

**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),

Town of Middleborough

is authorized to discharge from the facility located at

**Everett Street
Middleborough, MA 02346**

to receiving water named: the **Nemasket River (Taunton River Basin, State Code - 62)**.

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

This permit shall become effective **60 days from the date of signature**.

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

This permit supersedes the permit issued on September 19, 2000.

This permit consists of 12 pages in Part I including effluent limitations, monitoring requirements, etc., Attachments A, B and C and 35 pages in Part II including General Conditions and Definitions.

Signed this 26th day of September, 2003

SIGNATURE ON FILE

Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, Massachusetts

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

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 serial number 001. Such discharge 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	2.16 ¹	----	Report	Continuous	Recorder
CBOD	mg/l	7.0	10	15	2/Week ²	24-Hour Composite ⁴
	lbs/day	126	180	270		
TSS	mg/l	7.0	10	15	2/Week ²	24-Hour Composite ⁴
	lbs/day	126	180	270		
pH ⁶		(See Condition I.A.1.b. on Page 6)			1/Day	Grab
Dissolved Oxygen (D.O.) ^{3, 6}	mg/l	see Footnote 3			1/Day	Grab
Fecal Coliform Bacteria ^{5,6} (April 1 - October 31)	cfu/100 ml	200	----	400	1/Week	Grab
Total Residual Chlorine ⁷ (April 1 - October 31)	ug/l	21	----	36	1/Day	Grab
Total Ammonia Nitrogen, as N (June 1 - October 31)	mg/l	1.0	1.0	2.0	1/Week	24-Hour Composite ⁴

(Part 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>
Total Ammonia Nitrogen, as N (November 1 - May 31)	mg/l	Report	-----	-----	1/Month	24-Hour Composite ⁴
Total Kjeldahl Nitrogen	mg/l	Report	----	----	1/Month	24-Hour Composite ⁴
Total Nitrate	mg/l	Report	----	----	1/Month	24-Hour Composite ⁴
Total Nitrite	mg/l	Report	----	----	1/Month	24-Hour Composite ⁴
Copper, Total ⁸	ug/l	6.3	----	8.6	1/Month	24-Hour Composite ⁴
Lead, Total ⁸	ug/l	1.3	----	----	1/Month	24-Hour Composite ⁴
Phosphorus, Total ¹² (November 1- March 31)	mg/l lbs/day	Report	----	Report	2/Week	24-Hour Composite ⁴
Phosphorus, Total (April 1- October 31)	mg/l lbs/day	0.2 3.64	-----	1.0 18	2/Week	24-Hour Composite ⁴
LC ₅₀ ^{9, 10}	%	----	----	100	4/year	24-Hour Composite ⁴
Chronic NOEC ^{10, 11}	%	----	----	>53	4/year	24-Hour Composite ⁴

Sampling Point : At post aeration after de-chlorination.

Footnotes

1. The flow limit is an annual average. The annual average shall be reported each month and shall be calculated using the monthly average flow from the reporting month and the monthly average flows from the preceding 11 months.
2. Influent and effluent shall be sampled.
3. Maintain a minimum dissolved oxygen of 6.0 mg/l at all times.
4. A 24 hour composite shall consist of a minimum of 24 grab samples collected over a working day.
5. The monthly average limit is expressed as a geometric mean.
6. State Certification Requirement.
7. Values of Total Residual Chlorine (TRC) and Fecal Coliform shall be sampled at the same time. TRC shall be measured using either of the following two procedures: Method 4500-Cl D, Low Level Amperometric Titration, of Standard Methods For The Examination Of Water and Wastewater.; or Method 4500C1 G, DPD Colorimetric Method of Standard Methods For The Examination Of Water And Wastewater.

The limit at which compliance/noncompliance determinations of Total Residual Chlorine (TRC) will be based in the Minimum Level (ML). The ML for TRC has been defined as 20 ug/l. Any TRC value below 20 ug/l shall be reported as zero in the DMRs.

If chlorination is required due to extraordinary circumstances beyond the seasonal time (April 1 - October 31), the permittee is required to perform TRC monitoring complying with the seasonal limits.

8. The minimum level (ML) for total copper and lead are defined as 3 ug/l. This value is the minimum detection level for copper and lead using EPA approved Furnace Atomic Absorption Method 220.2 for copper and 239.2 for lead respectively. Values less than 3 ug/l will be reported as zero in the DMRs.
9. The LC₅₀ 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.
10. The permittee shall conduct chronic (and modified acute) toxicity tests four times per year. The chronic test may be used to calculate the acute LC₅₀ at the 48 hour exposure interval. The permittee shall test the *Ceriodaphnia dubia*, and *Pimephales promelas*. Toxicity test samples shall be collected during the **second week of the months of February, May, August and November**. The test results shall be submitted by the last day of the month

following the completion of the test. The results are **due March 31st, June 30th, September 30th, and December 31st**, respectively. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Dates Second Week in	Submit Results By:	Test Species	Acute Limit LC ₅₀	Chronic Limit C-NOEC
February May August November	March 31 st June 30 th September 30 th December 31 st	<i>Ceriodaphnia dubia</i> & <i>Pimephales promelas</i> See Attachment A	≥ 100%	≥ 53 %

After submitting four consecutive sets of WET test results, all of which demonstrate compliance with the WET permit limits, the permittee may request a reduction in the required WET testing. The permittee is required to continue testing at the frequency specified in the permit until notice is received by certified mail from the EPA that the WET testing requirement has been changed.

11. C-NOEC (chronic-no observed effect concentration) is defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life cycle or partial life cycle test of which causes no adverse effect on growth, survival, or reproduction at a specific time observation as determined from hypothesis testing where the test results exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, the permittee must report the lowest concentration where there is no observable effect. The "53% or greater" limit is defined as a sample which is composed of 53% (or greater) effluent, the remainder being dilution water. This is a maximum daily limit derived as a percentage of the inverse of the dilution factor of 1.9.
12. The monthly average limit of 0.20 mg/l of phosphorus will be effective from April 1, 2005. The existing monthly average limit of 1.0 mg/l and maximum daily limit of 2.0 mg/l will continue until March 31, 2005.

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 6.5 nor greater than 8.3 standard units and not more than 0.5 units outside of the background range, unless these values are exceeded due to natural causes or as a result of the approved treatment processes.
 - 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'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.
 - f. 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.
 - g. Samples taken in compliance with the monitoring requirements specified in the permit shall be taken at a representative point prior to mixing with other streams.
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. Notice of Noncompliance.

The permittee shall give notice of noncompliance with the terms and conditions of this permit pursuant to Part II. Section D of the permit. Notice of noncompliance does not relieve the permittee of its obligation to ensure that such noncompliance does not occur.
 4. This permit may be modified, or revoke and reissued, on the basis of new information in accordance with 40 C.F.R. 122.62.

B. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfall listed in Part I. A.1. of this permit. 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 Section D.1.e.(1) of the General Requirements of this permit (Twenty-four hour reporting).

C. 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 shall provide an adequate staff 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 shall develop and implement a plan to control infiltration and inflow (I/I) to the separate sewer system. **The plan shall be submitted to EPA and MA 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 program for preventing infiltration/inflow related effluent limit violations, and all unauthorized discharges of wastewater, including overflows and by-passes due to excessive infiltration/inflow.

The plan 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 MA DEP annually, by the anniversary date of the effective date of this permit.** 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 shall continue to provide an alternative power source with which to sufficiently operate its treatment works (as defined at 40 CFR Part 122.2).

D. 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 shall maintain adequate records;
 - (2). Issue or renew necessary industrial user control mechanism within 90 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 MA DEP with an annual report describing the permittee's pretreatment program activities for the twelve month period ending 60 days prior to the due date in accordance with 403.12(i) and in the report format described in the Attachment C. **Annual reports shall be submitted no later than October 1st of each year .**

c. The permittee must obtain approval from the 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.

Development of Limitations for Industrial Users:

a. Pollutants introduced into POTW's 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 User(s), and all other users, as appropriate, which together with appropriate changes in the POTW

Treatment Plant's Facilities or operation, are necessary 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 180 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 of 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 the attached form (Attachment D) 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 Guidance Manual for the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program (December, 1987).

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. 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 (see Attachment B) compliance guidance document 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 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. 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 completed reporting period.**

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

EPA- New England
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection
Taunton River Basin Team
20 Riverside Drive
Lakeville, Massachusetts 02347

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

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

G. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency and the Massachusetts Department of Environmental Protection 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 Massachusetts Department of Environmental Protection 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.