

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION I  
JOHN F. KENNEDY FEDERAL BUILDING  
BOSTON, MASSACHUSETTS 02203

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES.

NPDES PERMIT NO.: MA0100765

STATE PERMIT NO.: M-13

NAME AND ADDRESS OF APPLICANT:

Alfred F. Raphael, Supervisor & Chief Operator  
Fairhaven Water Pollution Control Facility  
Arsene Street  
Fairhaven, MA 02179

ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Fairhaven Water Pollution Control Facility  
Arsene Street  
Fairhaven, MA 02179

RECEIVING WATER: Acushnet River (New Bedford Inner harbor)

CLASSIFICATION: SB

I. Proposed Action, Type of Facility, and Discharge Location.

Upon the Director's initiative, the permit is being modified. The facility is engaged in collection and treatment of wastewater. The discharge is from a secondary wastewater treatment plant.

II. Limitations and Conditions

The permit is modified as follows: Delete Footnote 6 on page 3 of 8 and reference to Footnote 6 on page 2 of 8 (see limit on total chlorine residual).

Remove Attachment C from permit.

Footnote 5 shall be modified to read as follows:

"The chlorine residual limit shall become effective immediately."

### III. Permit Basis and Explanation of Effluent Limitation Derivation

The Director has received new information regarding laboratory chlorine-dosed acute toxicity tests. The test protocol was formerly outlined in Attachment C of this permit. Recent instream studies performed by MA-DEP and EPA, coupled with evaluations of acute bioassay data have resulted in the conclusion that the laboratory chlorine-dosed acute tests, required in the current permit, are of limited value. Accordingly, the chlorine-dosed acute tests are no longer a permit requirement. Hence, in accordance with CFR § 122.62 and §124.5 the permit is being modified.

### IV. State Certification Requirements

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving waters certifies that the effluent limitations and conditions of the permit modification are stringent enough to assure the discharge will not cause a violation of the State Water Quality Standards. The staff of the Massachusetts Division of Water Pollution Control has reviewed the draft permit and advised EPA that the conditions of the permit modification are adequate to protect water quality. EPA has requested permit certification by the state and expects that the draft permit will be certified.

### V. Public Comment Period, Public Hearing, and Procedures for Final Decision

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the U.S. EPA, Compliance Branch, JFK Federal Building, Boston, Massachusetts 02203. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the final hearing to reconsider or contest the final decision. Requests for formal hearings must satisfy the requirements of 40 CFR 124.74, 48 Fed. Reg. 14279-14280 (April 1, 1983).

VI. EPA Contact

Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays from:

Cynthia Hall Nakashima  
Wastewater Management Section (WMM 2113)  
John F. Kennedy Federal Building  
Boston, MA 02203  
Telephone: (617) 565-3507

16 November 1989  
Date

David A. Fierra, Director  
Water Management Division  
U.S. Environmental Protection  
Agency

MODIFICATION OF  
AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Alfred F. Raphael, Supervisor and Chief Operator  
Fairhaven Wastewater Treatment Facility  
Arsene Street  
Fairhaven, MA 02179

is authorized to discharge in accordance with effluent limitations, monitoring requirements and other conditions set in the previous permit, except as set forth herein and listed as follows:

Page 2 of 8: delete reference to Footnote 6 on chlorine residual limit.

Page 3 of 8: delete Footnote 6.

Page 3 of 8: Footnote 5 is modified to read as follows:

"The chlorine residual limit shall become effective immediately."

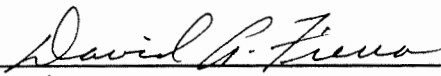
Remove Attachment C from the permit.

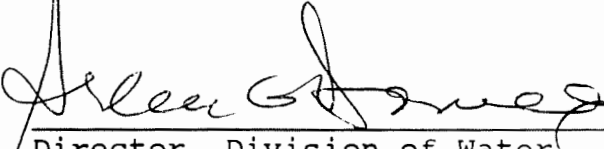
This modifies the permit issued on 28 September 1989.

This permit modification shall become effective on the date of signature.

This permit modification and the authorization to discharge shall expire at midnight, 27 September 1994.

Signed this 30<sup>th</sup> day of March, 1990

  
\_\_\_\_\_  
Director  
Water Management Division  
Environmental Protection Agency  
Region I  
Boston, MA

  
\_\_\_\_\_  
Director, Division of Water  
Pollution Control  
Department of Environmental  
Protection  
Commonwealth of Massachusetts  
Boston, MA

## A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number 001 (treated sanitary wastewater).

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>						<u>Monitoring Requirement</u>	
	kg/day (lbs/day)			(specify units)			Measurement	Sample
	<u>Average</u> <u>Monthly</u>	<u>Average</u> <u>Weekly</u>	<u>Maximum</u> <u>Daily</u>	<u>Average</u> <u>Monthly</u>	<u>Average</u> <u>Weekly</u>	<u>Maximum</u> <u>Daily</u>	<u>Frequency</u>	<u>Type</u>
Flow-m <sup>3</sup> /Day				18927(5.0)			Continuous	See Note 1
BOD <sup>2</sup>	569(1251)	853(1877)	948(2085)	30 mg/l	45 mg/l	50 mg/l	Weekly	24-hr Composite
TSS <sup>2</sup>	569(1251)	853(1877)	948(2085)	30 mg/l	45 mg/l	50 mg/l	Weekly	24-hr Composite
Settleable Solids <sup>2</sup>					0.1 ml/l	0.3ml/l	Daily	Grab
pH <sup>2</sup>				(See Page 4)			Daily	Grab
Fecal Coliform <sup>2</sup>				200/100ml	400/100ml	400/100ml	Weekly	Grab
Chlorine Residual <sup>2</sup>						0.29mg/l <sup>5,6</sup>	3/day	Grab
LC50 <sup>3</sup>				100%			See Note 4	24-hr. Composite

Fecal Coliform Bacteria and Chlorine Residual requirements are seasonal and shall be effective from April 1 to October 15 each year.

The discharge shall not cause a violation of the water quality standards of the receiving waters.

- a. The pH of the effluent shall not be less than 6.5 nor greater than 8.5 at anytime, unless these values are exceeded due to natural causes or as a result of the approved treatment processes.
  - b. The discharge shall not cause objectable discoloration of the receiving waters.
  - c. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
  - d. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.
  - e. When the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the designed flow, the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.
2. All POTWs must provide adequate notice to the Director of the following:
- a. Any new introduction of pollutants into that POTW from an indirect discharger in a primary industry category discharging process water; and
  - b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
  - c. For purposes of this paragraph, adequate notice shall include information on:
    - (1) the quality and quantity of effluent introduced into the POTW; and
    - (2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

B. Sludge Conditions

1. The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards when promulgated.

If an applicable management practice or numerical limitation for pollutants in sewage sludge more stringent than existing federal and state regulations is promulgated under Section 405(d) of the Clean Water Act (CWA), this permit shall be modified or revoked and reissued to conform to the promulgated regulations.

The permittee shall comply with the limitations no later than the compliance specified in the applicable regulations as required by Section 405(d) of the Clean Water Act.

2. The permittee shall give prior notice to the Director of any change(s) planned in the permittee's sludge use or disposal practice.
3. A change in the permittee's sludge use or disposal practice is a cause for modification of the permit. It is a cause for revocation and reissuance of the permit if the permittee requests or agrees.
4. The permittee shall annually perform a priority pollutant scan on the sludge prior to landfilling. Results to be submitted on or before April 15.

D. STATE PERMIT CONDITIONS

This Discharge Permit issued jointly by the U. S. Environmental Protection Agency and the Division of Water Pollution Control under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Director of the Massachusetts Division of Water Pollution Control pursuant to M.G.L. Chap. 21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U. S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.



6/22/89

Marine

ATTACHMENT B  
ACUTE TOXICITY TEST PROCEDURE AND PROTOCOL

I. GENERAL REQUIREMENTS

Beginning on the effective date of the permit or modification, the permittee shall perform eight (8) acceptable acute toxicity tests per year on samples collected after chlorination and discharge from discharge outfall 001. The permittee shall conduct the tests according to the following test frequency and protocols.

II. TEST FREQUENCY

For four (4) sampling events, (1 each quarter) the permittee will conduct a total of eight (8) 48-hour acute toxicity tests. This requirement entails performing two species testing as follows:

Species	Test Type	Frequency
Mysid ( <u>Mysidopsis bahia</u> )	Definitive 48 hour acute static (LC50)	See Permit
Inland Silverside ( <u>Menidia Beryllina</u> )	Definitive 48 hour acute static (LC50)	See Permit

A sampling event is defined as a single 24-hour composite.

III. METHODS

Methods should follow those recommended by EPA: Peltier, W., and Weber, C.I., 1985. Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, Third Edition (or the most recent edition). Office of Research and Development, Cincinnati, OH. EPA-600/4-85-013.

IV. SAMPLE COLLECTION

For each sampling event a 24-hour composite final effluent sample shall be collected. In the laboratory the samples will be dechlorinated if necessary with sodium thiosulfate and split into two subsamples after thorough mixing.

- A: Chemical analysis
- B: Acute toxicity testing

All samples held overnight should be refrigerated at 4°C.

14. Dilution water <sup>3</sup>	Natural seawater, synthetic salt water, or deionized water mixed with hypersaline brine.
15. Dilution factor	0.5
16. Number of dilutions	At least 5 plus a control
17. Effect measured and test duration	mortality - no movement of body or appendages on gentle prodding, 48 hour LC50
18. Test acceptability	90% or greater survival of test organisms in control solution
19. Sampling requirements	samples are collected and used within 48 hours of the time that they are removed from the sampling device.
20. Sample volume required	minimum 4 liters

Footnotes:

1. Adapted from EPA-600/4-85-013.
2. If dissolved oxygen falls below 40% saturation, aerate at rate of less than 100 bubble/min.
3. When receiving water is used for dilution an additional laboratory control water (0% effluent) is required.

VII. Region I Recommended Toxicity Test Conditions for the Inland Silverside, Menidia Beryllina

1. Test Type	Static acute
2. Salinity	25 ppt $\pm$ 2 ppt
3. Temperature	20, 25°C $\pm$ 1°C
4. Light Quality	Ambient laboratory illumination
5. Photoperiod	16 hr light, 8 hr dark
6. Size of test vessel	250-1000 ml
7. Volume of test solution	Minimum 200ml/replicate

### VIII. CHEMICAL ANALYSIS

The following chemical analyses shall be performed for each two-specie sampling event.

<u>Parameter</u>	<u>Effluent</u>	<u>Diluent</u>	<u>Detection Limit (mg/L)</u>
Hardness <sup>1</sup>	x	x	0.5
Alkalinity	x	x	2.0
pH	x	x	---
Specific Conductance	x	x	---
Total Residual Oxidants <sup>2</sup>	x	x	0.02
Total Solids and Suspended Solids	x	x	---
Ammonia	x	x	0.1
Total Organic Carbon	x		0.5
Total Phenols	x		
Cyanide	x		0.02
Salinity	x	x	PPT(0/00)

#### Total Metals

Ag, Cd	x	0.01
Cr, Ni	x	0.05
Pb, Zn, Cu	x	0.01
Fe, Al	x	0.02

#### Superscripts:

1. Method 314A (hardness by calculation) from APHA (1985).  
Standard Methods for the Examination of Water and Wastewater.  
16th Edition.
2. Chlorine Residual

Methods: either of the following methods from the 16th edition of the APHA (1985) Standard Methods for the Examination of Water and Wastewater may be used for these analyses:

Method 408-C (Amperometric Titration Method);

### IX. TOXICITY TEST REPORT

The following must be reported:

- Description of sample collection procedures, site description
- Names of individuals collecting and transporting samples, times and dates of sample collection and analysis
- General description of tests; age of test organisms, origin, dates and results of standard toxicant tests; light and temperature regime; other information on test conditions if different than procedures recommended.

MarineATTACHMENT C  
ACUTE TOXICITY TEST PROCEDURE AND PROTOCOL  
Laboratory Chlorine DosingI. GENERAL REQUIREMENTS

Beginning on the effective date of the permit or modification, the permittee shall perform four (4) acceptable acute toxicity tests during the first year on samples collected prior to chlorination and discharge from discharge outfall 001. The sample will be dosed with chlorine in the laboratory to obtain a total residual chlorine (TRC) level of approximately 1.0 mg/L. The permittee shall conduct the tests according to the following test frequency and protocol.

II. TEST FREQUENCY

For four (4) sampling events, the permittee will conduct a total of four (4) 48-hour static acute toxicity tests on a single species, Mysidopsis bahia.

The testing shall be done once each in May, June, July, and August. No duplicate chemical analysis of the sample is required during the months that chronic toxicity testing is required (see Attachment A). The months when only acute toxicity tests are performed, the chemical analyses as specified in Section VII shall be conducted.

III. METHODS

Methods should follow those recommended by EPA: Peltier, W., and Weber, C.I., 1985. Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, Third Edition (or the most recent edition). Office of Research and Development, Cincinnati, OH. EPA-600/4-85-013.

IV. SAMPLE COLLECTION

For each sampling event a 24-hour composite effluent sample (equal aliquots collected hourly) shall be collected prior to chlorination. This sample shall be kept cold and toxicity testing shall be initiated within forty-eight hours of collection. The sample must be split into two subsamples after thorough mixing.

- A: Chemical analysis
- B: Acute toxicity testing

14. Dilution water <sup>3</sup>	Natural seawater, synthetic salt water, or deionized water mixed with hypersaline brine.
15. Effluent concentrations <sup>4</sup>	minimum of 6 effluent concentrations plus a control (based on percent effluent: 100%, 75%, 50%, 25%, 12.5%, 6.25%). On a case-by-case basis, it may be necessary to add lower concentrations based on Total Residual Oxidants.
16. Effect measured and test duration	mortality - no movement of body or appendages on gentle prodding 48 hour LC50.
17. Test acceptability	90% or greater survival of test organisms in control solution
18. Sampling requirements	samples are collected and used within 48 hours of the time that they are removed from the sampling device
19. Sample volume required	minimum 2.0 liters
20. Chlorine dose	prior to testing, the sample will be dosed with household clorox to produce a TRC of 1.0 mg/l after fifteen minutes contact. The TRO concentration in each dilution should be reported. Total Residual Oxidants (TRO) should be accurate to 0.02 mg/L.

Footnotes:

1. Adapted from EPA-600/4-85-013.
2. If Dissolved Oxygen falls below 40% saturation, aerate at a rate of less than 100 bubbles/min.
3. When receiving water is used for dilution an additional laboratory control water (0% effluent) is required.
4. An additional dilution at the permitted effluent concentration (percent effluent) may be required on a case-by-case basis.

temperature regime; other information on test conditions if different than procedures recommended.

Toxicity test data shall include the following:

- Survival for each concentration and replication at time 24, and 48 hours;
- Dissolved oxygen, pH, specific conductance for each concentration;
- LC50 and 95% confidence limits using in order of preference, Probit, Spearman Karber, or graphical method; printout or copy of these calculations;
- All chemical data generated.

\* LC50 should be calculated. Report both the percent effluent and the measured TRO of the sample (at test initiation).

#### IX. REPORTING

Signed copies of the toxicity testing reports shall be submitted as required by Part I of the permit.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION I  
JOHN F. KENNEDY FEDERAL BUILDING  
BOSTON, MASSACHUSETTS 02203

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES.

NPDES PERMIT NO.: MA0100765

STATE PERMIT NO.: M-13

NAME AND ADDRESS OF APPLICANT:

Alfred F. Raphael, Supervisor & Chief Operator  
Arsene Street  
Fairhaven, MA 02719

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Fairhaven Water Pollution Control Facility  
Arsene Street  
Fairhaven, MA 02719

RECEIVING WATER: Acushnet River (New Bedford Inner Harbor)

CLASSIFICATION: SB

I. Proposed Action, Type of Facility, and Discharge Location.

The above named applicant has requested that the U.S. Environmental Protection Agency reissue its NPDES permit to discharge into the designated receiving waters. The facility is engaged in collection and treatment of domestic wastewater. The discharge is from a secondary wastewater treatment plant.

II. Description of Discharge.

A quantitative description of the discharge in terms of significant effluent parameters based on recent monitoring data is shown on Attachment A.

III. Limitations and Conditions.

The effluent limitations of the draft permit and the monitoring requirements may be found in the draft NPDES permit.

National studies conducted by the Environmental Protection Agency (EPA) have demonstrated that domestic sources contribute both metal and organic toxic constituents to POTWs. These constituents include metals, chlorinated solvents, aromatic hydrocarbons and others.

Therefore, based on the potential for toxicity from domestic contributions, water quality standards and in accordance with EPA Regional policy, the draft permit includes acute effluent toxicity limitations (LC50) and monitoring requirements. (See, e.g., "Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants", 50 Fed. Reg. 30,784 (July 24, 1985)).

Chlorine compounds produced by the chlorination of wastewater can be extremely toxic to aquatic life. The total residual chlorine limit has been set at 0.29 mg/l based on the available dilution and the EPA's chronic in-stream water quality criteria. The chronic in-stream concentration for TRC is limited to 7.5 ug per liter. The TRC limit is tentative until 15 months from the effective date of the permit.

#### D. Sludge

Section 405(d) of the Clean Water Act requires that sludge conditions be included in all POTW permits. Sludge conditions in the permit satisfy this requirement.

The permittee is required to perform priority pollutant scans annually on sludge before disposal.

#### V. State Certification Requirements

The staff of the State Water Pollution Control Agency has reviewed the draft permit. EPA has requested permit certification by the State pursuant to 40 CFR 124.53 and expects that the draft permit will be certified.



## ATTACHMENT A

## DESCRIPTION OF DISCHARGE:

Effluent from wastewater treatment facility

	Flow (MGD)	Biochemical Oxygen Demand (mg/l)		Total Suspended Solids (mg/l)		Settleable Solids (ml/l)	
	Mo.Avg/ Max.Day	Mo. Avg.	Max. Day	Mo. Avg.	Max. Day	Wkly. Avg.	Max. Day
Permit Limit:	Mo.Avg. .484	7 <sup>1</sup> /15 <sup>2</sup>	12 <sup>1</sup> /30 <sup>2</sup>	7 <sup>1</sup> /15 <sup>2</sup>	12 <sup>1</sup> /30 <sup>2</sup>	0.1	0.3
01/88	.302/.440	13	13	5	5	0.0	0.0
02/88	.319/.403	7	7	3	3	0.0	0.0
03/88	.323/.423	16	16	16	16	0.2	0.2
04/88	.302/.354	9	9	6	6	0.1	0.1
05/88	.331/.513	12	12	3	3	0.02	0.2
06/88	.297/.344	6.6	11.4	6	6	0.1	0.1
07/88	.327/.416	11.1	11.1	7	7	0.03	0.2
08/88	.332/.409	7.9	7.9	9	9	0.1	0.1
09/88	.319/.560	10	10	8	8	0.1	0.1
10/88	.297/.393	12.6	12.6	4	4	0.2	0.2
11/88	.307/.379	5.3	5.3	2	2	0.2	0.2
12/88	.291/.369	10	10	3	3	0.0	0.0

- 1) Effluent limitations from May 1 to October 31.
- 2) Effluent limitations from November 1 to April 30.