



State of Vermont

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation
Drinking Water and Groundwater Protection Division
103 South Main Street/Sewing Building
Waterbury, VT 05671-0404
(802) 241-3822

January 17, 2012

Shaun Hill
Hill Farmstead, LLC
403 Hill Road
Greensboro Bend, VT 05842

RE: Draft Indirect Discharge Permit ID-9-0299-2

Dear Mr. Hill,

The Secretary of the Agency of Natural Resources proposes to issue an indirect discharge permit amendment to Hill Farmstead LLC for an increase in the annual disposal limit of brewery waste from 10,000 gallons to 25,000 gallons per year. A copy of the draft indirect discharge permit amendment is enclosed for your review.

At this time we are placing the draft indirect discharge permit amendment on the required 30-day public notice. The notice period will run from January 23, 2012 to February 21, 2012. If no significant comments are received during the public notice period, the final permit amendment can be issued at that time.

If you have any questions, please give me a call at (802) 338-4810.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Harrington", written over a horizontal line.

Bryan Harrington
Indirect Discharge Permit Section

Enclosure: Draft ID-9-0299-2

cc: ID-9-0299 Permit File



AGENCY OF NATURAL RESOURCES
103 SOUTH MAIN STREET
WATERBURY, VERMONT 05671-0405

 **DRAFT**

**DRAFT INDIRECT
DISCHARGE PERMIT AMENDMENT**

File Code: LAM-9-0299

Permit No.: ID-9-0299-2
PIN: SJ08-0261

SECTION A – “ADMINISTRATION”

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

Shaun E. Hill
Hill Farmstead, LLC
403 Hill Road
Greensboro Bend, VT 05842

is authorized to discharge non-sewage wastewater from a beer manufacturing operation located in Greensboro, Vermont to a manure pit also located in Greensboro, Vermont. The wastewater/manure mixture shall be managed in accordance with Accepted Agricultural Practices. **This amendment increases the annual discharge limit from 10,000 gallons to 25,000 gallons per year.**

A1. Permit Summary:

Expiration Date	December 31, 2013
Type of Waste	Process Wastewater from Beer Manufacturing
Disposal Methods	Land Application, Manure Pit
Disposal Limit	25,000 gallons per year
Suitable Field Acreage	Field 90A: approximately 6.0 acres Field 90B: approximately 6.3 acres
Drainage Basin	Lamoille River
Receiving Streams	Field 90A: Edson Brook Field 90B: Sawmill Brook
Drainage Area at Compliance Points	Edson Brook: 0.69 square miles Sawmill Brook: 0.59 square miles
Estimated Low Median Monthly Flows	Edson Brook: 40,100 gallons per day Sawmill Brook: 34,300 gallons per day
Maximum Land Application	Field 90A: 4,010 gallons per day Field 90B: 3,430 gallons per day
Manure Pit Capacity Available	34,375 gallons for Non-Manure Waste (10% of Total Manure Pit Capacity)

A1. Permit Summary (continued):

The indirect discharge of process wastewater from beer manufacturing by the Hill Farmstead, LLC, via land application, satisfies the criteria of 10:1 dilution between the receiving stream low median monthly flow and the average daily land application rate in accordance with the Vermont Guidelines for Land Application of Dairy Processing Wastes. The maximum application rate of beer processing wastewater is 4,010 gallons per day on Field 90A and 3,430 gallons per day on Field 90B. The depth to groundwater in the observation well verified field, Field 90B, shall be measured and recorded at least once in the previous 36 hours prior to application on Field 90B.

The wastewater can also be disposed of in the manure pit indicated in Attachment A. The wastewater/manure mixture shall be managed in accordance with Accepted Agricultural Practices.

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, 2013
D1. Wastewater monitoring and reporting	Semi-Annually
D2. Measure and record depth to groundwater in observation well	Within 36 hours prior to application on Field 90B
D3. Submit disposal report to Secretary	Quarterly

A3. Expiration Date:

This permit, unless revoked or amended shall be valid until December 31, 2013, despite any intervening change in Water Quality Standards or the Vermont Guidelines for Land Application of Dairy Processing Wastes. Renewal of this Indirect Discharge Permit will be subject to all rules applicable at the time of application for renewal, including biological standards to determine significant alteration of aquatic biota.

The permittee shall apply for an Indirect Discharge Permit renewal by September 30, 2013. 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 amendment becomes effective on the date of signing.

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 permittees 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.

A6. Transfer of Permit (continued):

- 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 Permits:

The Secretary may modify this permit without requiring a permit application, a public notice, or a public hearing to correct typographical errors or increase the frequency of monitoring or reporting in accordance with Condition D(4) of this permit.

A8. Indirect Discharge Rules:

This indirect discharge was reviewed and qualified for an Indirect Discharge Permit in accordance with the Vermont Water Quality Standards; Section 14-1902(c) of the Indirect Discharge Rules; and the Vermont Guidelines for Land Application of Dairy Processing Wastes.

A9. Right of the Agency to Inspect:

The permittee shall make arrangements to insure that the Secretary or the Secretary's authorized representative, upon the presentation of their credentials and at reasonable times, may enter upon any fields or inspect any manure pit being used as disposal sites.

The permittee shall allow the Secretary or the Secretary's authorized representative upon the presentation of their credentials 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. Additions to Disposal Program:

The permittee may propose adding disposal fields and/or manure pits to the disposal program under the following procedures:

1. Fields to be added to the program must be approved by the Secretary in accordance with the Vermont Guidelines for Land Application of Dairy Processing Wastes.
2. The permittee shall submit an application for a permit amendment to add disposal fields or manure pits to the disposal program.

A12. 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 Discharges:

The indirect discharges are located in the Lamoille River drainage basin in the town of Greensboro, Vermont. The fields approved for land application are located on the USGS Caspian Lake, Vermont 7.5' quadrangle map at approximately Latitude N 44° 36' 15" and Longitude W 72° 16' 00". The approved manure pit is located at 1133 Young Road in Greensboro, Vermont.

B2. Nature of Indirect Discharge:

The indirect discharge authorized by this permit is classified as non-sewage, non-pathogenic waste. The wastewater is generated from the manufacturing of beer at the Hill Farmstead Brewery in Greensboro, Vermont.

B2. Nature of Indirect Discharge (continued):

The Vermont Guidelines for the Land Application of Dairy Processing Wastes dated August 14, 1990 have been applied to this discharge due to the fact that it is a food processing waste. The maximum allowable land disposal volume is limited to provide a low median monthly stream flow to wastewater volume ratio of at least 10:1 for the receiving streams and disposal fields.

At the maximum disposal limit of 25,000 gallons per year, only 0.92 acres are needed for the land application of wastewater at the approved rate of 1" /acre/year (27,152 gallons/acre/year) on Field 90A. If Field 90B is utilized, 1.84 acres are needed for land application since the maximum rate of land application is 0.5"/acre/year because the field is designated as an observation well verified field. A total of 12.3 acres in Fields 90A and 90B is available for land application.

Based on analytical data from four wastewater samples from another small brewery operating in Vermont, the wastewater is expected to have the following approximate concentrations:

<u>Parameter</u>	<u>Range of Concentration (mg/L)</u>
Biochemical Oxygen Demand	1,400 – 23,000
Nitrite/Nitrate Nitrogen	< 0.2 – 5.8
Total Kjeldahl Nitrogen	319 – 1,240
Ammonia	5.4 – 59.9
Total Phosphorus	115 - 160
Total Dissolved Phosphorus	66.5 - 140
Sodium	24.6 - 455
Chloride	45.2 – 300
pH	3.77 – 6.08 S.U.

These are not permit limits and exceedences of these values may occur.

The wastewater will be collected and stored at the facility in a 500 gallon holding tank. The permittee will pump out the holding tank every 10-14 days and either land apply the wastewater on the approved fields, or transport the wastewater to the approved manure pit listed in Attachment A for disposal. For land application, the permittee will spread the wastewater using a 500 gallon spray applicator pulled behind a tractor. The applicator has multiple, gravity fed spray nozzles. For manure pit disposal, the permittee will transport the wastewater to the manure pit in a stainless steel or polypropylene tank. The manure pit utilized for disposal of the

B2. Nature of Indirect Discharge (continued):

wastewater is listed in Attachment A. The wastewater/manure mixture shall be managed in accordance with the Vermont Department of Agriculture Accepted Agricultural Practices.

B3. Chemicals Utilized:

The permittee submitted a listing of chemicals which will be used at the facility for the purpose of cleaning equipment and general sanitation. These are the only chemicals authorized for disposal in the wastewater. Prior to making any changes in the chemicals used, the permittee shall submit a request for evaluation of the new chemicals to the Secretary. If the Secretary determines that the change in chemicals is a significant change, the permittee shall be required to apply for a permit amendment. Minor changes in chemicals used, as determined by the Secretary, will not require permit amendment. For those chemicals which are obtained from a different supplier or source which are identical to the chemicals listed in the application, the permittee shall notify the Secretary of the change; no evaluation will be necessary.

SECTION C - "SYSTEM OPERATION"

C1. General Operating Requirements:

At all times, the wastewater shall be disposed of in a manner that will (1) not permit the surface runoff of wastewater to waters of the State; (2) not permit the disposal of wastewater when groundwater is within 36 inches of the surface; (3) not permit the disposal of wastewater at a site where seasonal runoff is occurring; and (4) not result in a violation of the Water Quality Standards.

C2. Disposal Specifications:

The beer processing wastewater will be spread on two agricultural fields previously analyzed for the land application of daily processing wastes. The wastewater discharge is to groundwater and indirectly to the Esdon and Sawmill Brooks. The acreage of the disposal areas of the fields identified below is suitable for the land application of a maximum of 248,440 gallons per year, nearly 10 times the required disposal area.

C2. Disposal Specifications (continued):

<u>Field</u>	<u>Owner</u>	<u>Acreage</u>	<u>Disposal Season</u>
Field 90A	Shaun & Darren Hill	6.0 acres	Year-round
Field 90B	Shaun & Darren Hill	6.3 acres	Year-round (well verified)

The permittee also has access to a manure pit owned by Thomas Hill which has a capacity of 343,752 gallons. Ten percent of the volume of this manure pit, 34,375 gallons, may be used for disposal if necessary. The mixture of beer processing wastewater and manure would be spread according to Acceptable Agricultural Practices as defined by the Vermont Department of Agriculture.

No construction or modifications are necessary for the operation of the disposal methods authorized by this permit.

C3. Limits on Disposal:

This permit authorizes the indirect discharge of a maximum of 25,000 gallons per year of beer processing wastewater generated by the permittee, either by land application to the fields identified above or by disposal to the manure pit identified in Attachment A.

The permittee shall not land apply beer processing wastewater at a rate exceeding 4,010 gallons per day on Field 90A and 3,430 gallons per day on Field 90B.

C4. Other Restrictions:

The permittee shall conduct the land application of the wastewater in accordance with the Vermont Guidelines for Land Application of Dairy Processing Wastes and the conditions of this permit.

The permittee shall not allow any person to discharge or cause to be discharged anything other than the wastewater described herein to the disposal fields or manure pit.

SECTION D - "MONITORING"

D1. Monitoring Requirements:

Upon the effective date of this permit, the permittee shall sample and analyze the wastewater as follows:

<u>Parameter</u>	<u>Measurement Units</u>	<u>Sample Type</u>	<u>Sample Frequency</u>
BOD ₅	mg/L	grab	Semi-Annual
Sodium (Na ⁺)	mg/L	grab	Semi-Annual
Chloride (Cl ⁻)	mg/L	grab	Semi-Annual
Total Dissolved Solids	mg/L	grab	Semi-Annual
Total Phosphorus (TP)	mg/L	grab	Semi-Annual
Total Dissolved Phosphorus	mg/L	grab	Semi-Annual
Total Kjeldahl Nitrogen (TKN)	mg/L	grab	Semi-Annual
Ammonia Nitrogen (NH ₃)	mg/L	grab	Semi-Annual
Nitrate-Nitrogen	mg/L	grab	Semi-Annual
Nitrite-Nitrogen	mg/L	grab	Semi-Annual
pH	S.U.	grab	Semi-Annual

Semi-Annual means January - June and July - December. If any disposal of wastewater occurs in either semi-annual period, a sample is required to be collected and analyzed.

D1. Monitoring Requirements (continued):

Samples shall be taken from the holding tank after agitation of the contents of the holding tank.

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

The laboratory utilized for analyzing the samples shall demonstrate successful performance for U.S. EPA check samples for all parameters and shall analyze any check samples provided by the Secretary. Failure to obtain an acceptable result for either the Secretary or EPA check samples may be a basis for requiring an alternate analytical laboratory.

D2. Groundwater Levels:

The permittee shall install a minimum of one (1) four foot deep observation well in the lowest or most critical point of Field 90B, if necessary.

The depth to groundwater (below ground surface) in Field 90B, shall be measured and recorded within 36 hours prior to spreading on the field. Wastewater shall not be applied on Field 90B if the depth to groundwater is less than 36 inches below ground surface in the observation well.

D3. Quarterly Disposal Report:

On a quarterly basis, the permittee shall submit a written report to the Secretary listing the date, disposal location and volume of wastewater which was land applied or disposed of in the manure pit for each date that disposal occurred. If wastewater was land applied on Field 90B, the report shall indicate the depth to groundwater prior to land application. The report shall be signed by the permittee under the following certification language:

"I certify under penalty of law that I have personally examined, and am familiar with, the information submitted herein. 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."

The reports shall be submitted by the 15th day of January, April, July and October for the previous quarter.

D4. Other Water Quality Monitoring:

No other water quality monitoring of the system is required under this permit. However, the Secretary reserves the right to require additional monitoring should the permittee fail to meet the requirements of Sections C(1), C(2), C(3) and C(4).

SECTION E - "COMPLIANCE REVIEW"

If the results of any monitoring or reporting indicate that there is a possibility that the Vermont Water Quality Standards may be violated, the Secretary may require monitoring of the ground and surface water. If continued monitoring and analysis indicates that a violation of the wastewater discharge rate or a violation of the Vermont Water Quality Standards has occurred, 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 amendment, ID-9-0299-2, to Hill Farmstead, LLC, by the Secretary relies upon the data, designs, judgment and other information supplied by the applicant. 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 F - "EFFECTIVE DATE"

This Indirect Discharge Permit amendment, ID-9-0299-2, issued to Hill Farmstead, LLC for the land application of beer processing wastewater to the fields identified in Condition C(2) and for disposal of beer processing wastewater to the manure pit listed in Attachment A, is effective on this _____ day of _____, 2012.

David K. Mears, Commissioner
Department of Environmental Conservation

 **DRAFT**

By: _____
Christine Thompson, Director
Drinking Water and Groundwater Protection Division

ATTACHMENT A

Hill Farmstead Brewery
Manure Pit Listing
(January, 2009)

Owner/Operator	Location	Town	10% Pit Volume
Thomas Hill	1133 Young Road	Greensboro Bend	34,375 gallons