

**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”),

Town of Newfields , New Hampshire

is authorized to discharge from the Newfields Village Wastewater Treatment Facility located at

**Harvey Court
Newfields, New Hampshire 03856**

to the receiving water named:

Squamscott River (Hydrologic Basin Code: 01060003)

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

This permit shall become effective on March 1, 2007.

This permit and the authorization to discharge expire at midnight on February 29, 2012.

This permit supersedes the permit issued on June 17, 1996.

This permit consists of 10 pages in Part I including effluent limitations, monitoring requirements, etc., Attachment A, Sludge Compliance Guidance, and Part II including General Conditions and Definitions.

Signed this 12th day of December, 2006

/s/ SIGNATURE ON FILE

Linda M. Murphy, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency
Region I
Boston, Massachusetts

Permit No. NH0101192

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, commercial, and industrial wastewater effluent to the Squamscott 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	Average Weekly	Maximum Daily	Frequency	Sample Type
Flow, MGD	0.117	---	Report	Continuous	Recorder ¹
BOD ₅ ; mg/l (lb/d)	30 (29.3)	45 (43.9)	50 (48.8)	1/Week ²	Grab
TSS; mg/l (lb/d)	30 (29.3)	45 (43.9)	50 (48.8)	1/Week ²	Grab
pH Range ³ ; Standard Units	6.5 to 8.0 (See Section I.E.1.a.)			1/Day	Grab
Fecal Coliform ^{3,4} ; Colonies/100 ml	14	---	Report	1/Day ⁴	Grab
Enterococci Bacteria ^{3,4} ; Colonies/100ml	35	---	104	1/Day ⁴	Grab
Total Residual Chlorine ⁵ ; mg/l	0.75	---	1.0	1/Day	Grab
Whole Effluent Toxicity					
LC50 ^{6,7,8} ; Percent Effluent	Greater than or equal to 50%			1/Year	Grab
Ammonia Nitrogen as N ⁹ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Aluminum ⁹ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Cadmium ⁹ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Chromium ⁹ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Copper ⁹ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Lead ⁹ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Nickel ⁹ ; mg/l	---	---	Report	1/Year	Grab
Total Recoverable Zinc ⁹ ; 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) preferably using a 24-hour composite sample and the results reported as average monthly values.
 - (3) State certification requirement.
 - (4) Fecal coliform and enterococci bacteria shall be sampled concurrently. The average monthly values for fecal coliform and enterococci bacteria shall be determined by calculating the geometric mean. Not more than 10 percent of the fecal coliform collected samples shall exceed a most probable number (MPN) of 43 colonies per 100 ml for a 5-tube decimal dilution test. All fecal coliform and enterococci bacteria data collected must be submitted with the Monthly Discharge Monitoring Reports (DMRs).
- Fecal coliform and enterococci bacteria sampling shall be performed each day of discharge. However, if a continual discharge occurs over a period of two weeks (14 consecutive days) or more then sampling may be conducted 5 days per week.
- (5) Total residual chlorine shall be measured using any one of the following three methods listed in a. through c. below:
 - a. DPD spectrophotometric (colorimetric): EPA No. 330.5 or *Standard Methods* [18th or subsequent edition(s)] as published in 40 C.F.R. Part 136, No. 4500-C1 G.
 - b. DPD titrimetric (ferrous titrimetric): EPA No.330.4 or *Standard Methods* [18th or subsequent edition(s)] as published in 40 C.F.R. Part 136, No. 4500-C1 F.
 - c. Amperometric titration: EPA No. 330.1 or *Standard Methods* [18th or subsequent edition(s)] as published in 40 C.F.R. Part 136, No. 4500-C1 D or ASTM No. D1253-86(92).
 - (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 50% is defined as a sample which is composed of 50 percent effluent. The limit is considered to be a maximum daily limit.
 - (7) The permittee shall conduct 48-hour static acute toxicity tests on effluent samples using two species, mysid shrimp (*Mysidopsis bahia*) and inland silverside (*Menidia beryllina*) following the protocol in Attachment A. Toxicity test samples shall be collected and tests completed during the third calendar quarter, July 1st through September 30th of each year. Toxicity tests results are to be submitted by October 15th of each year.

(8) 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).

(9) For each whole effluent toxicity test the permittee shall report on the appropriate DMR, the concentrations of ammonia nitrogen as nitrogen, 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 the following minimum quantification levels (ML):

Metal	Method 218.1	Methods 6010 or 200.7	Method 200.9
Aluminum	None specified		
Cadmium	10 ug/L	5 ug/L	0.5 ug/L
Copper	20 ug/L	5 ug/L	3 ug/L
Nickel	30 ug/L	10 ug/L	5 ug/L
Lead	100 ug/L	40 ug/L	3 ug/L
Zinc	30 ug/L	10 ug/L	----

A. EFFLUENT LIMITATIONS AND MONITORING REQUIRMENTS (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 calculated based on average monthly influent and effluent concentrations.
5. The Newfields Village WWTF always exceeds 80 percent design flow. This permit contains a flow limit to ensure organic loading (pounds per day) limits are not exceeded.
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 purposed 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 disposed 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. If chlorine is used for disinfection, the treatment plant shall include a dechlorination system and a recorder which shall continuously record the chlorine residual prior to dechlorination. Minimum, maximum and average daily residual chlorine values, measured prior to dechlorination, shall be submitted with monthly Discharge Monitoring Reports. Charts from the recorder showing the continuous chlorine residual shall be maintained by the permittee for a period no less than five (5) years.
 - e. 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.
 - f. 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.
 - g. 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.
2. The Newfields Village WWTF is responsible for immediately notifying the NHDES-Shellfish Section of possible high bacteria/virus loading events from the facility or its sewerage collection infrastructure. Such events include:
- a. Any lapse or interruption of normal operation of the POTW disinfection system or other event that results in discharge of sewerage from the POTW or sewer infrastructure (pump

stations, sewer lines, manholes, etc.) that has not undergone full treatment as specified in the NHDES permit; or

- b. Daily flows in excess of 0.117 MGD (design flow); or
- c. Daily post-disinfection effluent sample result of 43 fecal coliform/100 ml or greater. Notification shall also be made for instances where NPDES-required bacteria sampling is not completed, or where the results of such sampling are invalid.

Notification to the NHDES Shellfish Program shall be made using the program's 24-hour pager. Upon initial notification of a possible high bacteria/virus loading event, NHDES Shellfish Program staff will determine the most suitable interval for continued notification and updates on an event-by-event basis.

3. This NPDES discharge permit is issued by the EPA under Federal and State law. Upon final issuance by the EPA, the NHDES-WD may adopt this permit including all terms and conditions, as a State permit pursuant to RSA 485-A:13.

Each agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension, or revocation of the permit shall be effective only with respect to the agency taking such action, and shall not affect the validity or status of the permit as issued by the other agency, unless and until each agency has concurred in writing with such modification, suspension, or revocation.

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.

2. Requirements for POTWs with Effluent Diffusers

- a) Effluent diffusers shall be maintained when necessary to ensure proper operation. Proper operation means that the plumes from each port will be balanced relative to each other and that they all have unobstructed flow. Maintenance may include dredging in the

vicinity of the diffuser, cleaning out of solids in the diffuser header pipe, removal of debris and repair/replacement of riser ports and pinch valves.

- b) Any necessary maintenance dredging must be performed only during the marine construction season authorized by the New Hampshire Fish and Game Department and only after receiving all necessary permits including those from the NHDES Wetlands Bureau, U.S. Coast Guard, and the U.S. Army Corps of Engineers.
- c) To determine if maintenance will be required, the permittee shall have a licensed diver or licensed marine contractor inspect and videotape the operation of the diffuser. The inspections and videotaping shall be performed once every two years with the first inspection required during the first calendar year following final permit issuance.
- d) Copies of a report summarizing the results of each diffuser inspection shall be submitted to EPA and NHDES-WD by December 31st of the year the inspection occurred. Where it is determined that maintenance will be necessary, the permittee shall also provide the proposed schedule for the maintenance.