

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

**INDIRECT DISCHARGE PERMIT**

Permit No.: ID-9-0326  
PIN: RU95-0222

**SECTION A - ADMINISTRATION**

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

Vermont Department of Forests, Parks and Recreation  
1 National Life Drive, Davis 2  
Montpelier, Vermont 05620-3801

is authorized to discharge treated domestic sewage from an existing spray disposal system serving Button Bay State Park in Ferrisburgh, Vermont, to groundwater and indirectly into Lake Champlain. This is a new indirect discharge permit.

**A1. Permit Summary:**

Expiration Date	March 31, 2022
Type of Waste	Treated Domestic Sewage
Treatment System	Septic Tanks/Sand Filter/ Chlorination
Disposal System	Sprayfield
Town	Ferrisburgh
Drainage Basin	Lower Lake Champlain
Receiving Water	Lake Champlain
Design Flow	7,323 gallons per day (gpd)
Effluent Storage Capacity	171,633 gallons
Approved Disposal Capacity	40,000 gallons per 7 days

**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 # &amp; Description</u>	<u>Schedule Date</u>
A3. Apply for renewal of Indirect Discharge Permit	December 31, 2021
C3. Have a Vermont Registered Professional Engineer perform construction inspection	As specified
C4. Submit inspecting Engineer's Certification of Construction	Within 30 days following completion of construction
D3(A). Have a Vermont Registered Professional Engineer complete an inspection of sewage collection, treatment and disposal system	Annually, during the month of June
D3(B). Submit Annual Inspection Report	Annually, by August 1st
D3(C). Submit schedule for implementing Engineer's recommendations	Annually, by September 1st
D4. Notify Secretary of pumping of tanks and septage disposal	As specified
D10. Submit monthly operations report	Monthly, May - October
E1. Perform influent and sand filter effluent sampling	As Specified, May - October
E2. Perform spray effluent sampling	Monthly, June - October
E3(A). Perform groundwater sampling	Monthly, June - October
E3(B). Measure depths to groundwater	Weekly, June - October
E4. Perform underdrain sampling	Monthly, May - October
E1, E2, E3(A), E4. Submit monitoring results	By the 15th day of the second month following the date of sampling or measurement

**A3. Expiration Date:**

This permit, unless revoked or amended, shall be valid until March 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 shall apply for an Indirect Discharge Permit renewal by December 31, 2021 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 indirect discharge 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; and
- 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 permittee(s) 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 monitoring frequency in accordance with Condition E(7) of this permit.

**A8. Indirect Discharge Rules:**

This indirect discharge was reviewed and qualifies for an indirect discharge permit in accordance with Section 14-402 of the Indirect Discharge Rules, effective April 30, 2003, as a New Indirect Discharge of Sewage. Demonstration of compliance with the Aquatic Permitting Criteria of the Indirect Discharge Rules was made using the Treatment Index Method in accordance with Section 14-903 of the Rules. This discharge was previously permitted under Water Supply and Wastewater Disposal Permit # TT-9-0001-1 (revised).

No increase in sewage volume is allowed without the written approval of the Secretary.

**A9. Right of the Agency 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 facility required by this permit.

**A10. Permit Availability:**

A copy of this permit shall remain at Button Bay State Park, 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 a 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, issue an amendment to the indirect discharge permit for the design and reconstruction of a failed wastewater disposal system where a replacement system was not previously approved.

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. 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 Lower Lake Champlain drainage basin in the Town of Ferrisburgh, Vermont. The location of the indirect discharge can be found on the USGS Port Henry, NY – VT 15' quadrangle map at Latitude N 44° 10' 46" and Longitude W 73° 21' 13".

**B2. Nature of Indirect Discharge:**

The wastewater is treated first in septic tanks and then pumped to a sand filter system for further treatment before being pumped to a 171,633 gallon storage lagoon before being chlorinated and discharged to the spray disposal system. The spray disposal system has an approved disposal capacity of 40,000 gallons per 7 days, and can only be operated from June 1st to November 1st each year.

The design flow for this indirect discharge consists of 5,125 gpd from the campground, 960 gpd from employees, ranger quarters, shop and farmhouse, and 1,238 gpd from the day use area (based on 95<sup>th</sup> percentile of day use attendance) for a total design flow of 7,323 gpd.

**SECTION C - SYSTEM APPROVALS**

**C1. Previous Approvals:**

The sewage treatment and disposal system was previously permitted under Water Supply and Wastewater Disposal Permit TT-9-0001-1 (revised) dated July 22, 1991.

The existing sewage treatment and disposal system was constructed in accordance with the following as-built plans and specifications stamped August 9, 1988 prepared by Russell Snow, P.E.:

<u>Sheet</u>	<u>Title</u>	<u>Date</u>	<u>Latest Revision</u>
1 of 6	Title & Quantity	3/87	6/87
2 of 6	Stage 1 Storage Lagoon	1/87	6/87
3 of 6	Stage 1 Cross Sections	1/87	-
4 of 6	Stage 1 Detail Sheet	3/87	6/87
5 of 6	Pump Station & Detail	3/87	5/87
6 of 6	Spray Field	3/87	5/87
-	Stage 1 Specifications	5/87	6/87

The following plans and specifications prepared by Russell Snow, P.E. for upgrades to the sewage treatment and disposal system were approved on August 10, 1987 but the upgrades have not been constructed:

<u>Sheet</u>	<u>Title</u>	<u>Date</u>	<u>Latest Revision</u>
1 of 4	Stage II - Title & Quantity	4/87	-
2 of 4	Stage II - Aerated Treatment Lagoon	1/87	-
3 of 4	Stage II - Cross Sections	4/87	-
4 of 4	Stage II - Detail Sheet	4/87	6/87
-	Stage II Specifications	4/87	6/87

Improvement to the existing sewage treatment and disposal system were constructed in accordance with the following as-built plans and specifications stamped October 11, 1991 prepared by Russell Snow, P.E.:

<u>Sheet</u>	<u>Title</u>	<u>Date</u>
1 of 3	Wastewater Treatment Modifications – Cover Sheet	3/14/91
2 of 3	Wastewater Treatment Modifications – Details	3/20/91
3 of 3	Wastewater Treatment Modifications – Pump Station	3/20/91
-	Technical Specifications	3/91

**C2. Approved Plans for Wastewater System Upgrades:**

The forcemain replacement shall be completed in accordance with the following plans titled "Button Bay State Park Forcemain Replacement", stamped by James Burke, P.E. of the Facilities Engineering Division of the Agency of Natural Resources which have been stamped "APPROVED" by the Secretary:

<u>Sheet</u>	<u>Title</u>	<u>Date</u>
1 of 6	Site Plan	2/21/17
2 of 6	Forcemain Profile	2/21/17
3 of 6	Pump Station Site Plan and Details	2/21/17
4 of 6	Bridge Crossing and Low Point Drain Site Plan	2/21/17
5 of 6	Toilet Building Site Plan	2/21/17
6 of 6	Erosion Prevention Details	2/21/17

The farmhouse wastewater system improvements shall be completed in accordance with the following plans titled "Button Bay State Park Farm House Wastewater System Improvements", stamped by James Burke, P.E. of the Facilities Engineering Division of the Agency of Natural Resources which have been stamped "APPROVED" by the Secretary:

<u>Sheet</u>	<u>Title</u>	<u>Date</u>
1 of 4	Existing Farm House Site Plan	3/20/17
2 of 4	Wastewater Site Plan and Construction Notes	3/20/17
3 of 4	1000 Gallon Concrete Septic Tank... and Details	3/20/17
4 of 4	Erosion Prevention Details	3/20/17

No changes shall be made to the plans and specifications without prior written approval from the Secretary.

**C3. Construction Inspection:**

The construction of the wastewater system upgrades shall be completed in accordance with the approved plans and under the inspection of a Vermont Registered Professional Engineer. The engineer shall perform the following:

- a. The location of the new forcemain and tankage shall be staked out by the engineer or surveyor in accordance with the approved plans.
- b. The engineer shall provide general inspection of the work at reasonable intervals to assure that construction is done in accordance with the approved plans and specifications.
- c. The engineer or designated representative shall be present for the leakage testing of the forcemain and tankage.

**C3. Construction Inspection (continued):**

- d. The engineer shall maintain written reports of all inspections performed including dates, items inspected and comments.

**C4. Construction Certification:**

Within 30 days following completion of construction of the changes to the disposal systems, the engineer shall certify in writing to the Secretary that the construction was done in accordance with approved plans and specifications, and shall submit As-Built drawings of the systems. The numerical results of the leakage test on the forcemain shall be submitted as part of the inspecting engineer's certification of construction. The engineer's certification of construction shall be subject to the review and acceptance of the Secretary.

**SECTION D - SYSTEM OPERATION**

**D1. General Operating Requirements:**

The wastewater disposal system shall be operated at all times in a manner that will (1) not permit the discharge of untreated sewage onto the surface of the ground; (2) not result in the resurfacing of spray effluent outside of the sprayfield area after disposal onto the ground; (3) not result in the direct discharge of sewage into the waters of the State; and (4) not result in a violation of Water Quality Standards.

The sprayfield shall be operated at all times in accordance with the following:

- a. Spraying is allowed only between June 1st and November 1st each year. The storage lagoon shall be emptied by November 1st each year of operation.
- b. The groundwater table shall not rise closer than one foot to the ground surface in the disposal area as evidenced by groundwater levels in the monitoring wells;
- c. No spraying shall be conducted when air temperatures are below 10 degrees Fahrenheit;
- d. The total wastewater applied to the disposal field shall not exceed 40,000 gallons in any seven (7) day period;
- e. The actual maximum hourly rate of wastewater application shall not exceed 0.25 inches per hour; and
- f. There shall be a minimum of a 24-hour rest period between spray applications.

**D2. Effluent Limits:**

The sewage treatment and disposal system shall be operated at all times to comply with the following limits:

SPRAY EFFLUENT

<u>Parameter</u>	<u>Maximum in any 7-Day Period</u>	<u>Daily Maximum</u>
Flow	40,000 gallons	N/A
Biochemical Oxygen Demand (5-day)	N/A	30 mg/L
Total Suspended Solids	N/A	30 mg/L
Escherichia coli	N/A	77 colonies/100 mL
Chlorine Residual <sup>(1)</sup>		
Total, or	N/A	4 mg/L (minimum)
Free	N/A	1 mg/L (minimum)

Note:

(1) The permittee may maintain a minimum of 1.0 mg/L free chlorine residual instead of 4 mg/L total chlorine residual. In either case, measurement must be made at the spray nozzle. The permittee may choose to utilize disinfection prior to effluent storage as allowed under §14-1705(a)(2) of the Indirect Discharge Rules, effective April 30, 2003.

**D3. Annual Inspection, Report and Implementation Schedule:**

**A) Annual Inspection:**

Annually, during the month of June, the permittee shall have a Vermont Registered Professional Engineer 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. evaluating the accumulation of solids and scum in the septic tanks and determine if the septic tanks should be pumped out that year;
2. checking the calibration of the influent flow meter;
3. verifying the proper operation of the pump station pumps, alarms, and controls;
4. inspecting the surface of the sand filter and verifying the proper operation of each cell;
5. walking around the storage lagoon checking for any needed repairs;

**D3. Annual Inspection, Report and Implementation Schedule:**

**A) Annual Inspection (continued):**

6. examining the sprayfield area and checking for the proper operation of the spray system, noting any areas of erosion, concentrated runoff or repairs needed; and
7. noting any necessary repairs or maintenance that needs to be performed on the sewage collection, treatment, and disposal system;

**B) Annual Inspection Report**

By August 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 inspections;
2. tabulation of the measured depths of sludge and scum in each septic tank; and
3. a discussion of the recommended repairs and maintenance required.

**C) Implementation Schedule**

By September 1st of each year, the permittee shall notify the Secretary in writing indicating how the engineer's recommendations were or are to be implemented, including a schedule for the completion of any recommended repair or maintenance items which have not yet been completed.

**D4. 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. The permittee shall notify the Secretary in writing of the name and address of the pumper and the municipal sewage treatment facility or other facility approved by the Secretary where the septage is to be or was disposed.

**D5. 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.

**D6. 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.

**D7. Operator Certification:**

The permittee is required to employ a wastewater treatment plant operator with a minimum Grade I operator in accordance with the Department of Environmental Conservation's Wastewater Treatment Facility Operator Certification Rule dated September 25, 2014. The permittee shall notify the Secretary in writing immediately of any change in the operator employed to operate the wastewater treatment and disposal facility.

**D8. Effluent Storage Lagoon Freeboard:**

A three (3) foot freeboard between the top of berm and the wastewater surface shall be maintained in the effluent storage lagoon at all times.

**D9. 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.

**D10. Monthly Report:**

On a monthly basis, from May through October, the permittee shall prepare a monthly report to the Secretary on Form WR-43 or other approved reporting format summarizing all information required for the previous month. The report shall be submitted to the Secretary by the 15th of each month for all activities for the previous month. The reporting form shall be certified and signed by the permittee and the permittee's operator.

**SECTION E - MONITORING REQUIREMENTS**

**E1. Influent and Sand Filter Effluent Monitoring:**

The permittee shall sample and analyze the influent and sand filter effluent, as follows:

Parameter	Location	Type	Frequency
Influent Flow Volume	Flow Meter	-	Daily, May - October
Lagoon Level	Staff Gage	-	Weekly, May - October
Biochemical Oxygen Demand (5-day)	Sand Filter	grab	Monthly, June – October
Total Suspended Solids	Sand Filter	grab	Monthly, June – October
Total Phosphorus	Sand Filter	grab	Monthly, June – October
pH	Sand Filter	grab	Monthly, June – October

These results shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.

**E2. Spray Effluent Monitoring:**

The permittee shall sample and analyze the spray effluent, as follows:

Parameter	Location	Type	Frequency <sup>(1)</sup>
Spray Volume	Spray Pump	continuous	Daily when spray
Chlorine Residual (total or free)	Spray nozzle	grab <sup>(2)</sup>	Daily when spray
Escherichia coli (E. coli)	Spray nozzle	grab <sup>(2)</sup>	Monthly when spray
Biochemical Oxygen Demand (5-day)	Spray nozzle	grab	Monthly when spray
Total Suspended Solids	Spray nozzle	grab	Monthly when spray

Notes:

- (1) Sampling requirements may be modified if the permittee chooses to utilize disinfection prior to effluent storage as allowed under §14-1705(a)(2) of the Indirect Discharge Rules, effective April 30, 2003.
- (2) On the day that the E. coli grab sample is collected, the daily total chlorine residual sample for that day shall be collected at the same time and location as the E. coli sample. Both shall be collected after the spray system has been operating that day for a minimum of 30 minutes.

These results shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.

**E3. Groundwater Monitoring:**

**A. Chemical Parameters:**

The permittee shall collect a sample from all the groundwater monitoring wells located around the sprayfield and have the samples analyzed for the following:

Parameter	Location	Type	Frequency
Chloride	mg/L	grab	Monthly, June - October
Total Dissolved Phosphorus	mg/L	grab	Monthly, June - October
Nitrate Nitrogen	mg/L	grab	Monthly, June - October
Ammonia Nitrogen	mg/L	grab	Monthly, June - October
Total Kjeldahl Nitrogen (TKN)	mg/L	grab	Monthly, June - October
pH	S.U.	grab	Monthly, June - October
Depth to groundwater	inches	N/A	At time of sampling

Notes:

Because of the 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 sample is required to be collected and analyzed.

These results shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.

**B. Groundwater Levels:**

The permittee shall measure and record the depth to groundwater below ground surface in each of the monitoring wells around the sprayfield weekly from June through October. The permittee shall submit the monthly measurements to the Secretary by the 15th day of the following month with the monthly report required by Condition D10. Dry wells may be recorded as "no water to depth of well".

**E4. Underdrain Monitoring:**

The permittee shall collect a sample from the lagoon underdrain on a monthly basis from June through October, and have the sample analyzed for the following:

- a. Chlorides (Cl<sup>-</sup>)
- b. Total Dissolved Phosphorus (TDP)
- c. Nitrate Nitrogen (NO<sub>3</sub>)

The results of the sampling shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.

**E5. Sampling and Testing Procedures:**

All wastewater and groundwater 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 Vermont Water Quality Standards unless written approval of an alternate method is received from the Agency.

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. Miscellaneous Requirements:**

If the permittee monitors any required parameter set forth in this permit for this treatment and disposal system more frequently or at additional locations outside the treatment facility than required by this permit, the results of such monitoring shall be submitted by the 15th day of the second month following the date of sampling.

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Secretary. Records shall include laboratory bench sheets showing exact location, time and composites of sample as well as analytical procedures used, interim results obtained and all calculations supporting the reported test results.

**E7. Additional Monitoring Requirements:**

No other water quality monitoring of the system is required under this permit. However, the Secretary reserves the right to require additional monitoring of the system in accordance with Condition A(7) should operation of the system fail to meet the requirements of Conditions D(1), D(2) and D(5).

## **SECTION F - COMPLIANCE REVIEW**

If the results of any inspection or monitoring indicate that a violation of the effluent disposal rate, or a violation of the Vermont Water Quality Standards, 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 indirect discharge permit, ID-9-0326, to the Vermont Department of Forest, Parks, and Recreation 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-9-0326, issued to Vermont Department of Forest, Parks, and Recreation for the discharge of treated domestic sewage from Button Bay State Park located in the Town of Ferrisburgh, Vermont, is effective on this 12<sup>th</sup> day of April, 2017.

Emily Boedecker, Commissioner  
Department of Environmental Conservation

By: Bryan J. Redmond  
Bryan Redmond, Director  
Drinking Water and Groundwater Protection Division