

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

**INDIRECT
DISCHARGE PERMIT**

Permit No.: ID-9-0232
PIN: NS92-0011

SECTION A - "ADMINISTRATION"

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

Twin Farms Management Co., Inc.
P.O. Box 115
Barnard, VT 05031

is authorized to indirectly discharge treated domestic sewage from a subsurface disposal system serving Twin Farms to groundwater and indirectly into an unnamed tributary of Barnard Brook.

A1. Permit Summary:

Expiration Date	March 31, 2022
Type of Waste	Treated Domestic Sewage
Treatment System	Septic Tanks, Recirculating Sand Filter
Disposal System	Leachfield Mound System
Town	Barnard
Disposal Capacity	6,600 gallons per day (gpd)
Drainage Basin	Ottauquechee
Receiving Stream	Unnamed tributary of Barnard Brook
Drainage Area	0.47 mi ² (300 acres) at point of compliance
Low Median Monthly Flow	
Stream Flow (LMMF)	156,100 gpd (approx.)
Dilution Ratio	
(stream flow to effluent)	23.6 to 1 at LMMF

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	December 31, 2021
D2(A) Have a VT registered PE complete an inspection of 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, grease interceptor and septage disposal	As specified
D5 Employ a minimum of a Grade I WWTF operator	At all times
D8 Inspect surface of sand filter	Weekly
D9 Submit disposal reports	Monthly
E1(A) Collect and analyze effluent samples from septic tank and recirculating sand filter	Twice per year in February & September
E1(B) Record pump hour clock readings	Daily
E2(A) Collect and analyze groundwater monitor samples	Twice per year in February & September
E2(B) Measure and record the depths to groundwater in monitoring wells	As specified
E2(C) Check observation wells for ponding	Monthly
E3(A) Collect and analyze receiving stream samples	Twice per year in February & September

A2. Compliance Schedule (continued):

<u>Condition # & Description</u>	<u>Schedule Date</u>
E1(A),(B),(C); E2(A),(B),(C); E3(A) Submit results of monitoring	By the 15th of the second month following the date of sampling.
E4 Submit evaluation by a water quality specialist of all water quality data	December 31, 2021

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 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:

A6. Transfer of Permit (continued):

- a. The transferee shall be a legal entity, financially and technically competent to operate, inspect, maintain and replace the systems.
- b. If the transferee is a corporation or an association of unit owners or other legal entity, it shall be demonstrated that such legal entity has 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 permittee 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(7) of this permit.

A8. Indirect Discharge Rules:

The indirect discharge qualified for an Indirect Discharge Permit in accordance with Section 14-403(C) for new indirect discharges of sewage. 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 facilities required by this permit.

A10. Permit Availability:

A copy of this permit shall remain at the offices 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 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 the replacement system design 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:

The indirect discharge is located near an unnamed tributary of Barnard Brook in the town of Barnard, Vermont with a drainage area of 0.47 square miles (300 acres) at the point of compliance. The indirect discharge can be located on the USGS Woodstock North, Vermont 7.5' quadrangle map at Latitude N 43°43'10" and Longitude W 72°35'29".

B2. Nature of Indirect Discharge:

The wastewater is discharged from a subsurface wastewater disposal system with an approved disposal capacity of 6,600 gallons per day. The wastewater is treated in three septic tanks in series (an 8,000 gallon tank, a 4,500 gallon tank and a 2,000 gallon tank) with some additional treatment in ancillary tanks, then pumped to the recirculating sand filter pump station where it is pumped onto the sand filter. Wastewater from the sand filter is recirculated so that the wastewater is filtered at least 4 times on average. The wastewater is then pumped to the mound disposal system, which consist of 4 sets of trenches that are alternated each year (so only 2 sets of trenches are used at a time). The mound system has a design loading rate of 1.05 gallons/ft²/day (1.5 times the allowable rate due to the use of the recirculating sand filter in accordance with the February 29, 1996 Indirect Discharge Rules).

SECTION C "SYSTEM CONSTRUCTION"

C1. The sewage collection, treatment, and disposal system was completed in accordance with the following plans and specifications prepared and stamped by Bruce Boedtke, P.E. of Bruno Associates and which were stamped "APPROVED" by the Secretary.

<u>SHEET</u>	<u>TITLE</u>	<u>DATE PREPARED</u>	<u>LAST REVISION</u>
C 1.1	Site Plan	12/11/91	04/22/92
C 1.2	Site Plan	02/25/92	08/31/92
C 3.1	Sand Filter Design Details	02/19/92	12/08/92
C 3.2	Sand Filter Design Details	02/27/92	08/27/92
C 3.3	Sand Filter Design Details	02/27/92	10/23/92
C 3.4	Sewer Details	02/28/92	04/22/92
Q A1.1	Sand Filter Building Plans & Elevation	10/02/92	12/15/92
Q A1.2	Sand Filter Building Elevations	10/02/92	12/15/92
Q A4.1	Sand Filter Building Wall Details	12/16/92	
Q S-1	Sand Filter Building Foundation Plan, Roof Framing Plan, Sections and Details	10/92	12/09/92

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 significantly alter the aquatic biota of the receiving waters.

The disposal fields shall be alternated on an annual basis. The sand filter cells shall be alternated so that each cell is rested at least once every three years. In accordance with accepted design practices, the effluent disposal rate to the disposal fields shall not exceed 6,600 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 professional engineer registered in the State of Vermont to make a thorough inspection, evaluation and report of the complete sewage collection, treatment and disposal system. The engineer's inspection shall include, at a minimum, the following:

1. inspecting the entire collection system, removing manhole covers to observe the condition of the sewers and manholes, and noting any signs of inflow or excess infiltration;
2. evaluation of the accumulation of solids and scum in the septic tanks and grease interceptors;
3. verification of the proper operation of system components, including all lift station pumps, alarms and controls;
4. checking the calibration of the pump station hour meters;
5. inspecting the surface of each cell of the sand filter and verifying the proper operation of each cell;
6. verification of the alternation of disposal fields;
7. walking the disposal fields noting the general condition of the fields and checking for any signs of surfacing effluent; and
8. noting any necessary repairs or maintenance that needs to be performed.

D2. Annual Inspection, Report and Implementation Schedule (continued):

B. Annual Report:

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

1. a complete list of the items inspected and the results of the inspection;
and
2. 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 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. 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.

At least once every 6 months, the two 2,000 gallon main house grease interceptors shall be pumped out. 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.

D4. System Operator:

The permittee is required at all times to employ a wastewater treatment facility operator with a minimum Grade I operator certificate in accordance with the September 25, 2014 Wastewater Treatment Facility Operator Certification Rule. The permittee shall notify the Secretary in writing of any change in operators.

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 wastewater 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. Discharge Restrictions:

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

D8. Visual Inspection of Filters:

The surface of the recirculating sand filter shall be inspected for ponding weekly. The monthly monitoring report shall include a description of the media surface and the depth of ponding in each cell and shall be measured, recorded and be submitted to the Secretary by the 15th of the second month following the recording period. If ponding exceeds six (6) inches the media surface shall be exposed and the surface rehabilitated by raking and removing surface sand if necessary. Complete removal of the surface sand may be necessary if the effluent quality has deteriorated.

D9. Monthly Report:

On a monthly basis, the permittee shall submit a disposal report to the Secretary summarizing all information required for the previous month. The report shall be submitted to the Secretary by the 15th of each month for all disposal activities for the previous month. The report shall be signed by an official of the permittee, under the following statement:

“I certify under penalty of law that I have personally examined, and am familiar with, the information submitted herein. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.”

SECTION E "MONITORING"

E1. Effluent Monitoring:

A. Chemical Monitoring:

The effluent from the septic tanks and from the sand filter shall be sampled and analyzed as follows:

<u>Parameter</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sample Frequency</u>
Biochemical Oxygen Demand (5-day)	mg/L	grab	Feb. & Sept.
Total Suspended Solids	mg/L	grab	Feb. & Sept.
Chloride (Cl-)	mg/L	grab	Feb. & Sept.
Total Phosphorus	mg/L	grab	Feb. & Sept.
Total Dissolved Phosphorus	mg/L	grab	Feb. & Sept.
Total Kjeldahl Nitrogen (TKN)	mg/L	grab	Feb. & Sept.
Ammonia Nitrogen (NH3)	mg/L	grab	Feb. & Sept.
Nitrate Nitrogen (NO3)	mg/L	grab	Feb. & Sept.
pH	S.U.	grab	Feb. & Sept.
Oil & Grease	mg/L	grab	Feb. & Sept.

Samples shall be taken at the influent to the septic tank pump station and at the influent to the mound system pump station.

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.

B. Sewage Volume:

Each day the permittee shall record at approximately the same time each day the readings on the pump hour clocks for all the pumps of the mound system pump station. The volume of wastewater and individual readings shall be submitted to the Secretary by the 15th of the second month following the recording period.

E2. Groundwater Monitoring:

A. Chemical & Bacteriological Monitoring:

The groundwater in all the monitoring wells shall be sampled and analyzed as follows:

<u>Parameter</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sample Frequency</u>
Chloride (Cl-)	mg/L	grab	Feb. & Sept.
Total Dissolved Phosphorus	mg/L	grab	Feb. & Sept.
Nitrate Nitrogen (NO3)	mg/L	grab	Feb. & Sept.
Escherichia coli (E-coli)	Colonies/100 ml	grab	Feb. & Sept.
pH	S.U.	grab	Feb & Sept.
Depth to groundwater (below ground surface)	inches	-	when sample

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 water is not available. If a monitoring well has water at any time during the month, then a sample is required to be collected and analyzed. Wells shall be checked weekly during the months of February and September until samples are obtained.

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

B. Groundwater Levels:

The depth to groundwater (below ground surface) shall be measured and recorded a minimum of once per month. The results of measurements shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.

C. Observation Wells:

Once per month, at least two wells for each of the two fields in use shall be inspected for ponding. Different wells shall be inspected each month so that all wells for the fields in use are examined during the year.

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

E3. Receiving Stream Monitoring:

A. Chemical and Bacteriological:

The surface water at each of the surface water sampling stations shall be sampled and analyzed as follows:

<u>Parameter</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sample Frequency</u>
Escherichia coli (E-coli)	Colonies/100 ml	grab	Feb. & Sept.
Chloride (Cl-)	mg/L	grab	Feb. & Sept.
Nitrate Nitrogen (NO3)	mg/L	grab	Feb. & Sept.
Total Phosphorus ¹	mg/L	grab	Feb. & Sept.
Total Dissolved Phosphorus ¹	mg/L	grab	Feb. & Sept.
pH	S.U.	grab	Feb. & Sept.

Notes: #1. Two independent samples shall be taken and analyzed on each sampling date.

#2. The permittee shall not sample the receiving stream within 24 hours of any storm event affecting the watershed of that stream.

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

B. Biological:

If required by the Secretary, the permittee shall sample and analyze the biota of the receiving water in accordance with approved procedures.

E4. Water Quality Evaluation:

By December 31, 2021, 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 biological monitoring data (if any) shall also be included. The biological data shall be subjected to analysis by the Secretary to determine if there have been any significant alterations to the aquatic biota.

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.

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:

If the permittee monitor 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 to the Secretary. 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. 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 Sections D(1) 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 permit, ID-9-0232, to Twin Farms Management Co., Inc. 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-9-0232, issued to Twin Farms Management Co., Inc. for the discharge of treated domestic sewage from Twin Farms in Barnard, Vermont is effective this 3rd day of May, 2017.

Emily Boedecker, Commissioner
Department of Environmental Conservation

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