

**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),

**City of New Bedford  
1105 Shawmut Avenue, New Bedford, MA 02740**

is authorized to discharge from the wastewater treatment facility located at

**New Bedford Wastewater Treatment Facility  
1000 South Rodney Blvd.  
New Bedford, MA 02740**

and 27 combined sewer overflows located at

**See Attachment B**

to receiving waters named

**Outer New Bedford Harbor, Clark's Cove and Acushnet River**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

The Towns of Acushnet and Dartmouth are co-permittees for Part I.C. Unauthorized Discharges and Parts I.D.1-3 Operation and Maintenance of the Sewer System, which include conditions regarding the operation and maintenance of the collection systems owned and operated by the Towns. The responsible Town Departments are :

**Town of Acushnet  
Dept. of Public Works  
122 Main Street  
Acushnet, MA 02743**

**Town of Dartmouth  
Dept. of Public Works  
400 Slocum Road  
N. Dartmouth, MA 02747**

This permit shall become effective on the first day of the calendar month immediately following 60 days after signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on November 2, 2000.

This permit consists of 16 pages in Part I including effluent limitations, monitoring requirements, Attachments A, B, C, D, E, F, G and H and Part II including General Conditions and Definitions.

Signed this 26<sup>th</sup> day of September, 2008

/s/ SIGNATURE ON FILE

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Director  
Office of Ecosystem Protection  
Environmental Protection Agency  
Boston, MA

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Director  
Division of Watershed Management  
Massachusetts Department of Environmental Protection  
Boston, MA

## PART I

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from outfall number 001 (main outfall) and outfall number 002 (auxiliary outfall) listed in Attachment A. Such discharges shall be limited and monitored by the permittee as specified below.

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	mgd	30 <sup>1</sup>	----	----	Continuous	Recorder
Flow	mgd	Report	----	Report <sup>1</sup>	Continuous	Recorder
CBOD <sub>5</sub>	mg/l	25	40	Report	1/Day <sup>2</sup>	24-Hour Composite <sup>3</sup>
	lbs/day	6259	10,014	-----		
TSS	mg/l	30	45	Report	1/Day <sup>2</sup>	24-Hour Composite <sup>3</sup>
	lbs/day	7511	11,266	-----		
pH		(See Condition I.A.1.b.)			1/Day	Grab
Fecal Coliform Bacteria <sup>4a</sup>	cfu/100 ml	14	----	400	1/Day	Grab
Fecal Coliform Bacteria <sup>4a</sup>	cfu/100 ml	(See Footnote 4.b.)			1/Day	Grab
Enterococci <sup>4a</sup>	cfu/100ml	35	----	276	1/Week	Grab
Total Residual Chlorine <sup>5</sup>	ug/l	67.5	----	117	1/Day	Grab
Copper, Total <sup>6</sup>	ug/l	33.6	----	52.0	1/Month	24-Hour Composite <sup>3</sup>

Part 1.A.1. (continued)

<u>Effluent Characteristic</u>	<u>Units</u>	<u>Discharge Limitation</u>			<u>Monitoring Requirement</u>	
		<u>Average Monthly</u>	<u>Average Weekly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
PCBs <sup>6</sup>	ug/l	----	----	----	2/Year (April and Sept.)	24-Hour Composite <sup>3</sup>
Total Nitrogen ( Total of TKN + Nitrite + Nitrate ) (April 1- October 31)	mg/l lbs/day	Report Report	----	Report Report	1/Week	24-Hour Composite <sup>3</sup>
Total Nitrogen ( Total of TKN + Nitrite + Nitrate ) (November 1 - March 31)	mg/l lbs/day	Report Report	----	Report Report	1/Month	24-Hour Composite <sup>3</sup>
LC <sub>50</sub> <sup>7</sup>	%	----	----	≥100	4/year <sup>8</sup>	24-Hour Composite <sup>3</sup>
Chronic NOEC <sup>9</sup>	%	----	----	≥12.5	4/year <sup>8</sup>	24-Hour Composite <sup>3</sup>

Footnotes:

1. Report annual average, monthly average and maximum daily flow for each month. The flow limit is an annual average that shall be calculated using the monthly average flow from the reporting month and the monthly average flows from the preceding 11 months.
2. Sampling required for influent and effluent.
3. A 24-hour composite sample will consist of at least twenty four (24) grab samples taken during one 24-hour consecutive period (e.g. 0700 Monday - 0700 Tuesday).
4.
  - a. Fecal coliform and Enterococci monitoring shall be conducted year round. The monthly average limits are expressed as geometric means. Enterococci samples shall be taken at the same time as a fecal coliform sample. **See Part I.G** for the compliance schedule for attaining the fecal coliform and enterococci limits.
  - b. No more than 10 percent of the fecal coliform samples in any calendar month shall exceed 28 organisms per 100 ml. The permittee shall report the percent of samples exceeding 28 organisms per 100 ml on its discharge monitoring report and submit the sample results with the discharge monitoring report.
5. The permittee shall use an analytical method found in 40 CFR Part 136 that achieves a minimum level (ML) of 20 ug/l or less. Results less than the ML shall be reported as zero on the discharge monitoring report.
6. For copper, the permittee shall use an analytical method found in 40 CFR Part 136 that achieves a minimum level (ML) of 3 ug/l or less.

PCB samples shall be analyzed using Modified Method 8082, using every effort to achieve a minimum level of 0.065 ug/l and a minimum detection level of 0.014 ug/l.

Results less than the ML shall be reported as zero on the discharge monitoring report. Actual sample results shall be submitted with the DMR.

7. The  $LC_{50}$  is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.
8. Perform a 7-day chronic and modified acute toxicity test four times per year using the Inland Silverside, perform a 1-hour fertilization test four times per year using the Sea-Urchin and perform 48 hour acute four times per year test using Mysid Shrimp. Toxicity test samples shall be collected during the months of March, June, September, and December. Results are to be submitted by the end of second month after the sample i.e. May, August, November, and February. See **Attachments C and D** for Toxicity Test Procedure and Protocol.
9. The "12.5% or greater" limit is defined as a sample which is composed of 12.5% (or greater) effluent, the remainder being dilution water.

Part I.A.1. (Continued)

- a. The discharge shall not cause a violation of the water quality standards of the receiving waters.
  - b. The pH of the effluent shall not be less than 6.0 nor greater than 8.5 at any time.
  - c. The discharge shall not cause objectionable discoloration of the receiving waters.
  - d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
  - e. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.
  - f. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and carbonaceous biochemical oxygen demand during dry weather. Dry weather is defined as any calendar day on which there is less than 0.1 inch of rainfall and no snow melt. The percent removal shall be calculated as a monthly average using the influent and effluent CBOD and TSS samples collected during dry weather days
  - g. The permittee shall implement the requirements found in Part I.H to enhance nitrogen removal at the treatment plant. The goal is to optimize operation of the existing treatment facilities to minimize nitrogen in the effluent.
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 quantity and quality 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.
3. Toxics Control
- a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

- b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

#### 4. Numerical Effluent Limitations for Toxicants

EPA or MassDEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

### B. PRETREATMENT

1.
  - a. Pollutants introduced into POTWs by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.
  - b. The permittee shall develop and enforce specific effluent limits (local limits) for Industrial Users(s) and all other users as necessary, which together with appropriate changes in the POTW facilities or operation, are essential to ensure continued compliance with the POTW's NPDES permit or sludge use or disposal practices. Specific local limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond. Within 90 days of the effective date of this permit, the permittee shall prepare and submit a written technical evaluation to the EPA analyzing the need to revise local limits. As part of this evaluation, the permittee shall assess how the POTW performs with respect to influent and effluent pollutants, water quality concerns, sludge quality, sludge processing concerns/inhibition, biomonitoring results, activated sludge inhibition, worker health and safety, and collection system concerns. In preparing this evaluation, the permittee shall complete and submit the attached form (**Attachment F – Reassessment of Technically Based Industrial Discharge Limits**) with the technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be based on actual plant data if available and should be included in the report. Should the evaluation reveal the need to revise local limits, the permittee shall complete the revisions within 120 days of notification by EPA and submit the revisions to EPA for approval. The permittee shall carry out the local limits revisions in accordance with EPA's Local Limit Development Guidance (July 2004).

## 2. Industrial Pretreatment Program

- a. The permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program, and the General Pretreatment Regulations, 40 CFR 403. At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program ("IPP"):
  - (1) Carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, whether the industrial user is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP but in no case less than once per year and maintain adequate records.
  - (2) Issue or renew all necessary industrial user control mechanisms within 120 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.
  - (3) Obtain appropriate remedies for noncompliance by any industrial user with any pretreatment standard and/or requirement; and
  - (4) Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.
- b. The permittee shall provide the EPA and the MassDEP with an annual report describing the permittee's pretreatment program activities over the twelve month period ending 60 days prior to the due date in accordance with 403.12(i). The annual report shall be consistent with the format described in **Attachment E** of this permit and shall be submitted no later than March 1<sup>st</sup> of each year.
- c. The permittee must obtain approval from EPA prior to making any significant changes to the industrial pretreatment program in accordance with 40 CFR 403.18(c).
- d. The permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the Federal Regulations at 40 CFR 405 et. seq.
- e. On October 14, 2005 EPA published in the Federal Register final changes to the General Pretreatment Regulations. The final "Pretreatment Streamlining Rule" is designed to reduce the burden to industrial users and provide regulatory flexibility in technical and administrative requirements of industrial users and POTWs. Within 60 days of the effective date of this permit, the permittee must submit to EPA all required modifications of the Streamlining Rule in order to be consistent with the provisions of the newly promulgated Rule. To the extent that the POTW legal authority is not consistent with the required changes, they must be revised and submitted to EPA for review.

### C. UNAUTHORIZED DISCHARGES

The permittee and co-permittees are authorized to discharge only in accordance with the terms and conditions of this permit and only from the authorized outfalls listed in Attachments A and B. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs) are not authorized by this permit and shall be reported in accordance with Part II Section D.1.e. (1) of the General Requirements of this permit (Twenty-four hour reporting). [Note: SSO Reporting Form (which includes MassDEP Regional Office telephone numbers) for submittal of written report to MassDEP is available on-line at:

<http://www.mass.gov/dep/water/approvals/surffms.htm#sso.>]

### D. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions:

#### 1. Maintenance Staff

The permittee and co-permittees shall provide adequate staffs to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

#### 2. Infiltration/Inflow

The permittee and co-permittees shall develop and implement plans to control infiltration and inflow (I/I) to the separate sewer system. The plans shall be **submitted to EPA and Mass DEP within six months of the effective date of this permit** (see page 1 of this permit for the effective date) and shall describe the permittee's and co-permittees' programs for preventing infiltration/inflow related effluent limit violations, and all unauthorized discharges of wastewater, including overflows and bypasses due to excessive infiltration/inflow.

The plans shall include:

- An ongoing program to identify and remove sources of infiltration and inflow. The program shall include the necessary funding level and the source(s) of funding.
- An inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts. Priority should be given to removal of public and private inflow sources that are upstream from, and potentially contribute to, known areas of sewer system backups and/or overflows.
- Identification and prioritization of areas that will provide increased aquifer recharge as the result of reduction/elimination of infiltration and inflow to the system.
- An educational public outreach program for all aspects of I/I control, particularly private inflow.

Reporting Requirements:

A summary report of all actions taken to minimize I/I during the previous calendar year **shall be submitted to EPA and the MassDEP annually, by March 31**. The summary report shall, at a minimum, include:

- A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year.
- Expenditures for any infiltration/inflow related maintenance activities and corrective actions taken during the previous year.
- A map with areas identified for I/I-related investigation/action in the coming year.
- A calculation of the annual average I/I, the maximum month I/I for the reporting year.
- A report of any infiltration/inflow related corrective actions taken as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and reported pursuant to the Unauthorized Discharges section of this permit.

3. Alternate Power Source

In order to maintain compliance with the terms and conditions of this permit, the permittee and co-permittees shall provide an alternative power source(s) with which to sufficiently operate its treatment works (as defined at 40 CFR §122.2).

4. Chlorination System

The permittee shall implement the operational recommendations of the March 29, 2001 Chlorination System Report, including adjustment of hypochlorite and bi-sulfate pumping rates to enhance compliance with effluent limitations.

**E. 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.
2. The permittee shall comply with the more stringent of either the state or federal (40 CFR part 503) requirements.
3. The requirements and technical standards of 40 CFR part 503 apply to facilities which perform one or more of the following use or disposal practices.
  - a. Land application - the use of sewage sludge to condition or fertilize the soil
  - b. Surface disposal - the placement of sewage sludge in a sludge only landfill

c. Sewage sludge incineration in a sludge-only incinerator

- 4. The 40 CFR part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill and are in compliance 40 CFR Part 258. These conditions also do not apply to facilities which do not dispose of sewage sludge during the life of the permit but rather treat the sludge (e.g. lagoons- reed beds), or are otherwise excluded under 40 CFR 503.6.
- 5. The permittee shall use and comply with the attached compliance guidance document (see **Attachment G** ) to determine appropriate conditions. Appropriate conditions contain the following elements.
  - General requirements
  - Pollutant limitations
  - Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
  - Management practices
  - Record keeping
  - Monitoring
  - Reporting

Depending upon the quality of material produced by a facility, all conditions may not apply to the facility.

- 6. The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year;

less than 290	1/ year
290 to less than 1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

- 7. The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR 503.8
- 8. The permittee shall submit an annual report containing the information specified in the guidance. Reports are due annually by February 19. Reports shall be submitted to the address contained in the reporting section of the permit. Sludge monitoring is not required by the permittee when the permittee is not responsible for the ultimate sludge disposal. The permittee must be assured that any third party contractor is in compliance with appropriate regulatory requirements. In such case, the permittee is required only to **submit an annual report by February 19** containing the following information:
  - Name and address of contractor responsible for sludge disposal.
  - Quantity of sludge in dry metric tons removed from the facility by the sludge Contractor.

**F. COMBINED SEWER OVERFLOWS ( CSOs )**

1. EFFLUENT LIMITATIONS

- a. During wet weather, the permittee is authorized to discharge storm water/wastewater from combined sewer outfalls listed in **Attachment B**, subject to the following effluent limitations.

(1) The discharges shall receive treatment at a level providing Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT) to control and abate conventional pollutants and Best Available Technology Economically Achievable (BAT) to control and abate non-conventional and toxic pollutants. The EPA has made a Best Professional Judgement (BPJ) determination that BPT, BCT, and BAT for combined sewer overflow (CSO) control include the implementation of Nine Minimum Controls (NMC) specified below and detailed further in Part I.F.2. "Nine Minimum Controls, Minimum Implementation Levels", of this permit:

- (a) Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows.
- (b) Maximum use of the collection system for storage.
- (c) Review and modification of the pretreatment program to assure CSO impacts are minimized.
- (d) Maximization of flow to the POTW for treatment.
- (e) Prohibition of dry weather overflows from CSOs.
- (f) Control of solid and floatable materials in CSOs.
- (g) Pollution prevention programs that focus on contaminant reduction activities.
- (h) Public notification to ensure that the public receives adequate notification of CSO Occurrences and CSO impacts.
- (i) Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

Implementation of these controls is required by the effective date of the permit. Documentation of the implementation of these controls has been previously submitted and reviewed by EPA and the State. **Within 180 days of the effective date of the**

**permit**, the permittee shall review and update its NMC program and submit a report documenting the revised program. Subsequent modification of the program by the permittee to enhance its effectiveness is allowed, but the nine minimum controls program shall always include the minimum implementation levels set forth in Part I.F.2 of this permit.

- b. The discharges shall not cause violations of Federal or State Water Quality Standards.

## 2. NINE MINIMUM CONTROLS, MINIMUM IMPLEMENTATION LEVELS

- a. The permittee must implement the nine minimum controls in accordance with the documentation provided under Part I.F.1.a.i. of this permit. This implementation must include the following controls plus other controls the Permittee can reasonably implement as set forth in the documentation.
- b. Each CSO structure/regulator, pumping station and/or tidegate shall be routinely inspected, at a minimum of once per month, to insure that they are in good working condition and adjusted to minimize combined sewer discharges and tidal surcharging. (NMC # 1, 2 and 4).

The following inspection results shall be recorded: the date and time of the inspection, the general condition of the facility, and whether the facility is operating satisfactorily. If maintenance is necessary, the permittee shall record: the description of the necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. The permittee shall maintain all records of inspections for at least three years.

**Annually, no later than January 15th**, the permittee shall submit a certification to the State and EPA which states that the previous calendar year's monthly inspections were conducted, results recorded, and records maintained.

The State and EPA have the right to inspect any CSO related structure or outfall at any time without prior notification to the permittee.

- c. Discharges to the combined system of septage, holding tank wastes or other material which may cause a visible oil sheen or containing floatable material are prohibited during wet weather when CSO discharges may be active. (NMC# 3,6, and 7).
- d. Dry weather overflows (DWOs) are prohibited (NMC# 5). All dry weather sanitary and/or industrial discharges from CSOs must be reported to EPA and the State within 24 hours in accordance with the reporting requirements for plant bypass (Paragraph D.1.e of Part II of this permit).
- e. The permittee shall quantify and record all discharges from combined sewer outfalls (NMC# 9). Quantification may be through direct measurement or estimation. When estimating, the permittee shall make reasonable efforts, i.e. gaging, measurements, to

verify the validity of the estimation technique. The following information must be recorded for each combined sewer outfall for each discharge event:

- Estimated duration (hours) of discharge;
- Estimated volume (gallons) of discharge; and
- National Weather Service precipitation data from the nearest gage where precipitation is available at daily (24-hour) intervals and the nearest gage where precipitation is available at one-hour intervals. Cumulative precipitation per discharge event shall be calculated.

The permittee shall maintain all records of discharges for at least six years after the effective date of this permit.

Annually, no later than January 15th, the permittee shall submit a certification to the State and EPA which states that the all discharges from combined sewer outfalls were recorded, and records maintained for the previous calendar year.

- f. The permittee shall install and maintain identification signs for all combined sewer outfall structures (NMC# 8). The signs must be located at or near the combined sewer outfall structures and easily readable by the public. These signs shall be a minimum of 12 x 18 inches in size, with white lettering against a green background, and shall contain the following information:

CITY OF NEW BEDFORD  
WET WEATHER  
SEWAGE DISCHARGE  
OUTFALL (discharge serial number)

## G. COMPLIANCE SCHEDULE

The permittee shall achieve compliance with the effluent limits for fecal coliform and enterococci **within one year** of the effective date of the permit. During the interim period, the limits of fecal coliform in Part I.A.1 will continue as in the existing permit and sampling and reporting requirements of enterococci in Part I.A.1 are in effect.

## H. NITROGEN OPTIMIZATION PROGRAM

1. Assess and Reduce Nitrogen Loads to the WWTP.

Within 180 days of the effective date of this permit, the City of New Bedford shall:

- a. Identify major nitrogen sources in the influent. At a minimum, the City shall:
  - Develop and implement a sampling program for non-domestic sources of nitrogen. Samples will be analyzed for BOD, TSS, TKN, NO-3, NO-2 and NH3-N to assess the contribution from the fish houses and other sources for these parameters. The

sampling program shall be sufficient to determine average daily loads as well as peak loads during a typical day.

Prepared and submit a report summarizing the findings of the sampling program.

- b. Develop a continuing education program for the fish industry. The program will be developed in conjunction with the Massachusetts Office of Technology Assistance (OTA) and shall be targeted at those processors that discharge the larger loads of carbon and nitrogen to the treatment plant and will aim to partner with the owners to assess measures that could cost effectively reduce loads and surcharge payments. Implement the education program within 90 days of receiving comments from EPA and MassDEP.

## 2. Optimize Existing Treatment Facilities

Within 180 days of the effective date of the permit, the City shall submit to EPA and MassDEP a detailed scope of work for optimizing the existing treatment facilities. The scope of work will include the five items listed below and shall include a schedule for completing all items within 3 years of approval of the scope of work by EPA and MA DEP.

- a. Step 1 - Perform a detailed treatment plant nitrogen mass balance to identify and quantify the mechanisms and locations of nitrogen removal. Sampling data shall include primary effluent (composite sampling-TKN, ammonia,  $\text{NO}_x$ ) and the RAS/WAS (TKN-periodic grabs). Sidestream sampling for the same components plus BOD and TSS may be required.
- b. Step 2 - With results from Step 1, assess the capabilities and limitations of the existing facilities for nitrogen removal (nitrification and denitrification). Consider warm weather months (June through October) and colder months (November through April with May as a transition month) separately. The assessment will include an evaluation of the feasibility of operating with more facilities and equipment on line (e.g. existing aeration basins and/or existing blowers, increased rate of RAS pumping).
- c. Step 3 - Evaluate non-capital intensive plant modifications, such as the addition of internal recycle within the aeration tanks during the warm weather months and the potential use of swing zones (anoxic/aerobic). External carbon addition to the anoxic zones should also be evaluated.
- d. Steps 2 and 3 will be conducted using a plant-specific (calibrated) BioWin model. Calibration will require 2-4 weeks of COD fractionation on the primary effluent (composite sampling). A large amount of sampling will be required because the plant was designed for carbonaceous BOD removal.

- e. Based on the results of the required studies, prepare a draft report summarizing findings and plant operation changes, including minor piping and other capital improvements. As appropriate, the report will also include a scope of work and schedule for pilot testing of recommended changes on one aeration tank/secondary clarifier, and a preliminary schedule for subsequent plant-wide implementation (design, bid and construct) of the recommended changes.

**I. MONITORING AND REPORTING**

1. Reporting

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the month following the effective date of the permit.

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency  
Water Technical Unit (SEW)  
P.O. Box 8127  
Boston, Massachusetts 02114

**The State Agency is:**

Massachusetts Department of Environmental Protection  
Bureau of Resource Protection  
Southeast Regional Office  
20 Riverside Drive  
Lakeville, MA 02347

Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection  
Division of Watershed Management  
Surface Water Discharge Permit Program  
627 Main Street, 2nd Floor  
Worcester, Massachusetts 01608

All Industrial Pretreatment Program Reports required by Section B must be sent to:

EPA New England  
Attn: Justin Pimpare  
One Congress Street  
Suite 1100 - CMU  
Boston, MA 02114

**J. STATE PERMIT CONDITIONS**

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) 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 Commissioner of the MassDEP 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.