

**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”),

**Rockingham County Complex**

is authorized to discharge from the Wastewater Treatment Plant located at

**116 North Road  
Brentwood, New Hampshire 03833**

to receiving water named

**Ice Pond Brook (Hydrologic Basin Code: 01060003)**

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

This permit shall become effective on the date of issuance.

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

This permit supersedes the permit issued on December 24, 1997.

This permit consists of **11** pages in Part I including effluent limitations, monitoring requirements, etc., **Attachment A, Interim Alternative Test Procedure Approval (23** pages); **Attachment B, Freshwater Chronic Toxicity Test Procedure and Protocol (8** pages); **Attachment C, Storm Water Pollution Prevention Plan (6** pages); **Sludge Compliance Guidance** dated November 4, 1999 (**72** pages), and **35** pages in Part II including General Conditions and Definitions.

Signed this 16<sup>th</sup> day of December, 2003

SIGNATURE ON FILE

Linda M, Murphy, Director  
Office of Ecosystem Protection  
U.S. Environmental Protection Agency (EPA)  
EPA-New England  
Boston, Massachusetts

**PART I**

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. During the period **October 1<sup>st</sup> through April 30<sup>th</sup>** beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge treated wastewater effluent from outfall serial number 001 to Ice Pond Brook, **only when the flow in the brook is equal to or greater than 0.28 cubic feet per second**. If during this period, flow in Ice Pond Brook is less than 0.28 cubic feet per second for an entire month and, therefore, no effluent discharge resulted, report Code C in the No Discharge box on the monthly Discharge Monitoring Report. 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 a location that provides a representative analysis of the effluent.

Effluent Characteristic	Discharge Limitations			Monitoring Requirements				
	Average Monthly (lbs/day <sup>1</sup> )	Average Weekly (lbs/day <sup>1</sup> )	Maximum Daily (lbs/day <sup>1</sup> )	Average Monthly Report	Average Weekly	Maximum Daily Report	Measurement Frequency	Sample Type
Flow; MGD	---	---	---	Report	---	Report	Continuous	Recorder <sup>2</sup>
CBOD <sub>5</sub>	8.4	10.5	11.9	12 mg/l	15 mg/l	17 mg/l	1/Week <sup>3</sup>	Grab
TSS	8.4	10.5	11.9	12 mg/l	15 mg/l	17 mg/l	1/Week <sup>3</sup>	Grab
Ammonia Nitrogen as Nitrogen <sup>4</sup>	4.3	---	8.5	6.1mg/l	---	12.2 mg/l	1/Week	Grab
Dissolved Oxygen <sup>5</sup>	Not less than 9.0 mg/l at any time						1/Day	Grab
pH Range <sup>6</sup>	6.5 to 8.5 Standard Units (See <b>PART I.F.1.a.</b> )						1/Day	Grab
<i>Escherichia coli</i> <sup>7</sup> ; Colonies/100 ml				126	---	406	2/Week	Grab
Total Recoverable Copper <sup>8</sup> ; mg/l	---	---	---	Report	---	Report	2/Month	Grab
Whole Effluent Toxicity (WET)								
LC50 <sup>9,10,11</sup> ; Percent Effluent				---	---	100	2/Year	Grab
C-NOEC <sup>10,11,12</sup> ; Percent Effluent				---	---	≥35	2/Year	Grab
Hardness as CaCO <sub>3</sub> <sup>13</sup> ; mg/l				---	---	Report	2/Year	Grab
Total Recoverable Aluminum <sup>13</sup> ; mg/l				---	---	Report	2/Year	Grab
Total Recoverable Cadmium <sup>13</sup> ; mg/l				---	---	Report	2/Year	Grab
Total Recoverable Chromium <sup>13</sup> ; mg/l				---	---	Report	2/Year	Grab
Total Recoverable Copper <sup>13</sup> ; mg/l				---	---	Report	2/Year	Grab
Total Recoverable Lead <sup>13</sup> ; mg/l				---	---	Report	2/Year	Grab
Total Recoverable Nickel <sup>13</sup> ; mg/l				---	---	Report	2/Year	Grab
Total Recoverable Zinc <sup>13</sup> ; mg/l				---	---	Report	2/Year	Grab

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**NOTE: See pages 3 through 5 for explanation of footnotes.**

**EXPLANATION OF FOOTNOTES APPLICABLE TO PART IA.1. on page 2.**

- (1) Mass limits based on a design flow of 0.084 MGD.
- (2) The effluent flow shall be continuously measured and recorded using a flow meter and totalizer.
- (3) The influent concentration of both CBOD<sub>5</sub> and TSS shall also be monitored once per month (1/Month) using a Grab sample and the results reported as average monthly values.
- (4) The permittee has the option of using ammonia results from the WET test in partial fulfillment of this requirement.
- (5) Dissolved-oxygen concentrations shall be measured daily only between the hours of 6:00 a.m. and 8:00 a.m. and only during the months of October **and** April, each year.
- (6) Limit is a State Certification Requirement.
- (7) The average monthly value for *Escherichia coli* shall be determined by calculating the geometric mean and the result shall be reported. *Escherichia coli* shall be tested using test method 1103.1 found in Test Methods 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, 19<sup>th</sup> or subsequent Edition(s) as approved in 40 Code of Federal Regulations (CFR) Part 136.
- (8) The following set of conditions are applicable to the metals analyses for total recoverable copper. Total recoverable copper results from the WET tests (See superscript 10 below) may be used in partial fulfillment of this requirement as long as those analyses are performed in accordance with this footnote.
  - a. For each sample analyzed, the permittee must determine the total recoverable copper concentration and report the result on the appropriate Discharge Monitoring Report (DMR).
  - b. For purposes of analysis and reporting, the permittee shall use the minimum quantification level (ML). In general, the ML is defined as “the level at which the entire analytical system shall give recognizable signal and acceptable calibration points.” Specifically, it is defined as the concentration in a sample equivalent to the concentration of the lowest calibration standard analyzed in a specific analytical procedure assuming that all the method-specific sample weights, volumes, and processing steps have been followed. These ML values may be reduced by permit modification as more sensitive test methods are approved by EPA-New England. The permittee must conduct analyses in accordance with any of the three (3) methods specified below and must utilize the specified standard equivalent to the concentration of the ML specified below:

<u>Parameter</u>	<u>Analytical Methods</u>	<u>ML (µg/l)</u>
Copper	Furnace AA; Method 200.7 (ICP); Method 200.8 (ICP/MS)*	2.5

\* **Attachment A**, EPA-New England's "Interim Alternate Test Procedure (ATP) Approval under 40 CFR Part 136.5 for National Pollutant Discharge Elimination System (NPDES) Compliance Samples dated July 5, 2000" The ML listed above may be reduced by permit modification as more sensitive test methods are approved by EPA. Analytical values below the ML shall be reported as zero (non-detect) on the DMR until written notice is received by certified mail from EPA-New England indicating some value other than zero is to be reported for specified ML (i.e., between zero and the ML).

- c. Alternate analytical method(s) from 40 CFR 136.3 Table IB shall be approved by EPA-New England at the permittee's written request as long as the permittee utilizes method(s) that obtain MLs that are equal to or less than those referenced in (8)b. above. Such a request will be considered a minor modification to the permit.
  - d. If clean sampling techniques are deemed necessary by either the permittee or EPA-New England, then sampling shall be performed in accordance with U.S. E.P.A. Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, EPA 821-R-95-034, April 1995, as amended or approved by EPA-New England.
- (9) The LC50 (Lethal Concentration 50 percent) is the concentration of wastewater (effluent) causing mortality to 50 percent (%) of the test organisms. The "100 % limit" is defined as a sample which is composed of 100 percent effluent (See A.1 on Page 2 of Part I and **Attachment B** of Part I). Therefore, a 100 % limit means that a sample of 100 % effluent (no dilution) shall cause no greater than a 50 % mortality rate in that effluent sample. The limit is considered to be a maximum daily limit.
- (10) The permittee shall conduct chronic (and modified acute) survival and reproduction toxicity tests using the Daphnid (*Ceriodaphnia dubia*) and chronic (and modified acute) survival and growth toxicity tests using the Fathead Minnow (*Pimephales promelas*) on effluent samples following the protocol in **Attachment B** (Freshwater Chronic Toxicity Test Procedure and Protocol dated December 1995). Toxicity test samples shall be collected and tests completed during the calendar quarters ending March 31<sup>st</sup>, and December 31<sup>st</sup> each year. Toxicity test results are to be submitted by the 15<sup>th</sup> day of the month following the end of the quarter sampled. For example, test results for the calendar quarter January through March are due April 15<sup>th</sup>.

- (11) This permit shall be modified, or alternatively, revoked and reissued to incorporate additional toxicity testing requirements, including chemical specific limits such as for metals, 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 CFR Section 122.62(a)(2).
- (12) 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 (growth, survival, and/or reproduction) exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, report the **lowest** concentration where there is no observable effect. See **Attachment B (VII. Toxicity Test Data Analysis)** on page B-9 for additional clarification. The C-NOEC limit of "**equal to or greater than 35%**" is defined as a sample which is composed of **35% (or greater)** effluent, the remainder being dilution water. This is the minimum percentage of effluent at which no chronic effects will be observed. The limit is considered to be a maximum daily limit.
- (13) For each Whole Effluent Toxicity (WET) test the permittee shall report on the appropriate Discharge Monitoring Report (DMR), the concentrations of the Hardness, 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 MLs shown in **Attachment B** on page B-8, or as amended. Also the permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Continued)**

2. The flow of the receiving water just upstream of outfall 001 shall be continuously measured and recorded using a flow meter and chart recorder. A monthly summary of the range of flows recorded on each day of the month shall be submitted with the discharge monitoring reports. The summary shall include the minimum, average and maximum flow rate recorded on each day of the month. This requirement shall be in effect from October 1<sup>st</sup> through April 30<sup>th</sup>.
3. The discharge shall not cause a violation of the water quality standards of the receiving water.
4. The discharge shall be adequately treated to insure 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 insure 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.
5. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both CBOD<sub>5</sub> and TSS. The percent removal shall be based on a comparison of average monthly

influent concentration versus the average monthly effluent concentration.

6. When the flow through the treatment plant for a period of 90 consecutive days exceeds 0.14 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 treatment necessary to achieve permit limits cannot be assured, the permittee may be required to submit plans for facility improvements.
7. 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 either a non-domestic source (user) or an indirect discharger in a primary industrial category (see 40 CFR §122 Appendix A as amended) discharging process water. The term “user” is defined in 40 CFR Section 403.3.
  - 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.
8. The permittee shall not discharge into the receiving water any pollutant or combination of pollutants in toxic amounts.
9. Limitations for Industrial Users
  - a. A user may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference with the operation or performance of the treatment works. The terms “user”, “pass through” and “interference” are defined in 40 CFR Section 403.3.

## **B. STORM WATER**

1. The Permittee shall maintain and implement an up-to-date Storm Water Pollution Prevention Plan (SWPPP). **Attachment C** specifies the minimum requirements of the SWPPP for this facility. The SWPPP shall identify potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the facility. In addition, the plan shall describe and ensure the implementation of practices to be followed to reduce the pollutants in storm water discharges at the facility and to assure compliance with the terms and conditions of this permit.
2. In order to assess the efficacy of the SWPPP in reducing storm water pollutant loads discharged at the facility, the permittee shall monitor storm water outfalls SW-1, SW-2, SW-5 and SW-8, as shown on Fact Sheet Attachment F, for the following pollutants: oil and grease (O&G), 5-day biochemical oxygen demand (BOD<sub>5</sub>), chemical oxygen demand (COD), total suspended solids (TSS), total kjeldahl nitrogen (TKN) and total phosphorus (P). Two storm water sampling rounds shall be completed each year. One round of samples shall be collected during the period October 1<sup>st</sup> through December 31<sup>st</sup> while the second round of samples shall be collected during the period January 1<sup>st</sup> through April 30<sup>th</sup>. Sampling results are to be submitted by the 15<sup>th</sup> day of the month following the end of the period sampled. All samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. A grab sample shall be taken during the first thirty minutes of the discharge. If the collection of a grab sample during the first thirty minutes is impracticable, a grab sample shall be taken during the first hour of the discharge, and the permittee shall submit with the sampling results a narrative description of why the collection of a grab sample during the first thirty minutes was impracticable.
3. This permit shall be modified, or alternatively, revoked and reissued to incorporate additional controls on point and non-point sources of pollutants located on County-owned land if monitoring by the county or others during the term of the reissued permit indicates the need for additional controls. Results from storm water monitoring are considered “new information” and the permit may be modified as provided in 40 CFR §122.62(a)(2).

## **C. SLUDGE CONDITIONS**

1. The permittee shall comply with all existing federal & 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 (Env-Ws 800) 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. Placement of sludge in a municipal solid waste landfill (See 40 CFR Section 503.4).
  - d. 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 do not apply to facilities which do not dispose of sewage sludge during the life of the permit, but rather treat the sludge (lagoons-reed beds), or are otherwise excluded under 40 CFR Section 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 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 for the permittee's chosen sewage sludge use or disposal practices 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 1,500	1/Quarter
1,500 to less than 15,000	6/Year
15,000 plus	1/Month

7. The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR Section 503.8.
8. The permittee shall submit an annual report containing the information specified in the attached

Sludge Compliance Guidance document. Reports are **due annually by February 19<sup>th</sup>**. Reports shall be submitted to both addresses (EPA-New England and NHDES-WD) contained in the reporting section of the permit.

#### D. SPECIAL CONDITIONS

##### WET Test Frequency Adjustment

The permittee may submit a written request to the EPA-New England requesting a reduction in the frequency (to not less than once per year) of required toxicity testing, after completion of a minimum of the most recent four (4) successive toxicity tests of effluent, all of which must be valid tests and demonstrate compliance with the permit limits for whole effluent toxicity. Until written notice is received by certified mail from the EPA-New England indicating that the WET testing requirement has been changed, the permittee is required to continue testing at the frequency specified in the respective permit.

##### pH Limit Adjustment

The permittee may submit a written request to the EPA-New England 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 CFR Part 133) for this facility. The permittee's written request must include the State's approval letter containing an original signature (no copies). The State's letter shall state that the permittee has demonstrated to the State's satisfaction that **the NH Standard for pH will be protected** as long as discharges to the receiving water from a specific outfall are within a specific numeric range **and** the naturally occurring receiving water pH will not be significantly altered. For multiple outfalls, that letter must specify the associated numeric pH limit range for each outfall. Until written notice is received by certified mail from the EPA-New England indicating the pH limit range has been changed, the permittee is required to meet the permitted pH limit range in the respective permit.

##### Notification Requirements to Public and Private Water Systems Drawing Water From the Ice Pond Brook, Dudley Brook, Little River, and Exeter River in the Event of a Bypass or Upset at the Treatment Works

The notification requirement shown below in italics was taken verbatim from the New Hampshire Statutes RSA Title 50 Chapter 485-A:13,I.(c) and interpreted as described below.

*“Any person responsible for a bypass or upset at a wastewater facility shall give immediate notice of the bypass or upset to all public or privately owned water systems drawing water from the same receiving water and located within 20 miles downstream of the point of discharge. The permittee shall maintain a list of persons, and their telephone numbers, who are to be notified immediately by telephone. In addition, written notification, which shall be postmarked within 3 days of the bypass or upset, shall be sent to such persons.”*

For the purpose of this permit, EPA-New England is interpreting the italicized phrase “water systems drawing water from the same receiving water and located within 20 miles downstream of the point

*of discharge*” to mean “located within 20 **river** miles downstream of the point of discharge whether or not it is on the same receiving water or on the stream to which the receiving water discharges”. For the Rockingham County Wastewater Treatment Facility, this means any intake structure on Ice Pond Brook downstream from outfall 001, Dudley Brook, Little River or the portion of the Exeter River that is downstream from the confluence with the Little River.

## **E. MONITORING AND REPORTING CONDITIONS**

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

1. 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

2. Duplicate signed copies of all items required in Item 1 immediately above shall be submitted to the State at:

New Hampshire Department of Environmental Services, Water Division  
Wastewater Engineering Bureau  
P.O. Box 95  
Concord, New Hampshire 03302-0095

## **F. STATE PERMIT CONDITIONS**

1. The permittee shall comply with the following conditions which are included as State Certification requirements.
  - a. The pH range of 6.5-8.5 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 of the range of 6.0 to 9.0 S.U., which is the federal effluent limitation guideline regulation for pH for secondary treatment and is found in 40 CFR §133.102(c).
  - b. Pursuant to State Law NH RSA 485-A:13 and the New Hampshire Code of Administrative Rules, Env-Ws 706.08(b) and Env-Ws 904.08 the following submissions

shall be made to NHDES-WD by a municipality proposing to accept into its POTW (including sewers and interceptors):

- (1) A “Sewer Connection Permit” request form for:
    - (a) Any proposed sewerage, whether public or private;
    - (b) Any proposed wastewater connection or other discharge in excess of 5,000 gallons per day;
    - (c) Any proposed wastewater connection or other discharge to a wastewater treatment facility operating in excess of 80 % design flow capacity; and
    - (d) Any proposed connection or other discharge of industrial wastewater, regardless of quality or quantity.
  - (2) An “Industrial Discharge Permit Request Application” form for any new or increased loadings of industrial waste, as defined in RSA 485-A:2, VI.
- 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).
2. This NPDES Discharge Permit is issued by the EPA-New England under Federal and State law. Upon final issuance by the EPA-New England, 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 this 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.