board, after consultation with and reception of recommendations from the State Department of Health Services, and if it determines such action to be necessary to protect the public health, safety, or welfare, shall prescribe water reclamation requirements for water which is used or proposed to be used as reclaimed water.
 8. These water reclamation requirements are in conformance with the statewide reclamation criteria established by the State Department of Health Services as prescribed in Title 22, Section 60301 through Section 60355, California Administrative Code.
 9. The Discharger prepared an Environmental Impact Report (EIR) dated December 1976 in accordance with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.). The EIR found this project to have no significant adverse impact on the environment with the implementation of proper mitigation measures.
 10. The Board has notified the Discharger, and interested agencies and persons of its intent to prescribe water reclamation requirements for the proposed discharge.
 11. The Board, in a public meeting, heard and considered all comments pertaining to this 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, shall comply with the following:

A. Prohibitions

1. The treatment, storage, distribution, or reuse of reclaimed water shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. No reclaimed water shall be allowed to escape from the designated use area via surface flow or airborne spray.
3. There shall be no cross-connection between potable water supply and piping containing reclaimed water. Supplementing reclaimed water with water used for domestic supply shall not be allowed except through an air-gap separation. An air-gap or reduced pressure principle device shall be provided at all domestic water service connections to reclaimed water use areas.
4. The use of reclaimed water shall not cause the degradation of groundwater used for domestic purposes or cause any change in a quality parameter which would make the groundwater unsuitable for irrigation use.

B. Reclaimed Water Use Specifications

Producer

1. The Producer shall assure that the reclaimed water is at all times an adequately disinfected, oxidized, coagulated, clarified, filtered wastewater which has received the full treatment available at the Producer's treatment plant and shall meet the following quality limits prior to being applied to the user areas:
 - a. Turbidity 5 units, daily maximum
 - b. Chlorine Residual 1.0 mg/l minimum, after 30 minutes of contact time
 - c. 5-day BOD 10 mg/l maximum, monthly average
20 mg/l, daily maximum
 - d. Suspended Solids 15 mg/l maximum, monthly average
30 mg/l, daily maximum
 - e. Oil and Grease 5 mg/l maximum, monthly average
10 mg/l, daily maximum
 - f. Dissolved Oxygen 1.0 mg/l minimum, in any grab sample
 - g. Dissolved Sulfides 0.1 mg/l maximum, in any grab sample
 - h. At any point downstream of the disinfection facilities where adequate contact with disinfectant is assured:

The median number of total coliform organisms shall not exceed 2.2 MPN/100 ml as determined from the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform organisms shall not exceed 23 MPN/100ml in any sample.
2. The Producer shall discontinue the pumping of reclaimed water to the irrigation site during any period in which he has reason to believe that the limits specified in B.1 above are not being met. The pumping of reclaimed water shall not be resumed until all conditions which caused the limits specified in B.1 to be violated have been corrected.

User

3. There shall be at least a 10-foot horizontal and 1-foot vertical separation (with the domestic water above the reclaimed water pipeline) between all pipelines transporting reclaimed water and those transporting domestic water.

4. The User shall manage its spray irrigation so as to prevent the breeding of insects and other vectors of health significance, and the creation of odors, slimes, or unsightly deposits.
5. Unless special circumstances warrant daytime application, irrigation of golf course, playgrounds, schoolyards, athletic fields, ball parks, and other areas where the public has similar access or exposure should occur at night or early morning when the wind velocity is minimal and the public is absent. The grounds should have maximum opportunity to dry before used by the public.
6. The User shall provide adequate means of notification to inform the public that reclaimed water is being used for irrigation. Conspicuous warning signs of sufficient size with proper wording to be clearly read shall be posted at adequate intervals around the irrigation site. At the golf course, additional notice shall be printed on the score cards stating that reclaimed water is being used.
7. Reclaimed water shall not be sprayed directly on any surface streams, flood control channels, passing vehicles, buildings, domestic water facilities or food handling facilities. Drinking water facilities shall be protected from direct or windblown reclaimed water spray. At the fairgrounds, reclaimed water shall not be applied on the camping area.
8. Reclaimed water shall not be applied to the irrigation site during rainfall, or when soils are saturated to a point where runoff is likely to occur.
9. There shall be no irrigation or impoundment of reclaimed water within 500 feet of any well used for domestic supply or 100 feet of any irrigation well unless it can be demonstrated that special circumstances justify lesser distances to be acceptable.
10. Use of reclaimed water shall be limited to the areas specified in Finding 3 of this Order unless written authorization is obtained from the Executive Officer.
11. All storage ponds (including the percolation ponds) shall be protected from erosion, flooding and washout by the maximum flood water having a predicted frequency of once in 100 years.
12. The boron concentration of reclaimed water discharged to the percolation basins shall be minimized, and the boron concentration of water in wells near the basins shall not be increased by this discharge. The discharge to the percolation basins shall not cause seepage to be present at any place outside the percolation basins.

C. Provisions

1. The Discharger shall comply with a Self-Monitoring Program as

ordered by the Executive Officer.

2. The Discharger shall permit the Board or its authorized representatives in accordance with California Water Code Section 13267(c):
 - (a) Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;
 - (b) Access to and copy at reasonable times any records that must be kept under the conditions of this Order;
 - (c) Inspection at reasonable times of any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this order; and
 - (d) To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with this Order.
3. The Discharger shall maintain in good working order and operate, as efficiently as possible, any facility or control system installed or as modified to achieve compliance with this Order.
4. All equipment, including pumps, piping, valves, etc. with public access which may at any time contain reclaimed water shall be adequately and clearly identified with warning signs and the Discharger shall make all necessary provisions, in addition, to inform the public that the liquid contained is reclaimed water and is unfit for human consumption.
5. A contingency plan shall be developed outlining the actions to be taken in the event effluent quality fails to meet required standards. The plan must be reviewed and updated each year prior to the beginning of irrigation season.
6. In the event of any change in control or ownership of land or water reclamation facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by a letter, a copy of which shall be forwarded to this Board.
7. The Discharger shall file with the Board a report on waste discharge at least 180 days before making any material change in the character, location, or volume of the reuse, except for emergency conditions in which case the Board shall be notified.
8. The Board will review this Order periodically and may revise the requirements when necessary.
9. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - (a) Violation of any term or condition contained in this Order;

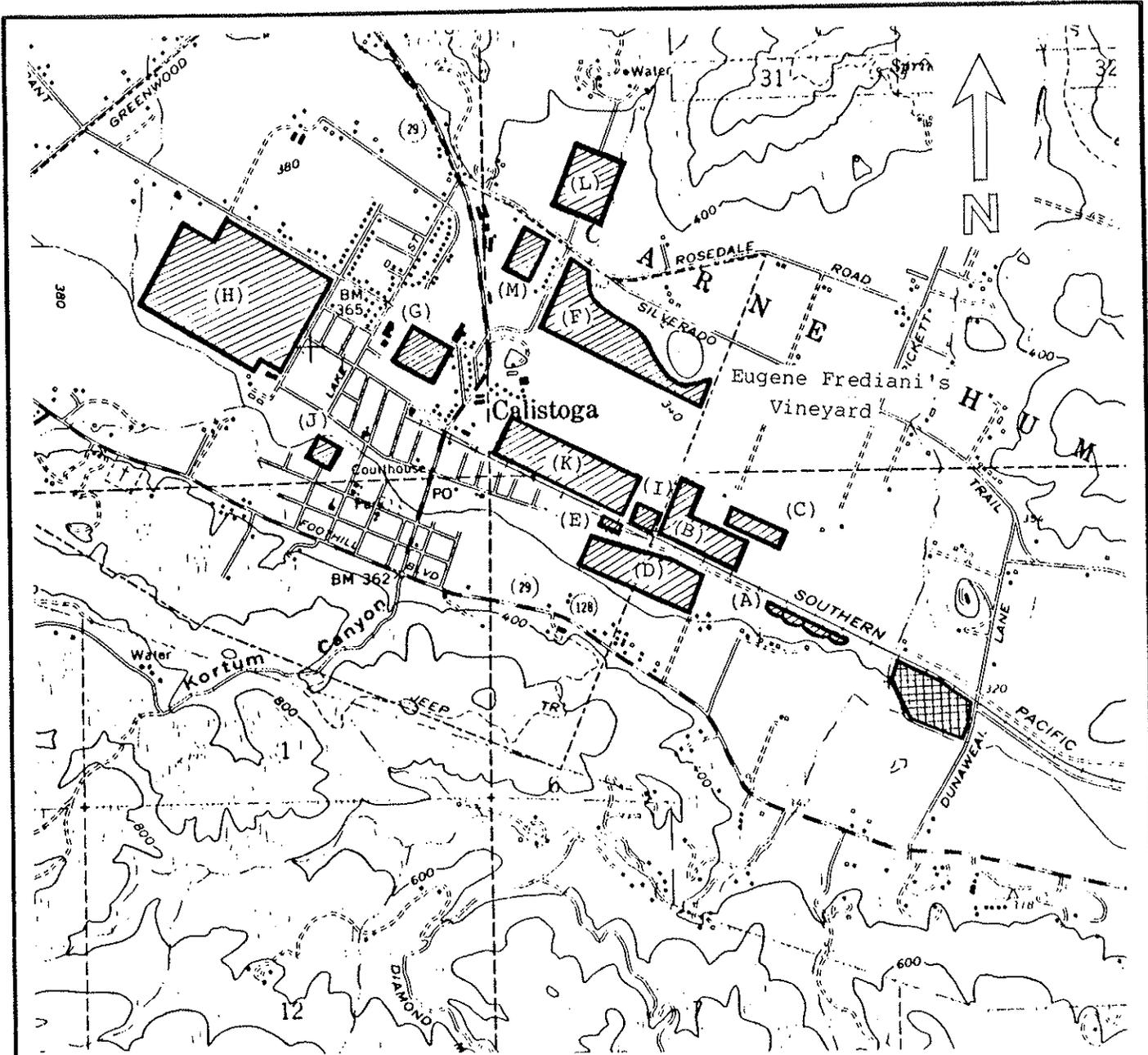
- (b) Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;
 - (c) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized reuse; and,
 - (d) Endangerment to public health or environment that can only be regulated to acceptable levels by order modification or termination.
10. A "user supervisor" should be appointed by the User at each user area. The user supervisor should be responsible for repairing, maintaining, and operating the reclamation system according to the conditions specified in this Order to prevent potential public health hazard.
11. Inspection, supervision, and employee training should be provided by the User to assure proper operation of the reclamation facilities and to provide worker protection. Records of inspection and training should be maintained by the User.
12. The water quality limits specified in Section B.1 of this Order are to protect public health in areas which, among other user areas described in this Order, has the highest public health significance. In cases where reclaimed water of lesser quality is to be diverted to a designated user area of less public health concern, the Producer must obtain written authorization from the Executive Officer of the Board. The Executive Officer will review such proposals in accordance with the criteria established by the State Department of Health Services as prescribed in Title 22, Section 60301 through Section 60355, California Administrative Code, with regard to the proposed uses.
13. The Water Reclamation Requirements previously prescribed by the Board in Order No. 78-85 is superseded by this Order. Order No. 78-85 is no longer applicable and is hereby rescinded.

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 April 20, 1988.



ROGER B. JAMES
Executive Officer

Attachments:
Location Map
Self-Monitoring Program



USER AREAS:

- A. City's Percolation Ponds
- B. City's Irrigation Field
- C. Frediani Ponds
- D. Walter Fox's Property
- E. Calistoga Little League Association
- F. Robert Maxfield's Property
- G. Calistoga School District
- H. Napa County Fairgrounds Association
- I. City's Softball Field
- J. Calistoga Elementary School
- K. Calistoga Soaring Center
- L. Jack Chandler's Property
- M. Calistoga Mineral Water Co.

Legend:



Reclamation Site



Wastewater Plant

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

Attachment A:

Location Map,
City of Calistoga,
Wastewater Reclamation Project,
in Napa County

DRAWN BY:

DATE:

DRWG. NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

FINAL

SELF-MONITORING PROGRAM

FOR

CITY OF CALISTOGA

WASTEWATER RECLAMATION PROJECT

in NAPA COUNTY

ORDER NO. 88-060

CONSISTS OF

PART A

PART A

CITY OF CALISTOGA WASTEWATER RECLAMATION PROJECT (for both Producer and User)

I. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principal purposes of a monitoring program by a waste discharger, also referred to as a self-monitoring program, are:

1. To document compliance with waste discharge requirements (or, water reclamation requirements) and prohibitions established by the Regional Board.
2. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge or water reclamation.

II. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the 40 CFR S136 or other methods approved and specified by the Executive Officer of this Regional Board.

Water and waste analyses shall be performed by a laboratory approved for these analyses by the State Department of Health Services (DOHS) or a laboratory waived by the Executive Officer from obtaining a certification for these analyses by the DOHS. The director of the laboratory whose name appears on the certification or his/her laboratory supervisor who is directly responsible for analytical work performed shall supervise all analytical work including appropriate quality assurance/quality control procedures in his or her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

III. DEFINITION OF TERMS

1. A grab sample is defined as an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples shall be collected during normal operation conditions for the parameter of interest, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with daily maximum limits and instantaneous maximum limits. Grab

samples represent only the condition that exists at the time the wastewater is collected.

2. A flow sample is defined as the accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.
3. A composite sample is defined as a sample composed of individual grab samples mixed in proportions varying not more than plus or minus five percent from the instantaneous rate (or highest concentration) of waste flow corresponding to each grab sample collected at regular intervals not greater than one hour, or collected by the use of continuous automatic sampling devices capable of attaining the proportional accuracy stipulated above throughout the period of discharge for 8 consecutive or of 24 consecutive hours, whichever is specified in Table 1.

4. Standard Observations

a. Periphery of Spray Irrigation Site

- (1) Evidence of reclaimed water escaping the irrigation site through surface runoff or airborne spray. (Show affected area on a sketch.)
- (2) Odor: presence or absence, characterization, source, and distance of travel.
- (3) Evidence of prolonged ponding of reclaimed water in the irrigation site as a result of excessive spray which has resulted in breeding of insects.
- (4) Adequate posting of warning signs or notices to inform public of the use of reclaimed water for irrigation.
- (5) Maintenance of the required buffer distance from areas to be protected.
- (6) Evidence of direct spraying of reclaimed water on surface streams, passing vehicles, buildings, domestic water facilities, or food handling facilities.

b. Periphery of Storage Pond Area

- (1) Evidence of leaching liquid from area of confinement and estimated size of affected area. (Show affected area on a sketch and estimate volume of flow (gallons per minute, etc.).)
- (2) Odor: presence or absence, characterization, source, and distance of travel.
- (3) For each impoundment, determine amount of the freeboard at lowest point of dikes confining liquid wastes.

- (4) Estimated number of waterfowl and other water-associated birds in the pond area and vicinity.

IV. DESCRIPTION OF SAMPLING STATIONS AND SCHEDULE OF SAMPLING, ANALYSIS AND OBSERVATIONS

1. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT (PRODUCER)

<u>Station</u>	<u>Description</u>
A-001	Located 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 (PRODUCER)

<u>Station</u>	<u>Description</u>
E-001	Located at any point in the effluent from the treatment facilities where all waste tributary to the effluent is present, prior to being applied to the irrigation site. (Maybe the same point as E-001-D.)
E-001-D	Located at any point in the effluent from disinfection facilities at which point adequate contact with the disinfectant is assured.

C. LAND OBSERVATION (USER)

<u>Station</u>	<u>Description</u>
I-1 thru I-'n'	Located at points spaced equidistantly around the periphery of each of the spray irrigation sites. Points shall be separated by not more than 400 feet. A sketch showing the stations shall be submitted with the first monitoring report and subsequent self-monitoring reports when station location is changed or a violation is noted.
P-1 thru P-'n'	Located at the corners and

midpoints of the perimeter levee of each of the storage ponds and the percolation ponds. Points shall be separated by not more than 400 feet. A sketch showing the stations shall be submitted with the first monitoring report and subsequent self-monitoring reports when station location is changed or a violation is noted.

D. GROUNDWATER (PRODUCER)

<u>Station</u>	<u>Description</u>
G-1	A well located approximately 200 feet northeasterly of the oxidation ponds.

E. OVERFLOWS AND BYPASSES (PRODUCER AND USER)

<u>Station</u>	<u>Description</u>
OV-1 thru OV-'n'	Located at points of bypasses or overflows from manholes, pump stations, or collection system.

(Reporting - Shall be submitted monthly and include date, time, and period of each bypass or overflow.)

2. SCHEDULE OF SAMPLING, ANALYSIS, AND OBSERVATIONS

- a. This self-monitoring program is applicable during the periods when wastewater is reclaimed for irrigation.
- b. The Producer and/or User of the reclaimed water are required to perform observations, sampling, and analyses according to the schedule given in Table I. (Attachment A)

V. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Violation of Requirements:

In the event the Discharger is unable to comply with the conditions of the water reclamation requirements and prohibitions due to:

- (a) maintenance work, power failure, or breakdown of waste treatment equipment, or
- (b) accidents caused by human error or negligence, or
- (c) other causes such as acts of nature,

the Discharger shall notify the Regional Board office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within two weeks of the telephone notification. The written report shall include pertinent information explaining reasons for the non-compliance and shall indicate what steps were taken to prevent the problems from recurring.

2. Self-Monitoring Reports

Written reports shall be filed regularly for each calendar month by the fifteenth day of the following month. The reports shall be comprised of the following:

a. Letter of Transmittal:

A letter transmitting self-monitoring reports should accompany each report. Such a letter shall include a discussion of requirement violations found during the past month and actions taken or planned for correcting violations, such as operation modifications and/or facilities expansion. If the Discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true and correct.

b. Results of Analyses and Observations

Tabulations of the results from each required analysis and/or observations specified in Table I by date, time, type of sample, and station.

c. List of Approved Analyses

- (1) Listing of analyses for which the Discharger is approved by the State Department of Health.
- (2) List of analyses performed for the Discharger by another approved laboratory (and copies of reports signed by the laboratory director of that laboratory shall also be submitted as part of the report).

I, Roger B. James, Executive Officer, do 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 the Water Reclamation Requirements established in Regional Board Order No. 88-060.
2. Is effective on the date shown below.
3. 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.



ROGER B. JAMES
Executive Officer

Effective Date: April 25, 1988

Attachments:

- A. Table I
- B. User's Self-Monitoring Report Form

collected in a glass container and analyzed separately. Results shall be expressed as a weighted average of the three values, based upon the instantaneous flow rates at the time each grab sample was analyzed.

- (2). Analyze for this item only when Dissolved Oxygen is below 2.0 mg/l.
- (3). The User shall perform the designated observations and submit User's Report (in Attachment B) to the Producer each month during the irrigation season. The observation must be made during the periods when irrigation of reclaimed wastewater is in progress. The Producer, in turn, shall submit a summary report or a copy of the User's reports to the Board as a part of the monthly self-monitoring report.

ATTACHMENT B: User's Self-Monitoring Report

1. Name of User: _____
2. Reporting Period (Month/Year): _____
3. Circle dates in which reclaimed water is used: 1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
4. Total gallons used for the month: _____
5. Required weekly observations: (Fill in the date of the inspection and write "yes" or "no" for each observation.)

Date and Time					
Escape of Reclaimed Water from Irrigation Site in the form of Surface Flow or Airborne Spray					
Reclaimed Water Used on Unauthorized Areas					
Odor from Reclaimed Water					
Breeding of Insects as a result of Ponding of Reclaimed Water in the Irrigation Site					
Improper Warning Notices					
Public Contact with Reclaimed Water					
Direct Spray of Vehicles, Buildings, etc.					
Reclaimed Water Entering the Surface Streams/Rivers in the form of Runoff or Direct Spray					

If any of the observations were yes, a written report containing the following information shall be submitted:

- (1) State time when noted violation(s) was observed and show its location on a map.
- (2) Explain cause and extent of violation (volume, duration, etc.).
- (3) Describe corrective action taken and the dates compliance was achieved and irrigation was resumed.

6. I certify that the information in this report, to the best of my knowledge, is true and correct.

Signature of User Supervisor

Date