

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 92-065
WATER RECLAMATION REQUIREMENTS FOR:

NOVATO SANITARY DISTRICT
NOVATO AND IGNACIO PLANTS
MARIN COUNTY

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

1. The Novato Sanitary District (hereinafter discharger) submitted a Report of Waste Discharge to the Board on December 14, 1979, for the use of reclaimed wastewater. Waste discharge requirements were issued on April 15, 1980.
2. The discharger operates two wastewater treatment facilities, the Novato and Ignacio plants in Marin County (see attached map). The discharger presently discharges an average dry weather flow of 4.8 million gallons per day from the Novato and Ignacio plants into San Pablo Bay, a water of the State and United States. The treated wastewater is discharged through an outfall about 950 feet offshore. The wastewater receives biological secondary treatment through the activated sludge process at the Novato facility and biofiltration at the Ignacio facility. Both facilities provide tertiary treatment with nitrification towers and gravity filtration.
3. The discharge does not receive an initial dilution of 10:1 at all times. The discharger's outfall is located in the intertidal zone and is submerged only during tidal heights of at least 4.5 feet. At lower tides the outfall is exposed and the water line can range from 1000 to 2000 feet from the end of the diffuser.
4. The Basin Plan Discharge Prohibition No.1 states "It shall be prohibited to discharge any wastewater which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1, or into any nontidal water, dead-end slough, similar confined waters, or any tributary thereof.

Exceptions to the Basin Plan prohibitions may be considered where the discharger can show (1) a net environmental benefit as a result of the discharge, or (2) that the project is part of a reclamation project, or (3), that the discharge will provide equivalent protection.

5. An exception to the Basin Plan Discharge Prohibition No.1 is warranted based on the discharger's operation of a reclamation program described in Finding No.7. The discharger's NPDES permit prohibits discharge to the Bay from June through

August. The three month discharge prohibition insures that approximately 25% of the Average Dry Weather Flow (ADWF) is reclaimed. During the dry weather season, June 1 to August 31, all wastewater is reclaimed by spray irrigation to pasture land which is grazed by cattle.

6. The discharger is not required to use the nitrification towers or deep bed filters to meet effluent limits during the reclamation period. The secondary treatment facilities adequately treat the wastewater.
7. The discharger's wastewater reclamation project is located in Marin County, northeast and northwest of State Highway 37, near the intersection of Highway 37 and Novato Creek (see location map). This project includes an irrigation pump station, a dechlorination system, a wildlife marsh pond, two storage ponds, a spray irrigation system and 820 acres of irrigated pasture. The components of this project are described in Findings No. 8-12.
8. **Irrigation Pump Station:** The irrigation pump station houses three irrigation pumps as well as the wildlife pond drain pump, the sludge lagoon washdown water pump, and the wildlife pond feed pump. From the irrigation pump station, effluent is pumped to the permanent sprinkler system in the pasture and to the wildlife pond.
9. **Dechlorination System:** The dechlorination system is used to dechlorinate the effluent prior to discharge to the wildlife pond. The dechlorination station is located in the irrigation pump station. Dechlorination of water discharged to the wildlife pond is achieved through the injection of liquid sodium bisulfite.
10. **Wildlife Marsh Pond:** The wildlife marsh pond is operated year-round to provide a nesting habitat for water fowl and shorebirds and a protected resting area for wintering waterfowl. A management plan has been developed for the wildlife marsh pond. This plan specifies critical water depth levels which vary seasonally depending on the water requirements of the birds and other wildlife using the ponds.
11. **Storage Ponds:** Two storage ponds with combined storage capacity of 180 million gallons are used to store effluent during the summer months.
12. **Irrigated Pasture:** Effluent is disposed of through spray irrigation of 820 acres of pasture. Effluent is applied to the pasture through a fixed irrigation system. The storage ponds and irrigation system have proved adequate to permit the discharger to meet the no-discharge requirement from June 1 through August 31.
13. From September 1 through May 31, wastewater may be discharged to San Pablo Bay from the treatment plants, or the ponds. This discharge is regulated under a separate set of requirements, Order No. 85-32.
14. The State Water Resources Control Board (State Board) adopted the California Inland Surface Waters Plan and the California Bays and Estuaries Plan on April 11, 1991. These Plans identify water quality objectives for all inland surface waters

and enclosed Bays and estuaries in the state, and strategy for implementation of the objectives.

15. The Board adopted a revised Water quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for San Pablo Bay and contiguous waters.
16. The beneficial uses of San Pablo Bay are:
 - a. Wildlife habitat
 - b. Preservation of rare and endangered species
 - c. Fish migration and spawning
 - d. Water contact and non-contact recreation
 - e. Commercial and sport fishing
 - f. Marine habitat
 - g. Estuarine habitat
 - h. Industrial service supply
 - i. Navigation
 - j. shellfishing
17. Section 13523 of the California Water Code provides that the Regional Board may, after consulting with and receiving the recommendation of the Department of Health Services and determining that such action is necessary to protect the public health, safety, and welfare, prescribe water reclamation requirements for water which is used or proposed to be used as reclaimed water.
18. The wastewater reclamation requirements are in conformance with the statewide reclamation criteria established by the State Department of Health Services, as prescribed in Title 22, Section 60355, California Administrative Code.
19. This Order is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act) pursuant to Section 13389 of the California Water Code.
20. 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 for a public hearing and the opportunity to submit their written views and recommendations;
21. 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 Clean Water Act and regulations and guidelines adopted thereunder, that the Discharger shall comply with the following:

A. Prohibitions

1. The treatment, storage, or disposal of waste shall not create a nuisance, as defined in Section 13050(m) of the California Water Code
2. Use of reclaimed water on areas not shown on the map which is attached to this order (Attachment A) is prohibited without written authorization from the Executive Officer.
3. The disposal of waste shall not cause degradation of groundwater suitable for domestic water supply or cause an increase in any quality parameter that would render groundwater unsuitable for irrigation use.
4. Reclaimed water shall not be applied to the disposal area during the wet weather season (November 15 through April 15) unless the following conditions are satisfied:
 - Use of reclaimed water for application to the land may be allowed during the period from November 15 through April 15, providing that there has been little or no rainfall during the weeks prior to discharge, and providing that the Executive Officer has approved the management plan as required in Provision 9.

Reclaimed water may be applied during the remainder of the year, except when the ground is saturated or during periods when rainfall or runoff from adjacent land can occur.

5. Reclaimed water shall not be injected into any fixed irrigation system connected to a domestic water supply.

B. Discharge Specifications

1. Waste within one foot of the surface of the wildlife and storage ponds shall meet the following quality limits at all times:

In any grab sample:

dissolved sulfide	0.1 mg/l max
dissolved oxygen	2.0 mg/l min
pH	6 to 9

2. A minimum freeboard of two feet shall be maintained in the storage and wildlife ponds at all times.
3. The storage ponds shall be protected against erosion, washout, and flooding

from a flood having a predicted frequency of once in 100 years.

4. At some point in the treatment process the wastewater shall meet the following limits at all times:

BOD: 40 mg/l monthly average

Dissolved oxygen: 1.0 mg/l minimum

Dissolved sulfide: 0.1 mg/l maximum

pH: 6.0 minimum. 9.0 maximum

Coliform organisms: Median MPN shall not exceed 240 organisms per 100 ml at some point in the treatment system (median value to be obtained from last 5 samples). The MPN of a single sample shall not exceed 10,000 organisms per 100 ml, when verified by a repeat sample taken within 48 hours.

C. Reclaimed Wastewater Use Limitations

1. The use of reclaimed water under provisions of this order shall be limited to irrigation of fodder, fiber, and seed crops or discharge to the wildlife pond.
2. Areas irrigated with reclaimed wastewater shall be fenced and clearly identified with posted notices to the public. The method and form of notification shall be subject to the review and approval of the Executive Officer.
3. Reclaimed wastewater shall be applied to use areas in a manner which will prevent public contact with the wastewater.
4. Any equipment used to transport wastewater shall be clearly identified with warning signs to inform the public that wastewater is present, and that this water is unfit for human consumption.
5. No waste shall be allowed to escape from the discharger's property into waters of the State via surface flow, airborne spray or resurfacing after percolation. The disposal area shall be defined to mean the spray irrigation areas plus the ditch system draining the areas.
6. Reclaimed water shall be applied so as to minimize accumulation of water in the ditch system. Discharge of tailwater collected in the ditch system shall be prohibited from June 1 to August 31, except under written authorization of the Executive Officer. Such authorization shall be granted only on a demonstration by the discharger that discharge is necessary for the control of a nuisance condition, or to maintain the agricultural operations, and that

beneficial uses of receiving water will be protected.

7. Wastewater ponding which could provide a breeding area for mosquitoes shall be prevented.
8. The discharger shall discontinue use of reclaimed water during any period in which there is reason to believe that the limits specified in B.4 are not being met.

C. Provisions

1. This order supersedes Order 80-17, which is hereby rescinded.
2. The discharger shall comply with all sections of this order immediately upon adoption.
3. The discharger shall promote and encourage increased reclamation to reduce the amount of discharge to San Pablo Bay during the period of September 1 to May 31.
4. If the irrigation pasture area differs from that specified on the attached map, the discharger shall submit to the Board ninety days prior to the commencement of wastewater reclamation: maps showing areas to be irrigated, maps showing all wells, and plans as to how these wells will be protected.
5. The discharger shall comply with the self-monitoring program as adopted by this Board and as may be amended by the Executive Officer.
6. The discharger shall include all provisions in the leases with farm operators and landowners needed to assure full compliance with the requirements of this Order.
7. The discharger shall update its management plan for the wildlife pond every five years, beginning in 1993. The revision, or a letter stating that no revision is necessary shall be submitted by April 15.
8. Milking animals shall be excluded from the wastewater disposal area. Sufficient time should be provided between application of reclaimed water and grazing by non-milking animals to allow the wastewater disposal area to dry thoroughly.
9. If the discharger chooses to dispose of reclaimed wastewater as discussed in Prohibition No.1, then a proposed management plan for the use of reclaimed water during extended dry periods of the wet weather months shall be submitted. This plan shall include criteria that can be used to evaluate whether it is appropriate to irrigate with reclaimed water during the wet weather period.
10. The discharger shall submit a report evaluating the performance of the

irrigated pasture every three years. The most recent report was submitted September, 1990. The next report is due by September 1, 1993. The purpose of this report shall be to verify that the reclamation site is properly managed such that the site can continue to dispose of the discharger's wastewater during the dry season. For this purpose, an update of the comprehensive 1990 report is adequate. This report will include recommendations by an agronomist or other appropriately certified professional regarding at a minimum the following:

- a. Operation and maintenance of the site regarding soil condition and vegetation
 - b. Appropriate reclaimed water application rates.
11. Fail-safe treatment shall be provided, including backup power facilities as needed, to assure continuous compliance with the no-discharge requirement and effluent limitations specified in this Order. For the purposes of this Order, this signifies that back-up power shall be available to operate the secondary treatment facilities and to insure the transfer of the treated wastewater to the storage ponds.
 12. Sludges and other solids removed from liquid wastes shall be disposed of at a legal point of disposal and in accordance with the provisions of Division 7.5 of the California Water Code. For the purposes of this requirement, a legal point of disposal is defined as one for which waste discharge requirements have been prescribed by a Regional Board and which is in full compliance therewith. The discharger's sludge storage and disposal are regulated under Board Order No.84-36.
 13. If someone other than the discharger is responsible for the schedule for applying reclaimed water, then the discharger shall inform that person or persons of these requirements, in a written agreement or other suitable manner.
 14. In reviewing compliance with requirements A.4, the Board will take special note of the difficulties which may be encountered in achieving compliance during entire wet seasons having a rainfall recurrence frequency greater than once in ten years and/or when rainfall events occur which disrupt the normal start-up of the irrigation season.
 15. In accordance with Section 13267 (c) of the California Water Code, the discharger shall permit the Board or its authorized representative :
 - a. Entry upon premises in which an effluent source is located or in which any required records are kept,
 - b. Access to copy any records required to be kept under terms and conditions of this Order,
 - c. Inspection of monitoring equipment records,
 - d. Sampling of any discharge.

16. The discharger shall file with the Board a report of waste discharge at least 120 days before making any material change in the character, location, or volume of the discharge.
17. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, 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 17, 1992.



STEVEN R. RITCHIE
Executive Officer

Attachments:
Location map and irrigation area map
Standard Provisions and Reporting
Requirements, December 1986
Self-Monitoring Program

[File No. 2159.5022]
[Originator/LCF]
[Reviewer/RJC]

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

NOVATO SANITARY DISTRICT

MARIN COUNTY

ORDER NO. 92-065

CONSISTS OF

PART A, dated December 1986 (Standard Provisions and Reporting
Requirements)

AND

PART B (Self Monitoring Program)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

PART B

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 self-monitoring program are:

- A. To document compliance with waste discharge requirements and prohibitions established by this Regional Board; and
- B. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge.

II. DESCRIPTION OF SAMPLING AND OBSERVATION STATIONS

A. Effluent

<u>Station</u>	<u>Description</u>
E-001	At any point in the Ignacio outfall following all treatment and prior to discharge (to ponds or reclamation). (1)
E-002	At any point in the Novato plant outfall following all treatment and prior to discharge.(1)
E-003	Combined effluent from the two plants, calculated arithmetically based on the respective flows and pollutant concentrations from each plant.(1)
E-004	At the point where treated wastewater enters the wildlife pond.(2) May be the same as E-003 if effluent is discharged directly to wildlife pond.
E-005	At the point where treated wastewater leaves the wildlife pond.(2)
E-006	This sample station has been eliminated (see Table 1 Notes, #5, for an explanation).

an explanation).

<u>Station</u>	<u>Description</u>
E-007	At any point in storage pond 1 where a representative sample of treated wastewater can be obtained.(2)
E-008	At any point in storage pond 2 where a representative sample of treated wastewater can be obtained.(2)
E-009	At any point in the reclamation system immediately prior to reclamation (by spray irrigation).(1)

(1) Sampling required whenever reclamation occurs, may extend beyond the June 1 to August 31 period.

(2) Sampling required year-round.

B. L Stations

Pond levee stations are to be located at the corners and midpoint of each pond.

Annual reports and self monitoring reports shall contain a map or maps clearly showing the location of these stations.

III. SCHEDULE FOR SAMPLING AND OBSERVATIONS

See Table I and attached notes.

IV. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Violations of Requirements

A report shall be made of any accidental spill of waste. Accidental spills shall be reported to this Regional Board by telephone immediately after it occurs (510)464-1255. The subsequent written report shall be filed within five (5) days and shall contain information relative to:

- A. Nature of waste or pollutant,
- B. Quantity involved,
- C. Cause of spilling,
- D. Estimated size of affected area,
- E. Nature of effects (i.e., fish kill, discoloration of receiving water, etc.), and
- F. Corrective measures that have been taken, or planned, and a

schedule of these activities.

2. Self-Monitoring Reports

Written reports shall be filed regularly for each calendar month and submitted 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 plant operation modifications. Monitoring reports and the letter transmitting reports shall be signed by a responsible official. 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. Data Results

All results observed or analyzed in III, including dates and times of sampling and/or observations.

C. Map

A map shall accompany the report showing sampling and observation station locations.

3. Annual Reports

An Annual Report for each calendar year shall be submitted to the Board by February 15th of the following year.

I, Steven R. Ritchie, 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 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 92- 065.
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.


Steven R. Ritchie
Executive Officer

Date 6/17/92

Attachments:

- A: Table 1 and Table 1 Notes
B: Design, Operation and Maintenance, Wildlife Pond, 1981 Report

Table I Notes

1. Calculated value for combined effluent from both treatment plants. Flow data should be added. A weighted average based on flow should be used for other parameters.

2. The Self Monitoring Program in the previous permit, Order No.80-17, required the following study to be completed:

" The discharger will conduct an initial study of chlorine residual in plant effluent as effluent flows through the storage ponds prior to reaching the wildlife pond, under a range of different operating conditions. This initial study will be completed within three months of start-up of full reclamation activities. If this initial study shows that chlorine is consistently removed prior the wildlife pond, then the discharger may take weekly grab samples at station E-003 and use the results to demonstrate zero residual entering the wildlife pond."

The discharger conducted the study in June, July and August 1986, as the above requirement specified. This study demonstrated that the chlorine residual dissipated prior to entry to the wildlife pond. Thus, weekly grab samples during discharge periods to the pond are now required as specified in Table 1. However, the preferred sampling location for this sample is Station E-004.

3. The median value for the last five analyses shall be used to determine compliance with the 240 MPN/100 ml requirement. Any single value of 10,000 MPN/100 ml occurring for any two consecutive samples shall be reported as a violation. shall be reported as a violation.

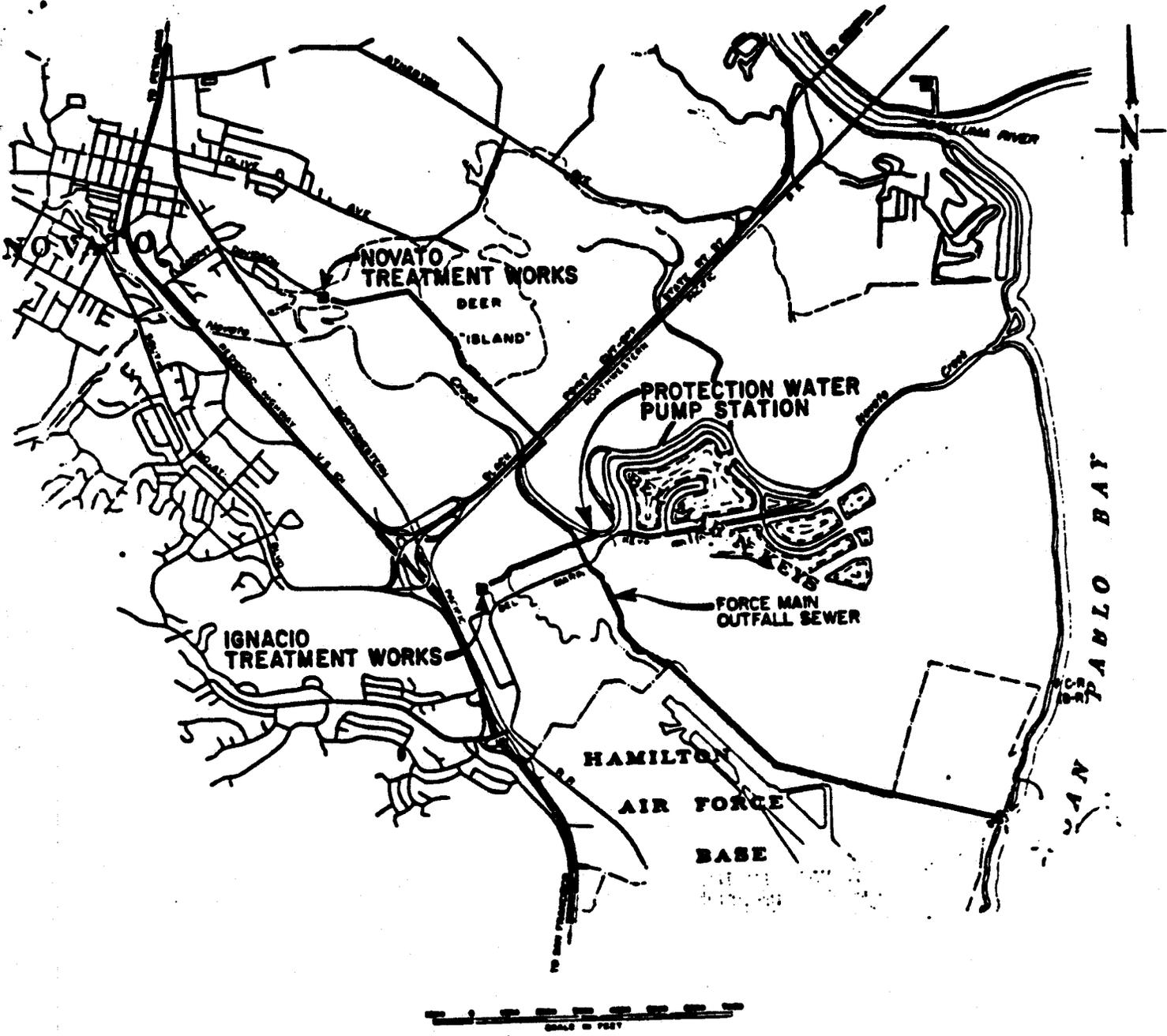
4. Pond dike station observations should include:

- (i) Pond freeboard
- (ii) Dike condition
- (iii) Evidence of seepage through the dike (iv) Scum or aquatic plant growth on the pond surface, if any
- (v) Other weekly inspection items listed in the February, 1981 plan for design, operation, and maintenance of the wildlife pond (Attachment B) and not already required above

5. The Self Monitoring Program in the previous permit, Order No.80-17, required the following study to be completed:

"The discharger has the option of conducting a special study in August-September 1986. If the Executive Officer concludes that the wildlife pond exhibits little or no stratification, then he may delete this monitoring station. At least four samples should be taken on separate days. Samples should be taken in the early morning (before 8:00 a.m.) and following a typical hot summer day."

The discharger conducted the study in August and September of 1986. The study adequately documented that stratification did not occur and this monitoring station has been eliminated.



SANITARY DISTRICT NO. 6 OF MARIN COUNTY

Map: Novato S.D. Wastewater Reclamation Project

