

**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”),

The Town of Peterborough, New Hampshire

is authorized to discharge from the Town of Peterborough Wastewater Treatment Facility located at

**110 Pheasant Road
Peterborough, New Hampshire 03458**

to the receiving water named:

Contoocook River (Hydrologic Basin Code: 01070003)

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

This permit shall become effective on May 1, 2007.

This permit and the authorization to discharge expire at midnight, April 30, 2012.

This permit supersedes the permit issued on September 28, 2000.

This permit consists of 9 pages in Part I including effluent limitations, monitoring requirements, etc., Attachment A (Freshwater Chronic Toxicity Test Procedure and Protocol), Sludge Compliance Guidance, and Part II including General Conditions and Definitions.

Signed this 27th day of February, 2007

/s/ SIGNATURE ON FILE

Stephen S. Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency
Region I
Boston, Massachusetts

PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from Outfall Serial Number 001 treated domestic wastewater effluent to the Contoocook River. Such discharges shall be limited and monitored by the permittee as specified below. Samples taken in compliance with the monitoring requirements specified below shall be taken at end of all processes, including disinfection, or at an alternative representative location approved by the EPA and NHDES-WD.

Effluent Parameter	Effluent Limit			Monitoring Requirement	
	Average Monthly Report	Average Weekly	Maximum Daily	Frequency	Sample Type
Flow, MGD	Report	---	Report	Continuous	Recorder ¹
BOD ₅ ; mg/l (lb/d)	30 (125)	45 (188)	50 (209)	1/Week ²	Grab
TSS; mg/l (lb/d)	30 (125)	45 (188)	50 (209)	1/Week ²	Grab
pH Range ³ ; Standard Units	6.0 to 8.0 (See Section I.D.1.a.)			1/Day	Grab
Total Residual Chlorine ⁴ ; mg/l	0.16	---	0.28	1/Day	Grab
Escherichia coli ^{3,5} ; Colonies/100 ml	126	---	406	2/Week	Grab
Total Phosphorus; mg/l (April 1 through October 31)	0.93	---	---	1/Week	Grab
Total Phosphorus; mg/l (November 1 through March 31)	1.0	---	---	1/Week	Grab
Orthophosphorus; mg/l (November 1 through March 31)	Report	---	---	1/Week	Grab
Whole Effluent Toxicity					
^{6,8,9} ; Percent Effluent	Greater than or equal to 100%			1/Year	Grab
^{7,8,9} ; Percent Effluent	Report			1/Year	Grab
Ammonia Nitrogen as N ¹⁰ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Aluminum ¹⁰ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Cadmium ¹⁰ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Chromium ¹⁰ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Copper ¹⁰ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Lead ¹⁰ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Nickel ¹⁰ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Zinc ¹⁰ ; mg/l	---	---	Report	1/Year	Grab

* SEE PAGE 3 FOR EXPLANATION OF FOOTNOTES.

EXPLANATION OF FOOTNOTES APPLICABLE TO PART I.A.1 on page 2

- (1) The effluent flow shall be continuously measured and recorded using a flow meter and totalizer.
- (2) The influent concentrations of both BOD₅ and TSS shall be monitored twice per month (2/Month) using a 24-hour composite sample and the results reported as average monthly values.
- (3) State certification requirement.
- (4) Total residual chlorine shall be tested using any one of the following three methods listed below:
 - a. DPD spectrophotometric (colorimetric). Standard Methods [18th or subsequent edition(s), as approved in 40 C.F.R. Part 136], No. 4500-C1 G.
 - b. DPD titrimetric (ferrous titrimetric).). Standard Methods [18th or subsequent edition(s), as approved in 40 C.F.R. Part 136], No. 4500-C1 F.
 - c. Amperometric titration.). Standard Methods [18th or subsequent edition(s), as approved in 40 C.F.R. Part 136], No. 4500-C1 D or E.
- (5) The average monthly value for Escherichia coli shall be determined by calculating the geometric mean. Escherichia coli shall be tested using test method 1103.1 found in Test Method for Escherichia coli and Enterococci in Water by the Membrane Filter Procedure, EPA/600/4-85/076 as amended by test method 9213 D.3. found in Standard Methods for the Examination of Water and Wastewater, 18th or subsequent edition(s) as approved in 40 C.F.R. 136.
- (6) LC50 (lethal concentration 50 percent) is the concentration of wastewater (effluent) causing mortality to 50 percent of the test organisms. The permit limit of 100% is defined as a sample which is composed of 100 percent effluent.
- (7) C-NOEC is defined as the chronic no observed effect concentration which is the highest concentration of effluent to which organisms are exposed in a life cycle test which causes no adverse effect on growth, survival, or reproduction. If test results do not exhibit a linear dose-response relationship, report the lowest concentration where there is not observable effect.
- (8) The permittee shall conduct chronic and modified acute toxicity tests on two species, daphnid (Ceriodaphnia dubia) and fathead minnow (Pimephales promelas), following the specifications in Attachment A. Toxicity tests samples shall be collected during the third quarter of each year (i.e. July, August, September) and the test results are to be submitted by the 15th day of the month following the end of the quarter.

The permittee shall use an alternate dilution water for chronic and modified acute tests with three controls: 1) alternate dilution water; 2) lab water; and 3) site water. The alternate dilution water must be of a known quality with water quality characteristics such as organic carbon, total

suspended solids, pH, specific conductivity, alkalinity, and hardness similar to that of the Contoocook River. It is recommended that the permittee screen the alternate dilution water for suitability prior to toxicity testing. The chemical data for the alternate dilution water and the site water are to be submitted with the test results.

(9) This permit shall be modified, or alternatively revoked and reissued, to incorporate additional toxicity testing requirements, including chemical specific limits if the results of the toxicity tests indicate the discharge causes an exceedance of any State water quality criterion. Results from these toxicity tests are considered “new information” and the permit may be modified as provided in 40 C.F.R. §122.62(a)(2).

(10) For each whole effluent toxicity test the permittee shall report on the appropriate DMR, the concentrations of the ammonia nitrogen as nitrogen, and total recoverable aluminum, cadmium, chromium, copper, lead, nickel, and zinc found in the 100 percent effluent sample. All these aforementioned chemical parameters shall be determined to at least the minimum quantification level (ML) show in Attachment A.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Continued)

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

3. The discharge shall be adequately treated to ensure that the surface water remains free from pollutants in concentrations or combinations that settle to form harmful deposits, float as foam, debris, scum, or other visible pollutants. It shall be adequately treated to ensure that the surface waters remain free from pollutants which produce odor, color, taste, or turbidity in the receiving waters which is not naturally occurring and would render it unsuitable for its designated uses.

4. The permittee’s treatment facility shall maintain a minimum of 85 percent removal of both BOD₅ and TSS. The percent removal shall be based on a comparison of average monthly influent and effluent concentrations.

5. When the effluent discharged for a period of three consecutive months exceeds 80 percent of the 0.5 MGD design flow (0.4 MGD) 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. Before the design flow will be reached, or whenever the treatment necessary to achieve permit limits cannot be assured, the permittee may be required to submit plans for facility improvements.

6. All Publicly Owned Treatment Works (POTWs) must provide adequate notice to both EPA-New England and the New Hampshire Department of Environmental Services – Water Division (NHDES-WD) of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger in a primary industrial category (see 40 C.F.R. §122 Appendix A as amended) discharging process water;

b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit; and

c. For the purpose 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.

7. The permittee shall not discharge into the receiving water any pollutant or combination of pollutants in toxic amounts.

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 Clean Water Act (CWA) Section 405(d) technical standards.

2. The permittee shall comply with the more stringent of either State (Env-Ws 800) or Federal (40 C.F.R. Part 503) requirements.

3. The technical standards (Part 503 regulations) 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. Fired in a sewage sludge incinerator.

4. The 40 C.F.R. Part 503 conditions do not apply to facilities that place sludge within a municipal solid waste landfill (MSWLF). Part 503 relies on 40 C.F.R. Part 258 criteria, which regulates landfill disposal, for sewage sludge disposed in a MSWLF. 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 (lagoon reed beds), or are otherwise excluded under 40 C.F.R. Part 503.6.

5. The permittee shall use and comply with the attached Sludge Compliance Guidance document to determine appropriate conditions. Appropriate conditions contain the following items:

a. General Requirements

b. Pollutant Limitations

c. Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)

d. Management Practices

- e. Record Keeping
- f. Monitoring
- g. Reporting

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

6. If the sludge disposal method requires monitoring, 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.

- a. less than 290.....1/Year
- b. 290 to less than 1,500.....1/Quarter
- c. 1,500 to less than 15,000.....6/Year
- d. 15,000 plus.....1/Month

7. The permittee shall perform all required sewage sludge sampling using the procedures detailed in 40 C.F.R. Part 503(h).

8. When the permittee is responsible for an annual report containing the information specified in the regulations, the report shall be submitted by February 19th of each year. Reports shall be submitted to the address contained in the reporting section of the permit.

9. Sludge monitoring is not required by the permittee when the permittee is not responsible for the ultimate sludge use or disposal or when the sludge is disposed of in a MSWLF. The permittee must be assured that any third party contractor is in compliance with appropriate regulatory requirements. In such cases, the permittee is required only to submit an annual report by February 19th of each year containing the following information:

- a. Name and address of the contractor responsible for sludge use and disposal.
- b. Quantity of sludge in dry metric tons removed from the facility.

Reports shall be submitted to the address contained in the reporting section of the permit.

C. MONITORING AND REPORTING

Monitoring results shall be summarized for each calendar month and reported on separate Discharge Monitoring Report Form(s) (DMRs) postmarked no later than the 15th day of the month following the completed reporting period.

Signed and dated original DMRs and all other reports or notifications required herein or in Part II shall be submitted to the Director at the following address:

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

Duplicate signed copies (original signature) of all written reports or notifications required herein or in Part II shall be submitted to the State at:

New Hampshire Department of Environmental Services (NHDES)
Water Division
Wastewater Engineering Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

All verbal reports or notifications shall be made to both EPA and NHDES.

D. STATE PERMIT CONDITIONS

1. The permittee shall comply with the following conditions which are included as State Certifications Requirements.

a. The pH range of 6.5-8.0 Standard Units (S.U.) must be achieved in the final effluent unless the permittee can demonstrate to NHDES-WD: (1) that the range should be widened due to naturally occurring conditions in the receiving water; or (2) that the naturally occurring receiving water pH is not significantly altered by the permittee's discharge. The scope of any demonstration project must receive prior approval from NHDES-WD. In no case, shall the above procedure result in pH limits outside the range of 6.0-9.0 S.U., which is the federal effluent limitation guideline regulation for pH for secondary treatment and is found in 40 C.F.R. §133.102(c).

b. Pursuant to State Law NH RSA 485-A:13 and the New Hampshire Code of Administrative Rules, Env-Wq 703.07(a) and Env-Ws 904.08 the following submissions shall be made to the NHDES-WD by a municipality proposing to accept into its POTW (including sewers and interceptors):

(1) An "Application for Sewer Connection Permit" for any proposal to construct or modify any of the following:

- (a) Any extension of a collector or interceptor, whether public or private, regardless of flow;
- (b) Any wastewater connection or other discharge in excess of 5,000 gpd;

- (c) Any wastewater connection or other discharge to a wastewater treatment facility operating in excess of 80 percent design flow capacity for 3 consecutive months;
 - (d) Any industrial wastewater connection or change in existing discharge of industrial wastewater, regardless of quality or quantity; and
 - (e) Any sewage pumping station greater than 50 gpm or serving more than one building.
- (2) An “Industrial Wastewater Discharge Request Application” for new or increased loadings of industrial waste, in accordance with Env-Ws 904.10.
- c. The permittee shall not at any time, either alone or in conjunction with any person or persons, cause directly or indirectly the discharge of waste into the said receiving water unless it has been treated in such a manner as will not lower the legislated water quality classification or interfere with the uses assigned to said water by the New Hampshire Legislature (RSA 485-A:12).
 - d. Any modifications of the Permittee's Sewer Use Ordinance, including local limitations on pollutant concentrations, shall be submitted to the NHDES-WD for approval prior to adoption by the permittee.
 - e. Within 90 days of the effective date of this permit, the permittee shall submit to NHDES-WD a copy of its current sewer use ordinance if it has been revised since any previously approved submittal.
 - f. Within 120 days of the effective date of this permit, the permittee shall submit to NHDES-WD a current list of all industries discharging industrial waste to the municipal wastewater treatment plant. As a minimum, the list shall indicate the name and address of each industry, along with the following information: telephone number, contact person, products manufactured, industrial processes used, existing level of pretreatment, and list of existing industrial discharge permits with effective dates.

E. SPECIAL CONDITIONS

1. pH Limit Adjustment

The Permittee may submit a written request to the EPA requesting a change in the permitted pH limit range to be not less restrictive than 6.0 to 9.0 Standard Units found in the applicable National Effluent Limitation Guideline (Secondary Treatment Regulations in 40 C.F.R. Part 133) for this facility. The Permittee's written request must include the State's letter containing an original signature (no copies). The State's approval letter shall state that the Permittee has demonstrated to the State's satisfaction that as long as discharges to the receiving water from a specific outfall are within a specific numeric pH range, the naturally occurring receiving water pH will be unaltered. The letter must specify for each outfall the associated numeric pH limit

range. Until written notice is received by certified mail from the EPA indicating the pH limit range has been changed, the Permittee is required to meet the permitted pH limit range in the respective permit.

F. REOPENER CLAUSE

This permit may be modified, or alternatively revoked and reissued, if a future analysis of a Total Maximum Daily Load (TMDL) or any other water quality based study of the Contoocook River performed by EPA New England and/or NHDES-WD demonstrates the need for additional or modified permit pollutant limits. Results from these studies will serve as the basis for any additional or modified permit limits. Any of these additional or modified permit limits could be expressed in terms of concentration and/or mass where appropriate. Furthermore, should any of these studies result in a revision of the available dilution, current limits based on dilution could be revised. Results from a TMDL or any other water quality study not available at permit reissuance are considered “new information”. Modification of a permit based on new information is provided at 40 C.F.R. § 122.62(a)(2).