

**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 Troy

is authorized to discharge from the Wastewater Treatment Plant located at

**151 Dort Street
Troy, New Hampshire 03465**

to receiving water named

**South Branch of the Ashuelot River
(Hydologic Basin Code; 01080201)**

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

This permit shall become effective sixty days after signature.

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

This permit supersedes the permit issued on February 4, 1986

This permit consists of 14 pages in Part I including effluent limitations, monitoring requirements; Attachment A, Freshwater Chronic Toxicity Test Protocol and Procedure (10 pages); 72 pages of Sludge Compliance Guidance and 35 pages in Part II including General Conditions and Definitions.

Signed this day of 2002.

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

Boston, Massachusetts 02114-2023

PART I.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the Permittee is authorized to discharge treated sanitary wastewater from Outfall Serial Number 001 (Troy Wastewater Treatment Plant) into the South Branch of the Ashuelot 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 the end of all processes, including disinfection and dechlorination, or at an alternative representative location as approved by the EPA and NHDES.

Effluent Characteristic	Discharge Limitations						Monitoring Requirement	
	Average Monthly	Average Weekly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Flow, MGD	—	—	—	Report	—	Report	Continuous	Recorder ¹
CBOD	55.3 lbs/day	88.5 lbs/day	99.5 lbs/day	25 mg/l	40 mg/l	45 mg/l	1/Week ²	Grab
TSS	66.3 lbs/day	99.5 lbs/day	110.6 lbs/day	30 mg/l	45 mg/l	50 mg/l	1/Week ²	Grab
Ammonia Nitrogen ³ as N: Winter	24.1 lbs/day	—	—	10.9 mg/l	—	Report	1/Week	Grab
Ammonia Nitrogen ³ as N: Summer	15.9 lbs/day	—	—	7.2 mg/l	—	Report	1/Week	Grab

PART I.A.1 (Continued)

Effluent Characteristic	Discharge Limitations		Monitoring Requirement	
	Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
<u>Escherichia coli</u> ^{4,5} (Colonies per 100 ml)	126	406	3/Week	Grab
Total Residual Chlorine ⁶	0.02 mg/l	0.04 mg/l	1/Day	Grab
Total Phosphorus ³ : Summer	Report	Report	1/Week	Grab
pH ⁴	6.5-8.0 (See PART I.D.1.a.)		1/Day	Grab

PART I.A.1 (Continued)

Effluent Characteristic	Discharge Limitations	Monitoring Requirement	
		Measurement Frequency	Sample Type
Whole Effluent Toxicity ⁹			
LC50 ^{7,8} ; in percent	≥100%	1/3 Months ¹³	Grab
C-NOEC ^{8,10,11} ; in percent	≥50%	1/3 Months ¹³	Grab
Ammonia Nitrogen as Nitrogen; mg/l ¹²	Report	1/3 Months ¹³	Grab
Hardness; mg/l ¹²	Report	1/3 Months ¹³	Grab
Total Recoverable Aluminum; mg/l ¹²	Report	1/3 Months ¹³	Grab
Total Recoverable Cadmium; mg/l ¹²	Report	1/3 Months ¹³	Grab
Total Recoverable Chromium; mg/l ¹²	Report	1/3 Months ¹³	Grab
Total Recoverable Copper; mg/l ¹²	Report	1/3 Months ¹³	Grab
Total Recoverable Nickel; mg/l ¹²	Report	1/3 Months ¹³	Grab
Total Recoverable Lead; mg/l ¹²	Report	1/3 Months ¹³	Grab
Total Recoverable Zinc; mg/l ¹²	Report	1/3 Months ¹³	Grab

(Note: See pages 5, 6 and 7 for explanation of superscripts.)

EXPLANATION OF SUPERSCRIPTS TO PART I.A.1 ON PAGE 2, 3 AND 4

- (1) The effluent flow shall be continuously measured and recorded using a flow meter and totalizer.
 - (2) The influent concentrations of both CBOD and TSS shall be monitored twice per month (2/Month) using a 24-Hour Composite sample and the results reported as average monthly values. See Section E.3., Special Conditions.
 - (3) Summer period is defined as the months May 1st - September 30th; winter period is defined as October 1st - April 30th.
 - (4) State Certification requirement.
 - (5) The average monthly value for Escherichia coli shall be determined by calculating the geometric mean and the result reported. Escherichia coli shall be tested using test method 1103.1. found in *Test Methods for Escherichia coli in Water by 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*, 19th or subsequent Edition(s) as approved in 40 CFR Part 136.
- (1) Total Residual Chlorine shall be measured using any one of the following three methods listed in a. through c.:
 - a. DPD spectrophotometric (colorimetric):
EPA No. 330.5
or
Standard Methods [18th or subsequent Edition(s) as approved in 40 CFR Part 136], No. 4500-C1 G.
 - b. DPD titrimetric (ferrous titrimetric).
EPA No. 330.4
or
Standard Methods [18th or subsequent Edition(s) as approved in 40 CFR Part 136], No. 4500-C1 F.
 - c. Amperometric titration.
EPA No. 330.1
or
Standard Methods [18th or subsequent Edition(s) as

approved in 40 CFR Part 136], No. 4500-C1 D
or
ASTM No. D1253-86(92).

The limit at which compliance/noncompliance determinations for Total Residual Chlorine (TRC) will be based, is the chemical Minimum Quantification Level (ML). For this permit the ML for Total Residual Chlorine is 0.050 mg/l (50.0 ug/l). This value may be reduced by permit modification as more sensitive test methods are approved by the EPA and the NHDES-WD. Any Total Residual Chlorine value below 0.050 mg/l will be reported as zero (non-detect).

- (7) LC50 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% effluent (See A.1.a. of Part 1 and Attachment A of Part 1). Therefore, a 100% limit means that a sample of 100% effluent shall cause no greater than a 50% mortality rate in that effluent sample. The limit is considered to be a maximum daily limit.
- (8) The Permittee shall conduct a chronic (and modified acute) survival and reproduction toxicity test using the Daphnid (Ceriodaphnia dubia) and a survival and growth toxicity test using the Fathead Minnow (Pimephales promelas) on effluent samples following the protocol in Attachment A (Freshwater Chronic Toxicity Test Procedure and Protocol dated December 1995). Dilution water is to be prepared according to conditions set forth in Attachment A, Section IV. DILUTION WATER on page A-2.
- (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 WET tests indicate the discharge exceeds 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).
- (10) 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 (survival, growth 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 A and B (VII. TOXICITY TEST DATA ANALYSIS) for additional clarification.

- (11) The C-NOEC limits of "equal to or greater than 50%" is defined as a sample which is composed of 50% effluent. This is the minimum concentration of effluent at which no chronic effects will be observed. The limit is considered to be a maximum daily limit.
- (12) For each WET test the Permittee shall report on the appropriate Discharge Monitoring Report (DMR) the concentrations of Ammonia Nitrogen as Nitrogen, Hardness, 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 (MLs) shown in Attachment A on page A-7, or as amended. The Permittee should also note that all chemical parameter results must still be reported in the appropriate WET test toxicity report.
- (13) Toxicity test samples shall be collected and the tests completed during the calendar quarters ending March 31st, June 30th, September 30th and December 31st. Toxicity test results are to be submitted by the 15th of the month following the quarter in which the toxicity test was conducted.

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 Permittee's treatment facility shall maintain a minimum of 85 percent removal of both CBOD and TSS. The percent removal shall be based on a comparison of average monthly influent versus effluent concentrations.
4. When the average monthly effluent flow for a period of three consecutive months exceeds 80 percent of the 0.265 MGD design flow or 0.212 MGD, the Permittee shall submit to the EPA and NHDES 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.

5. A User may not introduce into any Publicly Owned Treatment Works (POTWs) any pollutant(s) which cause Pass Through or Interference. The terms User, Pass Through and Interference are defined in 40 CFR §403.3
6. All POTWs must provide adequate notice to both EPA 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 industry category (see 40 CFR §122 Appendix A as amended) 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.
7. The Permittee shall submit to EPA and NHDES-WD the name of any Industrial User (IU) who commences discharge to the POTW after the effective date of this permit:
 - a. That are subject to Categorical Pretreatment Standards pursuant to 40 CFR §403.6 and established in 40 CFR Chapter I, Subchapter N (Parts 405-415, 417-436, 439-440,

443, 446-447, 454-455, 457-461, 463-469, and 471 as amended).

- b. That discharges an average of 25,000 gallons per day or more of process wastewater into the POTW (excluding sanitary, non-contact cooling and boiler blow-down wastewater).
 - c. That contribute a process wastewater which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW.
 - d. That is designated as an IU by the Control Authority as defined in 40 CFR §403.12(a) on the basis that the industrial user has a reasonable potential to adversely affect the waste water treatment facility's operation, or violate any pretreatment standard or requirement in accordance with 40 CFR §403.8(f)(6).
8. In the event that the Permittee receives reports (baseline monitoring reports, 90-day compliance reports periodic reports on continued compliance, etc.) from Categorical Industrial Facilities regulated in 40 CFR Chapter I, Subchapter N (Parts 405-415, 417-436, 439-440, 443,446-447, 454-455, 457-461, 463-469, and 471 as amended), the Permittee shall forward all copies of these reports within ninety (90) days of their receipt to EPA and NHDES-WD.
 9. The Permittee shall not discharge into the receiving water any pollutant or combination of pollutants in toxic amounts.
 10. 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.

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 CFR 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 CFR Part 503 conditions do not apply to facilities that place sludge within a municipal solid waste landfill (MSWLF). Part 503 relies on 40 CFR Part 248 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 (lagoons-reed beds), or are otherwise excluded under 40 CFR 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 elements:
 - 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. 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 sample the sewage sludge using the procedures detailed in 40 CFR Part 503.8.
 - (h) The Permittee shall submit an annual report containing the information specified in the attached Sludge Compliance Guidance document. Reports are due annually by February 19th. Reports shall be submitted to the addresses (EPA and NHDES-WD) 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
6 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 Certification 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 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 submission shall be made to the NHDES-WD by a municipality proposing to accept into its POTW (including sewers and interceptors):
 - (1) A "Sewer Connection Permit" 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;
 - (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 wastewater, 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).
 - 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 and a copy of any other document granting legal authority to issue permits to industries discharging industrial waste to the municipal wastewater treatment plant.
 - 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. At a minimum, the list shall indicate the name and address of each industry, along with the following information: telephone number, contact person, facility description, production quantity, products manufactured, industrial processes used, chemicals used in processes, existing level of pretreatment, and list of existing discharge permits.
 - g. Within 270 days of the effective date of this permit, the Permittee shall submit to NHDES-WD a copy of discharge permit(s) issued to each industry discharging industrial waste to the municipal wastewater treatment plant. At a minimum, each permit shall contain the following: effective dates; flow and applicable pollutant limits; self-monitoring, reporting, compliance monitoring and inspection provisions; and enforcement criteria. If

industrial permitting authority does not exist as of the effective date of this permit, the Permittee is requested to submit to the NHDES-WD a proposed plan and implementation schedule for adopting such authority and implementing an industrial permitting system.

2. 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 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.

E. SPECIAL CONDITION

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 CFR 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. That 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. Whole Effluent Toxicity Test Frequency Adjustment

The Permittee may submit a written request to the EPA

requesting reduction in the frequency of the required toxicity testing. The request can be made after the completion of a minimum of four (4) successful, consecutive toxicity tests of effluent, all of which must be valid tests and demonstrate compliance with the Permit limits for Whole Effluent Toxicity. The number of tests per year, though, can not be less than once per year. Until written notice is received by certified mail from the EPA indicating the Whole Effluent Toxicity testing requirements have changed, the Permittee is required to continue testing at the frequency specified in the Permit.

3. Flow Proportional Influent Sampling Delay

Permittee will be allowed thirty months from the effective date of this permit to install a flow proportional influent sampler. In the interim, the Permittee shall continue influent sampling by grab sampling the inlet channel of the pump station every sixty minutes over a twenty-four hour period.

F. REOPENER CLAUSE

This permit may modified, or alternatively, revoked and reissued, if a future analysis of a Total Maximum Daily Load (TMDL) or any other water-quality study of the South Branch of the Ashuelot River performed by EPA-New England and/or NHDES-WD demonstrates the need for more stringent pollutant limits. Results from these studies will serve as the basis for additional permit limits, such as phosphorous, ammonia and/or dissolved oxygen. Additionally, more stringent limits could also result for those pollutants currently limited, such as CBOD and TSS. Any of these additional 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 (the dilution factor, DF), current limits based on dilution could be revised, such as TRC and WET. 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 in 40 CFR §122.62(a)(2).