

**AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
1 NATIONAL LIFE DRIVE - MAIN 2
MONTPELIER, VERMONT 05620-3521**

**DRAFT INDIRECT
DISCHARGE PERMIT**

Permit No.: ID-9-0208
PIN: RU97-0143

SECTION A - "ADMINISTRATION"

In compliance with provisions of 10 V.S.A. §1263, and in accordance with the following conditions, the permittee:

Town of Bristol
P.O. Box 249
Bristol, Vermont 05443

is authorized to discharge treated domestic sewage from a subsurface disposal system serving various establishments in the Bristol Core Area in Bristol, Vermont to groundwater and indirectly into the New Haven River. **This is a permit renewal.**

A1. Permit Summary:

Expiration Date	December 31, 2022
Type of Waste	Domestic Sewage
Treatment System	Septic Tank
Disposal System	Leachfield Trenches
Design Capacity	20,000 gallons per day
Town	Bristol
Receiving Water	New Haven River
Drainage Area	Approx. 68 sq. mi.
Low Median Monthly Stream Flow (LMMF)	Est. 13.8 c.f.s.
Dilution Ratio at LMMF	
Stream Flow: Effluent	447 : 1
Drainage Basin	Otter Creek

A2. Compliance Schedule:

The following schedule summarizes the actions and requirements necessary for compliance with the conditions of this permit. The permittee shall complete the requirements in accordance with the dates indicated. See the designated section for specific details.

<u>Condition # & Description</u>	<u>Schedule Date</u>
A3. Apply for renewal of Indirect Discharge Permit	September 30, 2022
A13. Submit letter with listing of approved connections during previous twelve months	Annually, by May 15th
D2(A). Have a Vermont Registered Professional engineer complete an inspection of sewage collection, treatment and disposal system	Annually in April
D2(B). Submit Annual Inspection Report	Annually, by July 1st
D2(C). Submit Schedule for Implementing engineer's recommendations	Annually, by August 1st
D3. Notify Secretary of pumping of tanks and septage disposal	As specified
E2(A). Sample and analyze septic tank Effluent	June and September
E2(B). Record and submit sewage flows	Monthly
E3. Sample and analyze groundwater from groundwater monitoring wells	June and September
E4. Sample and analyze surface water from New Haven River	Upon written request
Perform biological sampling of New Haven River	Upon written request
E6. Submit evaluation by a water quality specialist of all groundwater and surface water quality data	September 30, 2022

A3. Expiration Date:

This permit, unless revoked, or amended shall be valid until December 31, 2022 despite any intervening change in Water Quality Standards or the classification of receiving waters. Renewal of this Indirect Discharge permit will be subject to all rules applicable at the time of renewal, including biological standards to determine significant alteration of aquatic biota.

The permittee should apply for an Indirect Discharge Permit renewal by September 30, 2022 for continued authorization to discharge treated sewage. For the purposes of Title 3, an application for renewal of this indirect discharge permit will be considered timely if a complete application is received by the expiration date.

A4. Effective Date:

This permit becomes effective on the date of signature.

A5. Revocation:

The Secretary may revoke this permit in accordance with 10 V.S.A. §1267.

A6. Transfer of Permit:

This permit is not transferable without prior written approval of the Secretary. The permittee shall notify the Secretary immediately, in writing, before any sale, lease or other transfer of ownership of the property from which the permitted discharge originates. The proposed transferee shall make application for a permit to be reissued in their name. Failure to apply shall be considered a violation of this permit. Responsibility for compliance with the conditions of this permit shall be the burden of the permittee until such time as transfer of the permit to the transferee is complete. All application and operating fees must be paid in full prior to transfer of this permit. This permit shall be transferred only upon showing by the permittee or proposed transferee of compliance with the following conditions:

- a. The transferee shall be a legal entity, financially and technically competent to operate, inspect, maintain and replace the system.
- b. The transferee shall demonstrate that they have the legal authority to raise revenues for the proper operation, inspection, and maintenance of the system.
- c. The transferee shall provide a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees to the Secretary.

A7. Minor Modifications of Permit:

The Secretary may modify this permit without requiring a permit application, a public notice, or a public hearing to correct typographical errors, or to increase the monitoring frequency in accordance with Condition E(6) of this permit.

A8. Indirect Discharge Rules:

This indirect discharge was reviewed and qualified for an Indirect Discharge Permit in accordance with Section 14-406 (b) of the Indirect Discharge Rules for new indirect discharges of sewage. The water quality data collected during the period September 2012 – June 2017 indicates that the discharge from the disposal system is in compliance with the Aquatic Permitting Criteria of the Indirect Discharge Rules, effective April 30, 2003.

The permittee is authorized to use the "Procedure for Using Metered Sewage Flows to Determine the Uncommitted Reserve Capacity for Indirect Discharge Systems with Design Flows Greater than 6,500 GPD." The application of this Procedure constitutes an expansion of the use of the system and therefore requires that the indirect discharge be in compliance with the standard of "No Significant Alteration of the Aquatic Biota" in the receiving stream, the New Haven River. Since the disposal system is in compliance with the Aquatic Permitting Criteria, the discharge is presumed to have not significantly altered the aquatic biota in the New Haven River.

A9. Right of Secretary to Inspect:

The permittee shall allow the Secretary or the Secretary's authorized representative upon the presentation of their credentials and at reasonable times:

- a. To enter upon permittee's premises in which any effluent source, treatment or disposal system is located or in which any records are required to be kept under the conditions of the permit;
- b. To have access to and copy any records required to be kept under conditions of this permit;
- c. To inspect any monitoring equipment or method required in this permit;
- d. To sample any discharge of waste, groundwater or surface water; and
- e. To inspect any collection, treatment, pollution management and disposal facilities required by this permit.

A10. Permit Availability:

A copy of this permit shall remain at the office of the permittee and upon request shall be made available for inspection by the Secretary.

A11. Minor Modifications to System:

Minor modifications of the engineering design which do not reduce the treatment effectiveness or increase the capacity of the system may be approved in writing by the Secretary without permit amendment.

Before making modifications to the treatment and/or disposal system the permittee shall submit plans to the Secretary for review and approval. These plans must be approved before any of the modifications or additions are made.

A12. Correction of Failed Systems:

The Secretary may, upon discretion, require the permittee to submit an application for an Indirect Discharge Permit Amendment for a replacement wastewater disposal system to replace a failed system if a replacement system was not previously approved in accordance with the design standards of the current Indirect Discharge Rules.

Before reconstruction of the failed system, the permittee shall submit plans to the Secretary for review and approval. These plans must be approved before any reconstruction occurs. Due to the urgency of the need to correct failed disposal systems, the Secretary will process these Amendments as soon as possible.

A13. Calculation of Uncommitted Reserve Capacity:

By May 15th each year, the permittee shall submit a letter to the Secretary listing those facilities which were approved for connection to the sewage collection, treatment and disposal system during the previous twelve months and the approximate date of the connection of those facilities.

For calculation of uncommitted reserve capacity, the Secretary will review the long-term data for concentrations of BOD₅ and TSS in the septic tank effluent and the long-term average daily flow (ADF) for the system. The following formulae will be utilized for calculation of the pounds of BOD₅ and TSS actually discharged to the leachfields where ADF is expressed in million gallons/day:

$$\begin{aligned} \text{BOD}_5 \text{ (lbs/day) discharged} &= \text{ADF} \times [\text{BOD}_5 \text{ (mg/l)}] \times 8.34 \\ \text{TSS (lbs/day) discharged} &= \text{ADF} \times [\text{TSS (mg/l)}] \times 8.34 \end{aligned}$$

The leachfields, at the design capacity of 20,000 gallons per day, have a loading capacity of:

$$\begin{aligned} \text{BOD}_5 \text{ capacity} &= 33.4 \text{ lbs/day} \\ \text{TSS capacity} &= 25.0 \text{ lbs/day} \end{aligned}$$

A13. Calculation of Uncommitted Reserve Capacity (continued):

The reserve capacity in terms of gallons per day is equal to:

$$\frac{([\text{BOD}_5 \text{ (lbs/day) capacity}] - [\text{BOD}_5 \text{ (lbs/day) discharged}] \times 1,000,000) / 8.34 \times \text{BOD}_5 \text{ ave}}{([\text{TSS (lbs/day) capacity}] - [\text{TSS (lbs/day) discharged}] \times 1,000,000) / 8.34 \times \text{TSS ave}}$$

where: BOD₅ ave is the long-term average concentration for septic tank effluent
TSS ave is the long-term average concentration for septic tank effluent

The uncommitted reserve capacity shall be equal to 80% of the reserve capacity for any given year, after subtracting those approved connections to the system which have not actually connected to the system or which have been connected less than six (6) months.

A14. Operating Fees:

This indirect discharge is subject to operating fees. The permittee shall submit the operating fees in accordance with procedures provided by the Secretary.

SECTION B "INDIRECT DISCHARGE"

B1. Location of Indirect Discharge:

This indirect discharge is located in the Otter Creek drainage basin in the Town of Bristol, Vermont. The indirect discharge can be located on the USGS Bristol, Vermont 7.5' quadrangle map at Latitude N 44° 07' 54.4" and Longitude W 73° 04' 38".

B2. Nature of Indirect Discharge:

This indirect discharge is from a wastewater collection, treatment and disposal system serving the Bristol Core Area in Bristol, Vermont.

The design flow for the system was originally calculated based on a listing of approved connected establishments and their individual design flows.

Sewage treatment occurs in a 30,000 gallon septic tank which effectively functions as two tanks in series. The septic tank effluent flows by gravity to a flow splitter box which directs the flow to eight dosing siphons, each connected to a 5,000 gallon per day disposal field. The leachfield trench width is 4' with 24" of stone below the lateral, resulting in a total application rate of 1.1 gpd/sq.ft.

Five of the restaurants/bakeries connected to the system have a grease interceptor and a few other establishments have an interior grease trap.

SECTION C "SYSTEM APPROVALS"

C1. Approved Plans and Certification:

The approved plans for the sewage collection, treatment and disposal system for the Town of Bristol, Vermont are listed in the January 2003 Fact Sheet.

On September 3, 1993, Brent Whitney, P.E., of Green Mountain Engineering provided certification that the construction of the subsurface disposal system was completed in accordance with the approved plans and specifications.

SECTION D "SYSTEM OPERATION"

D1. General Operating Requirements:

The sewage treatment and disposal system shall be operated at all times in a manner that will: (1) not permit the discharge of sewage onto the surface of the ground; (2) not result in the surfacing of sewage; (3) not result in the direct discharge of sewage into the waters of the State; (4) not result in a violation of the Vermont Water Quality Standards, and (5) not cause a Significant Alteration of the Aquatic Biota in the receiving waters.

In accordance with accepted design practices, the effluent disposal rate to the disposal fields shall not exceed 20,000 gallons per day except as may occur on an occasional basis during normal operation.

D2. Annual Inspection, Report and Implementation Schedule:

(A) Annual Inspection:

Annually during the month of April, the permittee shall retain a Vermont Registered Professional engineer to make a thorough inspection, evaluation and report of the complete sewage collection, treatment and disposal system. The engineer's inspection shall include, but not be limited to the following:

1. inspecting the entire collection system, removing manhole covers to observe the condition of the sewers, grease interceptors, septic tanks, and manholes, and noting any signs of inflow or excess infiltration;
2. evaluating the accumulation of solids and scum in both compartments of the septic tank and verifying the pumping of the septic tank;
3. evaluating the accumulation of grease in the grease interceptors and verifying cleaning of the interceptors, if necessary;

D2. Annual Inspection, Report and Implementation Schedule:

(A) Annual Inspection (continued):

4. inspecting the evenness of distribution through the flow splitter box and making required adjustments;
5. verifying the proper operation of the dosing siphons;
6. verifying the alternation of the fields;
7. checking the depth of ponding in all shallow in-field observation wells; and
8. noting any necessary repairs or maintenance that needs to be performed on the sewage collection, treatment and disposal system.

(B) Annual Inspection Report:

By July 1st each year, the permittee shall have a professional engineer submit an annual report including the following items:

1. a complete list of the items inspected and the results of the inspection;
2. an evaluation of the degree of ponding observed in the shallow in-field observation wells;
3. The results of any other inspection performed in accordance with the approved Operation Management and Emergency Response Plan; and
4. a discussion of the recommended repairs and maintenance required.

(C) Implementation Schedule:

By August 1st each year, the permittee shall notify the Secretary in writing stating how the engineer's recommendations were or are to be implemented, including a schedule for the required repair and maintenance items which have not yet been completed.

D3. Septage Disposal:

During the system's annual inspection, the depth of sludge and scum shall be measured in all septic tanks. The septic tanks shall be pumped if: 1) the sludge is closer than twelve (12) inches to the outlet baffle or; 2) the scum layer is closer than three (3) inches to the septic tank outlet baffle or; 3) if otherwise recommended by the inspecting engineer. As part of the annual inspection report, the permittee shall supply the Secretary with the name and address of the pumper and the municipal sewage treatment facility or other facility approved by the Secretary where the septage was or is to be disposed.

D4. System Operation and Maintenance:

The sewage collection, treatment and disposal system shall be operated and maintained at all times in a manner satisfactory to the Secretary and in a manner that will not pose a risk to the public health and safety, or cause contamination of drinking water supplies, groundwater and/or surface water.

D5. Reporting of Failures:

The permittee shall immediately report any failure of the sewage collection, treatment or disposal system to the Secretary, first by telephone within 24 hours of the failure and then in writing within 5 days of the failure. The written notice shall include a discussion of the actions taken or to be taken to correct the failure.

D6. Discharge Restrictions:

The permittee shall not allow any person to discharge or cause to be discharged anything other than sanitary sewage to this collection, treatment and disposal system.

D7. Operation, Management and Emergency Response Plan:

The permittee shall implement the approved Operation, Management and Emergency Response Plan for the wastewater treatment facility, including tankage and sewage pump stations as well as the sewage collection system. The results of any inspection performed in accordance with the inspection schedules contained in the Plan shall be submitted with the engineer's annual inspection report.

SECTION E "MONITORING"

E1. Quality Assurance/Quality Control Plan:

The permittee shall perform compliance monitoring in accordance with an approved Quality Assurance/Quality Control Plan (QA/QC Plan) and the conditions of this indirect discharge permit.

E2. Effluent Monitoring:A. Chemical:

The septic tank effluent shall be sampled and analyzed as follows:

Parameter	Units	Sample Type	Sample Frequency
Biochemical Oxygen Demand (5-day)	mg/L	Grab	June and September
Total Suspended Solids	mg/L	Grab	June and September
Oil and Grease	mg/L	Grab	June and September
pH	S.U.	Grab	June and September
Total Kjeldahl Nitrogen (TKN)	mg/L	Grab	June and September
Nitrate Nitrogen	mg/L	Grab	June and September
Total Phosphorus	mg/L	Grab	June and September
Chloride	mg/L	Grab	June and September
<p>Samples shall be taken at the flow splitter box.</p> <p>The results of the effluent analysis shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.</p>			

B. Sewage Volume:

On a monthly basis, the permittee shall record the meter readings for the sewage collection, treatment and disposal system to determine the total volume of sewage discharged from the system each month. The sewage meter readings and gallons of sewage discharged each month shall be submitted to the Secretary by the 15th of the month following the recording period.

E3. Groundwater Monitoring:

The groundwater in monitoring wells #3 and #4 shall be sampled and analyzed as follows:

Parameter	Units	Sample Type	Sample Frequency
Nitrate Nitrogen	mg/L	Grab	June and September
Total Dissolved Phosphorus	mg/L	Grab	June and September
Chlorides	mg/L	Grab	June and September
pH	S.U.	Grab	June and September
Escherichia coli	Colonies/100 ml	Grab	June and September
Depth to Groundwater (below ground surface)	Feet and tenths of feet	----	At time of sampling
Because of changing water table conditions, the samples from the groundwater monitoring wells may not be able to be collected on the same day or in the same week. If a monitoring well has water at any time during the month, then a single sample from that well is required to be collected and analyzed.			
The results of these analyses shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.			

E4. Receiving Stream Monitoring:

Upon written request from the Secretary, the permittee shall conduct chemical and/or biological sampling of the New Haven River upstream and downstream of the indirect discharge in accordance with the written request and/or procedures approved by the Secretary.

E5. Sampling and Testing Procedures:

All wastewater, groundwater and surface water sampling, preservation, handling and test procedures used to comply with the monitoring requirements herein shall conform to procedures specified in the most current edition of Standard Methods for the Examination of Water and Wastewater APHA - AWWA - WPCF, and the Vermont Water Quality Standards unless written approval of an alternate method is received from the Agency.

E5. Sampling and Testing Procedures (continued):

The laboratory utilized for analyzing the samples shall demonstrate successful participation in third party proficiency testing recognized by ISO or NELAP for all parameters and shall analyze any check sample provided by the Secretary. Failure to obtain an acceptable result for either the Secretary's check sample or successful third-party proficiency testing may be a basis for requiring an alternate analytical laboratory.

E6. Summary Water Quality Evaluation:

By September 30, 2022, the permittee shall have a qualified water quality specialist submit an evaluation to the Secretary of all the past groundwater and surface water quality data and determine what, if any, short or long-term impacts there have been on ground or surface water quality. The in-stream biological monitoring data, if available, shall also be included. The biological data shall be analyzed by the Secretary to determine if there have been any significant alterations to the aquatic biota.

E7. Additional Monitoring Requirements:

No additional water quality monitoring of the system is required under this permit. However, the Secretary reserves the right to require monitoring of the system in accordance with Condition A(7) should operation of the system fail to meet the requirements of Sections D(1) and D(4).

SECTION F "COMPLIANCE REVIEW"

If the results of any inspection or monitoring indicate that a violation of the effluent disposal rate, a violation of the Vermont Water Quality Standards, or a significant alteration of the aquatic biota in the receiving stream is occurring, or is likely to occur, the Secretary may require the permittee to take appropriate corrective actions to eliminate or reduce the possibility of a violation.

The issuance of this permit, ID-9-0208, to the Town of Bristol by the Secretary relies upon the data, designs, judgment and other information supplied by the applicant, the applicant's consultants and other experts who have participated in the preparation of the application. The Secretary makes no assurance that this system will meet the performance objectives of the applicant and no warranties or guarantees are given or implied.

SECTION G "EFFECTIVE DATE"

This Indirect Discharge Permit, ID-9-0208, issued to the Town of Bristol for the discharge of treated domestic sewage from the municipal sewage collection, treatment and disposal system serving the Bristol Core Area in Bristol, Vermont is effective on this _____ day of January 2018.

Emily Boedecker, Commissioner
Department of Environmental Conservation

By: _____ DRAFT _____
Mary Clark, Program Manager
Indirect Discharge Program