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).

Board of Public Works 240 Smith Street North Attleborough, MA 02760

is authorized to discharge from the facility located at:

North Attleborough WWTF Cedar Road North Attleborough, MA 02760

to the receiving water named: Ten Mile River

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

The Town of Plainville is included as a co-permittee for Section D (Unauthorized Discharges), Section E (Operation and Maintenance), and Section F (Alternate Power Source). The responsible Town Department is,

Board of Sewer Commissioners 171 East Bacon Street Plainville, MA 02762

This permit shall become effective (See ** below)

This permit and the authorization to discharge expire at midnight, five (5) years from the issuance date. This permit supersedes the permit issued September 30, 1999.

This permit consists of 13 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 4th day of January, 2007

/s/ SIGNATURE ON FILE

Linda M. Murphy, Director Office of Ecosystem Protection Environmental Protection Agency Region 1 Boston, Massachusetts

Division of Watershed Management
Department of Environmental Protection

Commonwealth of Massachusetts

Boston, Massachusetts

Director

^{**} This permit will become effective on the date of signature if no comments are received during public notice. If comments are received during public notice, this permit will become effective 60 days after signature.

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 from outfall serial number **001** treated wastewater.

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

Effluent Characteristics	Discharge Limitations		Monitoring Requirements		
	Average <u>Monthly</u>	Average <u>Weekly</u>	Maximum <u>Daily</u>	Measurement <u>Frequency</u>	Sample <u>Type</u>
Flow, MGD ¹ BOD, mg/l ²	4.61		Report	Daily	Continuous
(May 1 October 31)	5	10	15	3/Week	24-Hr. Comp. ³
(May 1 - October 31) (November 1 - April 30)	15	25	30	3/Week	24-Hr. Comp. ³
TSS, mg/l ²					
(May 1 - October 31)	7	10	15	3/Week	24-Hr. Comp. ³
(May 1 - October 31) (November 1 - April 30)	15	25	30	3/Week	24-Hr. Comp. ³
Fecal Coliform, CFU/100 ml 4,5	200		400	3/Week	Grab
Total Chlorine Residual, ug/l ^{6,7} Total Phosphorus, mg/l ⁸	11		19	3/Day	Grab
(April 1 - October 31) Total Phosphorus, mg/l ⁹	0.2		Report	3/Week	24-Hr. Comp. ³
(November 1 - March 31) Dissolved Ortho Phosphorus ⁹	1.0		Report	2/Week	24-Hr. Comp. ³
(November 1 - March 31)	Report		Report	2/Week	24-Hr. Comp. ³

NPDES Permit No. MA0101036 Page 3 of 13

Effluent Characteristics	<u>Discharge Limitations</u>			Monitoring Requirement	
	Average Monthly	Average <u>Weekly</u>	Maximum <u>Daily</u>	Measurement Frequency	Sample <u>Type</u>
Ammonia-Nitrogen, mg/l					
25 1 25 24	3			2/Week	24-Hr. Comp. ³
(May 1- May 31)	1	1.5	2	2/Week	24-Hr. Comp. ³
(May 1- May 31) (June 1 - (November 1 - November 30)	7			2/Week	24-Hr. Comp. ³
(December 1 - April 30)	10			2/Week	24-Hr. Comp. ³
Total Nitrogen, mg/l 10					
(May 1 October 31)	8.0		Report	3/Week	24-Hr. Comp. ³
(May 1 - October 31) (November 1 - April 30)	Report		Report	1/Week	24-Hr. Comp. ³
pH, s.u. ⁴	See Part I.A.1.b.		1/Day	Grab	
Dissolved Oxygen, mg/l 4	See Part I.A.1.c.			1/Day	Grab
Copper, Total, ug/l 11	9.9		14.8	1/Month	24-Hr. Comp. ³
Lead, Total, ug/l ¹¹	3.4		Report	1/Month	24-Hr. Comp. ³
Aluminum, Total, ug/l	92		140	1/Month	24-Hr. Comp. ³
Zinc, Total, ug/l 11	127		127	1/Month	24-Hr. Comp. ³
Cadmium, ug/l ¹¹	0.3		2.2	1/Month	24-Hr. Comp. ³
Cyanide, ug/l 11	5.0		22	1/Month	24-Hr. Comp. ³
Whole Effluent Toxicity Testing 12,13,14		LC50≥ 100°	%	4/Year	24 Hr. Comp. ³
		NOEC≥ 94°	%	4/Year	24 Hr. Comp. ³

All sampling shall be representative of the effluent that is discharged through outfall 001 to the Ten Mile River. A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of every month. Any deviations from the routine sampling program shall be documented in correspondence appended to the applicable discharge monitoring report that is submitted to EPA. In addition, all samples shall be analyzed using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136.

Footnotes:

- 1. The flow limit is a monthly average. The permittee shall report the average and maximum daily flows for each month.
- 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 working day, either collected at equal intervals and combined proportional to flow or continuously collected proportionally to flow.
- 4. Required for state certification. Sampling for dissolved oxygen shall be conducted in the early morning (i.e., prior to 8 am). The permittee shall document in correspondence appended to applicable discharge monitoring reports where this timing is not practicable.
- 5. Fecal coliform discharges shall not exceed a monthly geometric mean of 200 colony forming units (cfu) per 100 ml, nor shall they exceed 400 cfu per 100 ml as a daily maximum. This monitoring shall be conducted as close in time as possible with the TRC sampling.
- 6. The minimum level (ML) for total residual chlorine is defined as 20 ug/l. This value is the minimum level for chlorine using EPA approved methods found in the most currently approved version of Standard Methods for the Examination of Water and Wastewater, Method 4500 CL-E and G, or USEPA Manual of Methods of Analysis of Water and Wastes, Method 330.5. One of these methods must be used to determine total residual chlorine. For effluent limitations less than 20 ug/l, compliance/non-compliance will be determined based on the ML. Sample results of 20 ug/l or less shall be reported as zero on the discharge monitoring report.

The monthly DMR shall include an attachment documenting the individual grab sample results for each day, including the date and time of each sample, and a summary of any operational modifications implemented in response to sample results. All test results shall be used in the calculation and reporting of the monthly average and maximum daily data submitted on the DMR (see Part II. Section D.1.d.(2)).

- 7. Chlorination and dechlorination systems shall include an alarm system for indicating system interruptions or malfunctions. Any interruption or malfunction of the chlorine dosing system that may have resulted in levels of chlorine that were inadequate for achieving effective disinfection or interruptions or malfunctions of the dechlorination system that may have resulted in excessive levels of chlorine in the final effluent shall be reported with the monthly DMRs. The report shall include the date and time of the interruption or malfunction, the nature of the problem, and the estimated amount of time that the reduced levels of chlorine or dechlorination chemicals occurred.
- 8. Consistent with Section B.1 of Part II of the Permit, the Permittee shall properly operate and maintain the phosphorus removal facilities in order to obtain the lowest effluent concentration possible.

- 9. The Permittee shall comply with the 1.0 mg/l monthly average total phosphorus limit within one year of the effective date of the permit. The maximum daily concentration value reported for dissolved ortho phosphorus shall be the value from the same day that the maximum daily total phosphorus concentration was measured.
- 10. This permit limit is a requirement of the U. S. Environmental Protection Agency (EPA) permit and is not a requirement of the Massachusetts Department of Environmental Protection (MassDEP) permit. Total Nitrogen is the sum of TKN, NO₂, and NO₃. The permittee shall operate the treatment facility to reduce the discharge of total nitrogen during the months of November April to the maximum extent possible, using all available treatment equipment in place at the facility. The addition of a carbon source that may be necessary in order to meet the total nitrogen limit during the months of May October is not required during the months of November April.
- 11. Total recoverable lead, copper, and cadmium shall be measured using the Furnace Atomic Absorption method and total cyanide shall be measured using the Flame Atomic Absorption method. The MLs for lead, copper, cadmium, and cyanide, respectively, are 3 ug/l, 3 ug/l, 0.5 ug/l, and 10 ug/l. Any effluent value which is below its respective ML shall be reported as zero.
 - Total recoverable values of all other metals may be measured using either the Inductively Coupled Plasma ICP method or the Furnace AA method.
- 12. 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 daphnid, <u>Ceriodaphnia dubia</u>, only. 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 by 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	March 31 st June 30 th September 30 th	Ceriodaphnia dubia (daphnid)	≥ 100%	≥ 94%
November	December 31 st	See Attachment A		

If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A Section IV.**, **DILUTION WATER** in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required **in Attachment A**, EPA-New England has developed a <u>Self-Implementing Alternative Dilution Water Guidance</u> document (called "Guidance Document") which may be used to obtain automatic approval of an alternate dilution

water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The "Guidance Document" has been sent to all permittees with their annual set of DMRs and <u>Revised Updated Instructions for Completing EPA's Pre-Printed NPDES Discharge Monitoring Report (DMR) Form 3320-1 and is not intended as a direct attachment to this permit. Any modification or revocation to this "Guidance Document" will be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment A**.</u>

- 13. 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.
- 14. 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 which causes no adverse effect on growth, survival, or reproduction at a specific time of 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 "100% or greater" limit is defined as a sample which is composed of 100% (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 6.5 nor greater than 8.3 at any time.
- c. The dissolved oxygen content in the effluent shall not be less than 6.0 mg/l.
- d. The discharge shall not cause objectionable discoloration of the receiving waters.
- e. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
- f. 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.
- g. The results of sampling for any parameter above its required frequency must also be reported.
- h. The permittee shall, when the average annual flow exceeds eighty percent (80%) of the permitted facility's design flow, submit a report to the Department describing what steps the permittee will take in order to remain in compliance with the limitations and conditions in its permit, including in particular, limitations on the amount of flow authorized to be discharged under the permit.

- 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 DEP 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. 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 120 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 and submit the attached form Attachment B 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 300 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 Limits Development Guidance (July 2004).

C. 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 necessary industrial user control mechanisms 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.
 - 4. Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.
- b. In accordance with 40 CFR Part 403.12(i), the permittee shall provide the EPA and the MassDEP with an annual report describing the permittee's pretreatment program activities for the twelve month period ending December 31. The annual report shall be consistent with the format described in **Attachment C** of this permit and shall be submitted no later than March 1st 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. The permittee must modify its pretreatment program to conform to all changes in the Federal Regulations that pertain to the implementation and enforcement of the industrial pretreatment program. The permittee must provide EPA, in writing, within 180 days of this permit's effective date proposed changes to the permittee's pretreatment program deemed necessary to assure conformity with current Federal Regulations. At a minimum, the permittee must address in its written submission, if applicable, the following areas: (1) Enforcement response plan; (2) revised sewer use ordinances; and (3) slug control evaluations. The permittee will implement these proposed changes pending EPA Region I's approval under 40 CFR 403.18. This submission is separate and distinct from any local limits analysis submission described above.

D. UNAUTHORIZED DISCHARGES

The permit only authorizes discharges in accordance with its terms and conditions 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).

E. 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-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. Preventative Maintenance Program

The permittee and co-permittee shall maintain an ongoing preventative maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure. The program shall include an inspection program designed to identify all potential and actual unauthorized discharges.

3. Infiltration/Inflow Control Plan:

The permittee and co-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 MassDEP within one year 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-permittee's program for preventing I/I related effluent limit violations, and all unauthorized discharges of wastewater, including overflows and by-passes due to excessive I/I.

The plan shall include:

- An ongoing program to identify and remove sources of I/I. 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 I/I 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 June 1st**. 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 I/I 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 I/I related corrective actions taken as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and reported pursuant to the <u>Unauthorized Discharges</u> section of this permit.

F. ALTERNATE POWER SOURCE

In order to maintain compliance with the terms and conditions of this permit, the permittee and co-permittee shall continue to provide an alternate power source with which to sufficiently operate the Publicly Owned Treatment Works as defined at 40 CFR §403.3.

G. 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 comply with the 40 CFR, Part 503 regulations. A compliance guidance document is attached to help 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:

- 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

H. MONITORING AND REPORTING

1. Reporting

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

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 Southeast Regional Office - Bureau of Resource Protection 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

Reports required in Sections B and C (local limits and pretreatment program) shall also be submitted to the State at:

Massachusetts Department of Environmental Protection Bureau of Waste Prevention - Industrial Wastewater Section One Winter Street Boston, MA 02108

I. STATE PERMIT CONDITIONS

- 1. 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 (unless otherwise noted) are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MassDEP pursuant to M.G.L. Chap. 21, §43.
- 2. 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.