

**AGENCY OF NATURAL RESOURCES  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
DRINKING WATER AND GROUNDWATER PROTECTION DIVISION  
ONE NATIONAL LIFE DRIVE - MAIN 2  
MONTPELIER, VERMONT 05620-3521**

**DRAFT  
INDIRECT DISCHARGE  
PERMIT**

File Code: PAS-9-0306

Permit No.: ID-9-0306  
PIN: SJ99-0173

**SECTION A - "ADMINISTRATION"**

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

Duncan's Idea Mill LLC  
P.O. Box 150  
Passumpsic, Vermont 05861

is authorized to land apply non-sewage wastewater from the distillation of fermented maple sap, evaporated cane juice and other sugars resulting in a discharge to the groundwater and indirectly to a tributary of Water Andric Brook in Barnet, Vermont.  
**This is a permit renewal.**

A1. Permit Summary:

Expiration Date	March 31, 2021
Type of Waste	Non-sewage wastewater from distillery (stillage)
Disposal System	Via Land Application
Design Flow	125 gallons per day (average) (45,625 gallons per year, maximum)
Town:	
Land Application	Barnet
Field Acreage	Approx. 10 acres
Available Field Capacity	135,760 gallons per year
Drainage Basin	Passumpsic River
Receiving Stream	Tributary to Water Andric Brook
Drainage area	155 acres

A1. Permit Summary (continued):

The indirect discharge of wastewater (stillage) from distillery at Duncan's Idea Mill LLC, via land application, has satisfied the criteria of 10:1 dilution between the receiving stream flow and effluent at low median monthly flow, according to the Vermont Guidelines for Land Application of Dairy Processing Wastes. The maximum application rate of wastewater may not exceed 0.5 inch/year, equivalent to 13,576 gallons per acre per year. Other limitations include no application of wastewater greater than 0.25 inches per day in the summer, June 1 through September 15, and 0.13 inches per day in the fall, winter and spring. The maximum application rate for the field is 1400 gallons per day (see Condition D2).

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, 2020
E3. Collect and analyze wastewater samples	Upon Request of the Secretary
E4. Install groundwater monitoring wells	Upon Request of the Secretary
E4. Collect and analyze groundwater monitor samples	Upon Request of the Secretary
E3, E4 Submit results of monitoring	By the 15 <sup>th</sup> of the second month following the date of sampling
E5. Measure depth to groundwater in observation well	Prior to land application within 36 hours
E6. Collect and analyze receiving stream samples	Upon Request of the Secretary
E7. Conduct Soil Monitoring	Upon Request of the Secretary

A2. Compliance Schedule (continued):

<u>Condition # &amp; Description</u>	<u>Schedule Date</u>
E9. Submit disposal report	Quarterly, by the 15 <sup>th</sup> of each January, April, July and October

A3. Expiration Date:

This permit, unless revoked, or amended shall be valid until March 31, 2021, despite any intervening change in Water Quality Standards, the Vermont Guidelines for Land Application of Dairy Processing Wastes 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, 2020. 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 **April 1, 2016**.

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 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 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 monitoring frequency in accordance with Section F "Compliance Review" of this permit.

A8. Indirect Discharge Rules:

This indirect discharge was reviewed and qualified for an Indirect Discharge Permit in accordance with Section 14-C-1000(D) of the Indirect Discharge Rules, the Vermont Water Quality Standards, the Vermont Guidelines for Land Application of Dairy Processing Wastes dated August 14, 1990, and the Groundwater Protection Rule and Strategy, Section 12-503(3), effective February 15, 2005.

A9. Right of 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, may enter upon any fields being used as disposal sites.

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;

A9. Right of Agency to Inspect (continued):

- 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. Modifications and Additions For Disposal:

The permittee may add or delete disposal fields listed in Condition C(1) and/or add manure pit disposal locations, 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 an administrative amendment to update the approved disposal fields in Condition C(1) or to add manure pits to the disposal program. Manure pits proposed as disposal locations are subject to approval by the Secretary. An amendment application is required in order to either identify fields that the permittee wishes to add to the approved list or for adding 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 the procedures provided by the Secretary.

## **SECTION B - "INDIRECT DISCHARGE"**

B1. Location of Indirect Discharge:

The indirect discharge is located in the Passumpsic River drainage basin in the Town of Barnet, Caledonia, Vermont. The field utilized for land application can be located on the USGS Barnet, Vermont - New Hampshire 7.5' x 15' quadrangle map at Latitude N 44° 22' 19" and Longitude W 72° 03' 35". The address of the facility is 622 Keyser Hill Road, Barnet, Vermont.

B2. Nature of Indirect Discharge:

The indirect discharge authorized by this permit is classified as a non-sewage, non-pathogenic waste. The wastewater is from the distillation of fermented maple sap, evaporated cane juice and other sugars by Duncan's Idea Mill LLC. The wastewater may contain the following: malt extract, yeast extract, diammonium phosphate (DAP). Cleaning of fermenting vats and stills will be done with steam and no cleaning chemicals will be used.

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 exhibits characteristics of a high strength waste. Due to the BOD<sub>5</sub> and nitrogen characteristics of the wastewater, any land application of wastewater is limited to a maximum rate of one-half inch per year (13,576 gallons/acre/year). There must be a minimum of three-foot separation to groundwater at the time of application. 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 stream and the disposal field.

The wastewater is collected in a 1000 gallon underground tank for cooling before spreading. The wastewater is spread by gravity flow through a spreader bar from a tank mounted on a pickup truck driven over the 10 acre field. The wastewater will be spread from May – October each year.

**SECTION C - "SYSTEM SPECIFICATIONS"**

C1. System Specifications:

The wastewater is stored in a 1000 gallon underground tank and is land applied on 10 acres owned by the permittee and located off Town Road #19 in Barnet, Vermont. The discharge is to groundwater and indirectly to a tributary of Water Andric Brook. This acreage is suitable for the land application of a maximum of 135,760 gallons per year, almost three times the area required for the maximum yearly discharge of 45,625 gallons.

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

**SECTION D - "SYSTEM OPERATION"**

D1. General Operating Requirements:

At all times, the wastewater from the distillery 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.

D2. Limits on Disposal:

This permit authorizes the indirect discharge of wastewater at an average daily rate of 125 gallons per day, annual average, for a total annual discharge volume of 45,625 gallons (maximum). The amount of wastewater disposed of on any field or fields specified shall not exceed a total of 13,576 gallons per acre per year (0.5" per acre per year). The disposal year is from January 1 to December 31.

With ten (10) acres available, the potential annual disposal capacity of the fields designated in the land application program for this wastewater is 135,760 gallons.

Under no circumstances shall the land applied volume exceed the discharge volumes listed below:

<u>Land Application For Fields Draining to (Receiving Stream)</u>	<u>Maximum Daily Discharge</u>
Tributary to Water Andric Brook (Drainage Area 155 acres)	1400 gallons (year round)

D3. Hours of Operation for Land Application:

The permittee shall land apply wastewater only between the following times: From one-half hour before sunrise to one-half hour after sunset. The sunrise and sunset times utilized for this purpose shall be those published in the Vermont Guide to Hunting, Fishing & Trapping Laws (published by the Dept. of Fish and Wildlife).

D4. Disposal Area:

Adequate disposal area must be available at all times for land application. The available area for disposal on fields owned by the permittee must be an average of 100% of the facility's wastewater production in each season.

<b>SEASON</b>	<b>ACTUAL ACREAGE NECESSARY FOR DISPOSAL</b>	<b>ACREAGE AVAILABLE</b>
Summer (124 days)	1.14	10.0
Fall (61 Days)	0.56	10.0
Winter/Spring (180 days)	1.66	10.0
<b>Totals</b>	<b>3.36</b>	<b>10.0<sup>(1)</sup></b>

(1) These fields are owned by the permittee and are designated as observation well verified. The depth to groundwater in these fields shall be measured and recorded at least once in the previous 36 hours prior to application. The acreage available for winter and spring is combined since the criteria for winter and spring application is the same. These fields may also be used in the summer or fall.

D5. Operator Certification: N/A

D6. Landowner Agreement:

The permittee may add disposal fields to the land application program. For any disposal field that is not owned by the Duncan's Idea Mill LLC, a written and signed agreement is required between the landowner and Duncan's Idea Mill LLC, stating the agreement of the owner to allow land application on the fields. It is acceptable for Duncan's Idea Mill LLC, to terminate an agreement provided there is sufficient area available to dispose of 100% of the wastewater produced in each season. Any agreement that is terminated must be included in the amendment application (see Section A11).

D7. Disposal Vehicle: Permittee uses a tank mounted in a pick-up truck equipped with a spreader bar.

D8. Other Methods of Disposal:

The permittee may dispose of the wastewater in a manure/slurry pit up to a maximum of ten percent of the volume of the manure slurry pit annually, as outlined in the Vermont Guidelines for Land application of Dairy Processing Wastes. This mixture of wastewater and manure shall be spread according to



Accepted Agricultural Practices as defined by the Vermont Department of Agriculture. A written agreement is required between the farmer and Duncan's

D8. Other Methods of Disposal (continued):

Idea Mill LLC, stating that the farmer or applicator accepts responsibility for the application of the waste. A permit amendment is required to add manure pits as disposal locations (see Section A11).

The permittee may dispose of wastewater once in the summer to hayfields that do not meet the soil/site criteria in Table 1 of the Vermont Guidelines for Land Application of Dairy Processing Waste, under the following conditions:

1. The application shall take place within two weeks following the cutting of the first hay crop;
2. The maximum application rate shall not exceed 0.25 inches/acre (6,788 gallons) and will be limited to 0.125 inches/day (3,394 gallons);
3. The slope shall not exceed 20%;
4. The field must meet all minimum isolation distances as outlined in Table 1;
5. Application may not take place in swales or on saturated ground.

The permittee shall record the volume, date and location of the field and submit this information in the quarterly disposal report (see Section E9).

This permit only applies to the disposal of wastewater resulting in an indirect discharge to approved disposal fields described in Conditions B(1), C(1) and D(4) and by the above methods. It is recognized that some portion of the wastewater may be disposed of by other methods operating within accepted standards for that system under appropriate regulations (for example, disposal at a municipal treatment facility). All methods of disposal utilized shall be submitted in the quarterly report.

D9. 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 application rate may be increased with written approval by the Secretary, upon submittal of information as outlined in Part IV of the Guidelines.

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

**SECTION E - "MONITORING"**

E1. Quality Assurance/Quality Control Plan:

A plan for sampling and analysis of the wastewater, groundwater and receiving stream may be required by the Secretary should such monitoring be requested. The Secretary will provide minimum requirements for such a plan at that time.

E2. Field Used For Groundwater Chemical Monitoring:

Groundwater chemical monitoring may be requested by the Secretary. At that time a field or a portion of a field will be selected for monitoring.

E3. Wastewater Monitoring:

Chemical

Upon request of the Secretary, the wastewater to be spread on the disposal fields shall be sampled and analyzed as follows:

<u>Parameter</u>	<u>Measurement Units</u>	<u>Sample Type</u>	<u>Sample Frequency</u>
BOD <sub>5</sub>	mg/L	grab	Biannually
Sodium (Na <sup>+</sup> )	mg/L	grab	Biannually
Chloride (Cl <sup>-</sup> )	mg/L	grab	Biannually
Sulfate (SO <sub>4</sub> )	mg/L	grab	Biannually
Total Dissolved Solids	mg/L	grab	Biannually
Total Phosphorus (TP)	mg/L	grab	Biannually
Total Dissolved Phosphorus	mg/L	grab	Biannually
Total Kjeldahl Nitrogen (TKN)	mg/L	grab	Biannually

E3. Wastewater Monitoring (continued):  
Chemical:

<u>Parameter</u>	<u>Measurement Units</u>	<u>Sample Type</u>	<u>Sample Frequency</u>
Ammonia Nitrogen (NH <sub>3</sub> )	mg/L	grab	Biannually
Nitrate-Nitrite	mg/L	grab	Biannually
pH	S.U.	grab	Biannually

□ Biannually means June and August.

Samples shall be taken at the line which is used to fill the holding container on the field spreader.

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

E4. Groundwater Chemical Monitoring:

Upon request of the Secretary, the permittee shall install groundwater monitors suitable for the collection of groundwater samples in accordance with guidelines supplied by the Secretary. The monitors must be deep enough to intercept groundwater.

<u>Parameter</u>	<u>Measurement Units</u>	<u>Sample Type</u>	<u>Sample Frequency</u>
BOD <sub>5</sub>	mg/L	grab	Biannually
Total Dissolved Solids	mg/L	grab	Biannually
Sodium (Na <sup>+</sup> )	mg/L	grab	Biannually
Sulfate (SO <sub>4</sub> )	mg/L	grab	Biannually
Chlorides (Cl <sup>-</sup> )	mg/L	grab	Biannually

Total Phosphorus (TP)	mg/L	grab	Biannually
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E4. Groundwater Chemical Monitoring (continued):

Upon request of the Secretary, the groundwater in each of the monitoring wells shall be sampled and analyzed for the following parameters:

<u>Parameter</u>	<u>Measurement Units</u>	<u>Sample Type</u>	<u>Sample Frequency</u>
Total Dissolved Phosphorus	mg/L	grab	Biannually
pH	S.U.	grab	Biannually
Total Kjeldahl Nitrogen (TKN)	mg/L	grab	Biannually
Ammonia Nitrogen (NH <sub>3</sub> )	mg/L	grab	Biannually
Nitrate-Nitrogen	mg/L	grab	Biannually
Nitrite-Nitrogen	mg/L	grab	Biannually
Depth to Groundwater	inches below ground surface	instantaneous	At time of sampling

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Biannually means June and August.

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

Because of the changing water table conditions the samples from the groundwater monitors might not be collected on the same day or in the same week if water is not available. If a monitor has water at any time during the month a sample is required, then a sample shall be collected and analyzed.

E5. Groundwater Levels:

The depth to groundwater (below ground surface) in observation well verified (OWV) fields shall be measured and recorded within 36 hours prior to spreading on the field. If the depth to groundwater is greater than 36", then "depth to groundwater greater than 36" can be recorded.

The results of these measurements shall be submitted to the Secretary in the quarterly disposal report (see Section E(9)) prior to the 15<sup>th</sup> of the month specified.

E6. Receiving Stream Monitoring:

Chemical

If the Secretary or designated representative determines it is necessary based on the results of the groundwater monitoring, the permittee shall, upon written notice from the Secretary, submit sampling procedures for receiving stream sampling in a Quality Control/Quality Assurance plan. If required by the Secretary, the permittee shall sample and analyze the quality of the receiving stream according to approved procedures.

E7. Soil Monitoring:

Upon written notification from the Secretary, the permittee shall submit procedures for the representative sampling of soils in the fields utilized for land application for review and approval. The parameters sampled for shall include, at a minimum, total nitrogen, total phosphate (P<sub>2</sub>O<sub>5</sub>) and the Sodium Absorption Ratio (SAR) of the soil (to monitor the long-term application of salts). The permittee shall also include a schedule for sampling all fields in the land application program at least once during the term of this permit according to approved procedures. The results of this monitoring shall be submitted to the Secretary in accordance with a schedule provided by the Secretary.

E8. Daily Journal: N/A

E9. Quarterly Disposal Report:

The permittee shall submit a quarterly written report to the Secretary listing the dates of application, the portions of the ten (10) acre field which were utilized for disposal, the depth to groundwater in the monitoring wells in fields designated, and the volume of wastewater applied on each field. If other methods of disposal are utilized by the permittee, the volume and destination shall be submitted.

The report shall include a summary of any incidents that may have occurred regarding the land application program during the covered period and indicate what actions have been taken to prevent any future occurrence. The number of gallons applied on each field shall be totaled daily and monthly, and the report submitted by the 15<sup>th</sup> of each of the following months: January, April, July and October. The report shall cover the preceding three months (for example, the April submittal covers January - March). The reporting form shall be signed by 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.”

E10. 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 the Vermont Water Quality Standards unless written approval of an alternate method is received from the Agency.

E11. Miscellaneous:

The permittee shall control the application of wastewater and may be required to take additional measures as determined by the Secretary to reduce any nuisance odors.

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 15<sup>th</sup> day of the second month following the date of sampling.

E11. Miscellaneous (continued):

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.

**SECTION F - "COMPLIANCE REVIEW"**

If the results of any monitoring (Section E) or inspection by representatives of the Secretary indicate there is a possibility that the Vermont Water Quality Standards may be exceeded, the Secretary may increase the frequency of, or change the location of monitoring of the ground and surface water. If continued monitoring and analysis indicates that a violation of the effluent disposal 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 ID-9-0306, to the Duncan's Idea Mill LLC, by the Secretary relies upon the data, designs, judgement 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-9-0306, issued to Duncan's Idea Mill LLC, for the discharge of non-sewage distillery wastewater from the Duncan's Idea Mill LLC distillery in Barnet, Vermont is effective on April 1, 2016.

Alyssa B. Schuren, Commissioner  
Department of Environmental Conservation  
Vermont Agency of Natural Resources

**DRAFT**

By \_\_\_\_\_ Date: \_\_\_\_\_  
Christine Thompson, Director  
Drinking Water and Groundwater Protection Division