

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

INDIRECT DISCHARGE PERMIT  
AMENDMENT

File Code: ULC-9-0177

Permit No.: ID-9-0177-1  
Pin No.: EJ96-0096

**SECTION A - "ADMINISTRATION"**

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

Shelburne Farms, Inc.  
"Shelburne House"  
1611 Harbor Road  
Shelburne, Vermont 05482

is authorized to discharge treated domestic sewage from an existing disposal system serving Shelburne House, and three outbuildings, (the Annex, "glasshouse" and pottery building) at Shelburne Farms in Shelburne, Vermont, to the groundwater and indirectly to Lake Champlain. **This is a permit amendment that authorizes the construction and operation of two new drip disposal fields (zones) in addition to the existing field subject to the construction conditions contained in Section C, the operating conditions contained in Section D and the monitoring and reporting requirements contained in Section E. There is no increase in disposal authorized by this permit above the 8,500 gallons per day previously approved.**

A1. Permit Summary:

Expiration Date	June 30, 2017
Type of Waste	Domestic Sewage
Treatment System	Septic Tanks and Buried Sand Filter
Disposal Systems	Land Application combined with dairy wastes utilizing a manure slurry system <i>Drip Disposal Network (3 Zones)</i>
Town	Shelburne
Drainage Basin	Upper Lake Champlain
Receiving Water	Lake Champlain
Sand Filter Design Flow	8,500 gpd

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	March 31, 2017
D1(A) Submit a schedule of fields to be used for land spreading	Annually by April 1 <sup>st</sup>
<b>D1(B) Check operation of index valve</b>	<b>Once Monthly (minimum)</b>
D3(A) Have a Vermont Registered Professional engineer complete an inspection of sewage collection, treatment and disposal system.	Annually during May
D3(B) Submit Annual Inspection Report	Annually by July 1 <sup>st</sup>
D3(C) Submit schedule for implementing required repairs and maintenance	Annually by July 1 <sup>st</sup>
D4. Pump septic tanks and grease traps	As specified
E1. Measure influent flow volume Collect and analyze influent samples	Daily Monthly
E2. Measure effluent flow volume Collect and analyze effluent samples	Daily Monthly
E1,E2. Submit results of measurements and analyses	As specified
E3. Check depth of ponding in sand filter	Weekly
E4. Check depth of water inside curtain drain	Weekly
E4. Check groundwater monitoring wells in and around drip disposal field	Once every seven days (minimum)

A2. Compliance Schedule (continued):

<u>Condition # &amp; Description</u>	<u>Schedule Date</u>
E3, E4. Submit results of measurements	By the 15 <sup>th</sup> of the following month
E5. Submit land spreading dates, volumes, fields & monitors used.	By the 15 <sup>th</sup> of the following month

A3. Expiration Date:

This permit, unless revoked, or amended shall be valid until June 30, 2017 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 March 31, 2017. 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 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 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. 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(s) 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 to increase the monitoring frequency in accordance with Condition E(8) of this permit.

A8. Indirect Discharge Rules:

This permit authorizes an existing indirect discharge.

This indirect discharge was reviewed and qualified for an Indirect Discharge Permit in accordance with Section 14-406 (c) of the Indirect Discharge Rules for existing indirect discharges of sewage. No increase in sewage volume is allowed without the written approval of the Secretary.

A9. Right of 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;

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. Minor Modifications To System:

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

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

A12. Correction of Failed Systems:

The Secretary may, upon discretion, 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:

This existing indirect discharge is located in the Upper Lake Champlain drainage basin in the town of Shelburne, Chittenden County, Vermont. The indirect discharge can be located on the USGS Willsboro, New York-Vermont 7.5' quadrangle map at Latitude N 44°23'40" and Longitude W 73°16'15".

### B2. Nature of Indirect Discharge:

According to the approved designs, in place of conventional secondary treatment unit operations and processes, the system was constructed with two 2,500 gallon septic tanks and a buried sand filter.

Groundwater seepage over the sand filter liner and precipitation on the filter surface has added to the volume of effluent pumped from the sand filter to the manure slurry pit in the past. A curtain drain was installed along the eastern extremity of the sand filter in October, 1991 and extended around the entire perimeter in November, 1994 to reduce the amount of groundwater seepage.

Originally approved as an innovative system, Indirect Discharge Permit amendment ID-9-0177-1 acknowledged that the treatment and disposal system were no longer considered innovative and removed the requirement for maintaining the ability to replace the system with a conventional spray disposal system.

Modifications to the system were completed in 2005 consisting of a two tank dosing siphon, additional grease tankage, and a second sand filter. The treated effluent is combined with dairy processing waste from the manufacture of cheese and manure slurry and stored in two lagoons near the dairy barn. The waste is disposed of by spreading on agricultural land using a manure slurry system. During the period of record from 2007-2011 the system has generally met the effluent limits specified in Condition D(2).

In 2011 the permittee received approval for a pilot drip disposal system to determine whether this methodology could be used to dispose of the majority of the treated sewage effluent. ***This permit amendment authorizes the continuing use of that drip disposal field and the construction and operation of two additional drip disposal fields identified as Zone B and Zone C, subject to the construction conditions contained in Section C, the operating conditions contained in Section D and the monitoring and reporting requirements contained in Section E.***

## **SECTION C "SYSTEM APPROVALS"**

### **C1. Previous Approvals:**

The plans approved in the permit prepared by Harrington Engineering and Wagner, Heindel and Noyes, were:

- a. Sheet C1, entitled "Wastewater Treatment System General Site Layout", dated March 6, 1986, last revised September 18, 1986;
- b. Sheet C2, entitled "Pump Station at Main House", dated February 27, 1986, last revised September 18, 1986;
- c. Sheet C3, entitled "Lagoon and Spray Pump Station at Dairy Barn", dated February 27, 1986, last revised September 18, 1986;
- d. Sheet C4, entitled "Proposed Spray Irrigation Sites," dated February 27, 1986, last revised September 18, 1986;
- e. Sheet C5, entitled "Main House Wastewater Details", dated February 27, 1986, last revised September 18, 1986;
- f. Sheet C6, entitled "Dairy Barn Wastewater Details," dated May 2, 1986, last revised September 7, 1986;
- g. Sheet C7, entitled "Sand Filter Details", dated February 27, 1986, last revised September 18, 1986;
- h. Sheet C8, entitled "Back Up Spray System Details," dated February 27, 1986, last revised August 16, 1986;
- i. Final Design Engineering Specifications, entitled, "Contract Specifications for Shelburne Farms", dated May, 1986 and last revised September 11, 1986;
- j. Design calculations prepared by Robert S. Harrington and dated September 18, 1986;
- k. The Manure Slurry Management Plan prepared by Wagner, Heindel and Noyes, dated August 25, 1986, including a keyed inventory map of all disposal fields.

The system was approved to be constructed according to these plans.

C2. Other Approved Submittals:

The following additional submittals have been approved as amendments and additions to plans previously approved:

- a. A drawing by Heindel and Noyes entitled, "Slow Sand Filter Monitor Well Locations", dated April 22, 1997;
- b. An orthophoto map produced by Heindel and Noyes entitled, "Cropland Map" dated March 11, 1997 showing locations of disposal fields and monitoring well locations.

C3. Approved Plans for New Grease Traps, Effluent Filter Basin, Dosing Siphon and Sand Filter:

The new grease traps, effluent filter basin, dosing siphon and sand filter were reportedly installed generally in accordance with the following plans and specifications stamped and signed by Bernard X. Chenette:

Sheet 1 of 3 entitled, "Sewage Disposal System Site Plan" dated April 26, 2005;

Sheet 2 of 3 entitled, "Sand Filter Details" dated April 26, 2005, last revised August 10, 2005; and

Sheet 3 of 3 entitled, "Grease Traps, Dosing Siphon, and Effluent Filter Details" dated May 4, 2005, last revised August 10, 2005;

A partial Certification of Construction was received on February 23, 2006. Supplemental information regarding tankage leakage testing was received on May 19, 2006.

See also the Record Drawing entitled "Shelburne Farms – Shelburne House Wastewater Disposal System Site Plan" dated February 16, 2006.



C4. Previously Approved Plans for Drip Disposal System:

The drip disposal system was reportedly installed in accordance with the following plans and specifications prepared by Heindel and Noyes, Inc. The system construction certification was provided by Shane M. Mullen, P.E., of Engineered Solutions, Inc. with modifications to the system listed in the Certification of Construction dated 11/5/2010:

- (1) Shelburne House Drip Disposal Site Plan – Shelburne Farms, Shelburne, Vermont dated 4-29-10;
- (2) Details – Shelburne Farms, Shelburne, Vermont dated 4-29-10; and
- (3) The document entitled “Shelburne Farms, Shelburne, Vermont – Experimental Drip Disposal System Site Evaluation and Basis of Design dated May 5, 2010.

and the following engineering plan stamped and signed by Bernard X. Chenette, P.E. entitled, “Shelburne Farms, Shelburne, Vermont – Effluent Pump Station Detail for Drip Disposal Pump Controls” dated 2-17-2012.

On January 26, 2015 the permittee submitted Record Drawings for the following plans:

- (1) “Shelburne Farms – Shelburne House – Proposed Drip Disposal Modifications” stamped by Bernard X. Chenette, P.E., and dated December 23, 2011.
- (2) Shelburne House Drip Disposal Site Plan – Shelburne Farms, Shelburne Vermont dated 4-29-10.
- (3) Details – Shelburne Farms, Shelburne, Vermont dated 4-29-10.
- (4) Effluent Pump Station Detail For Drip Disposal Pump Controls stamped by Bernard X. Chenette, P.E., and dated February 17, 2012.

**C5. Approved Plans for 2016 Drip Disposal Fields Zone B and Zone C:**

***The 2016 drip disposal field shall be installed in accordance with the following plans and specifications stamped by Michael A. Smith, P.E., of Weston & Sampson and approved by the Secretary:***

***Sheet 1 of 3 [C-1] entitled “Drip Disposal Field Overall Site Plan” dated 4/11/2016;***

***Sheet 2 of 3 [C-2] entitled “Drip Disposal Field Disposal Area Site Plan” dated 4/11/2016;***

***Sheet 3 of 3 [D-1] entitled “Drip Disposal Field Expansion Details” dated 4/11/2016; and***

***the design details and specifications contained in Appendix A of the amendment application dated January 29, 2016.***

***No changes shall be made to the approved plans, details and specifications without the written permission of the Secretary.***

**C6. Construction Inspection and Certification:**

***The permittee shall contract with a Vermont registered professional engineer to provide inspection of the installation of all components of the proposed modifications to the drip disposal system. The engineer shall submit construction inspection reports on a weekly basis with the first report within seven days of the initiation of construction. Upon completion of construction the engineer shall test the system to verify that it is operating as designed, including a test of the flushing of the lines, and include a statement in the certification that the system operates as designed. The engineer shall provide certification that the components were installed in accordance with the plans and specifications referenced in Condition C5 above. The certification shall be submitted to the Secretary for review and approval prior to any discharge to the modified drip disposal system.***

## 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; and (4) not result in a violation of the Vermont Water Quality Standards.

In accordance with accepted design practices, the sewage influent to the sand filter shall not exceed 8,500 gallons per day except as may occur on an occasional basis during normal operation.

#### (A) Land Application Via Manure Slurry

Land application of the effluent utilizing a manure slurry operation shall be operated at all times in accordance with the following:

1. All landspreading shall maintain an isolation distance of a minimum of 200 feet from any public activity.
2. Landspreading shall only take place on areas where there is no snow cover and no accumulated frost in the ground.
3. The total effluent applied to a field shall not exceed two inches in any seven day period.
4. Landspreading shall only take place on fields where a monitoring well in reasonable proximity and in similar soil type and elevation, indicates groundwater is twelve (12) inches or more below the ground surface.
5. All land used for disposal may not be used as pasture for a minimum of twenty (20) days after application.\*

\*Based on test data showing that the sand filter removed beef tape worm cysts, it is not necessary to dry store hay from land used for application for 6-8 months before use as feed.

D1. General Operating Requirements (continued):

6. By April 1 of each year, the permittee shall submit to the Secretary a proposed schedule for the use of fields for manure slurry application. The schedule shall indicate the monitoring wells which will be measured according to Condition E(5) of this permit. Any additions or changes to the proposed schedule for the use of fields for manure slurry application are required be submitted to the Secretary.

(B) Discharge to Drip Disposal Network

The discharge of the effluent via the drip disposal network shall be operated at all times in accordance with the following:

1. ***Each zone of the drip disposal field shall not be loaded at a rate exceeding 0.6 gpd/ft<sup>2</sup> or 8,500 gallons per day for all three zones.***
2. The drip disposal area shall be visually inspected on a weekly basis during the operational period to verify that no surfacing of treated effluent is occurring.
3. The depth to groundwater in the ***twelve*** monitoring wells in and around the drip disposal zones shall be checked at least once every seven (7) days to verify ***that groundwater is at a depth below ground surface that provides an unsaturated zone of at least 12" beneath any emitters before and as a result of any groundwater mounding due to the discharge.***

If the minimum 12" unsaturated zone is not present, drip disposal must cease until it is present and can be maintained even with any groundwater mounding due to the discharge.
4. The permittee shall not allow vehicles to operated over the drip disposal network area.
5. ***At least once per month while the drip disposal system is in operation, the permittee shall check the operation of the 3-outlet index valve to ensure that the valve is operating properly and the zones are being loaded on an equivalent basis. The permittee shall report on the operation of the index valve in each monthly report.***

D2. Effluent Limits:

The effluent prior to entering the manure slurry system or discharged to the drip disposal system shall comply at all times with the following limits:

<u>Parameter</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>
Sewage Flow to Sand Filter	N/A	N/A	8,500 gpd
BOD <sub>5</sub>	30 mg/L	45 mg/L	50 mg/L
TSS	30 mg/L	45 mg/L	50 mg/L
Total Chlorine residual	N/A	N/A	4.0 mg/L (min-total) or 1.0 mg/L (min-free)
<u>Escherichia coli</u>	N/A	N/A	77 colonies/100mL

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D3. Annual Inspection, Report and Implementation Schedule:

A. Annual Inspection

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

1. inspecting the entire collection system, removing manhole covers to observe the condition of the sewers and manholes, and noting any signs of inflow or excess infiltration;
2. verification of the proper operation of system components, including the septic tanks, effluent filters, grease traps, dosing station siphons, the slow sand filters, all meters, pump station pumps, alarms, and controls, **drip disposal field index valve, air/vacuum breaker valves**, and the chlorinator;
3. walking the area of the drip disposal system checking the condition of the area and noting any problems or unusual vegetation;

D3. Annual Inspection (continued):

4. noting any necessary repairs or maintenance that needs to be performed on the sewage collection and treatment system;
5. an evaluation of the past year's effluent flow records, monitoring results and compliance with the effluent limits;
6. an evaluation of the past year's application records and a summary of the volume applied on each field;
7. an evaluation of the past year's drip disposal records, groundwater level measurements and the volume applied daily and for the year for each zone of the drip disposal field; and
8. evaluating the alternation of the old and new sand filter systems and ensuring that the alternations are occurring as scheduled.

B. Annual Inspection Report

Before July 1<sup>st</sup> each year the permittee shall have a professional engineer submit an annual report to the Secretary 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

Before July 1<sup>st</sup> each year the permittee shall notify the Secretary in writing stating how the engineer's recommendations are to be implemented and include a schedule for the required repairs and maintenance.

D4. Septage Disposal:

The septic tanks and the grease traps in the system shall be pumped out when recommended by the engineer in their annual inspection report. Before pumping the tanks the permittee shall notify the Secretary in writing of the name and address of the pumper and the municipal sewage treatment facility where the septage is to be disposed or other facility approved by the Secretary.

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. Operator Certification:

The permittee is required at all times during the operation of this treatment and disposal system to employ an operator with a minimum Grade I Operator Certificate from the Secretary Water Pollution Control Operator Certification Program.

The permittee shall notify the Agency in writing of any change in the operator employed to operate the treatment facility and shall submit the name to the Secretary in writing.

**SECTION E "MONITORING"**

E1. Influent Monitoring:

Starting on the effective date of this permit during the days of operation of the Shelburne House, the influent to the sand filter shall be measured and after the septic tank shall be sampled and analyzed as follows:

<u>Parameter</u>	<u>Measurement Units</u>	<u>Sample Frequency</u>	<u>Sample Type</u>
Flow	gallons/day	Daily	Daily total
BOD <sub>5</sub>	mg/L	Monthly	Grab
TSS	mg/L	Monthly	Grab

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The results of the influent analyses shall be submitted to the Secretary prior to the 15<sup>th</sup> day of the second month following the date of sampling. Flow readings should be taken at about the same time each day and flow records should be submitted by the 15<sup>th</sup> of the month following the date of recording.

E2. Effluent Monitoring:

Starting on the effective date of this permit during the days of operation of the Shelburne House, the effluent from the sand filter after chlorination but prior to disposal in the manure slurry system or the drip disposal system, shall be sampled and analyzed as follows:

<u>Parameter</u>	<u>Measurement Units</u>	<u>Sample Frequency</u>	<u>Sample Type</u>
Flow to Manure Slurry System	gallons/day	Daily	Daily total
Flow to Drip Disposal System	gallons/day	Daily	Daily total
BOD <sub>5</sub>	mg/L	Monthly	Grab
TSS	mg/L	Monthly	Grab



E2. Effluent Monitoring (continued)

<u>Parameter</u>	<u>Measurement Units</u>	<u>Sample Frequency</u>	<u>Sample Type</u>
Total Phosphorus	mg/L	Monthly	Grab
Total Dissolved Phosphorus	mg/L	Monthly	Grab
Nitrate (as N)	mg/L	Monthly	Grab
Chlorides	mg/L	Monthly	Grab
Total Chlorine <sup>1</sup> Residual	mg/L	Monthly	Grab
<u>Escherichia coli</u> <sup>1</sup>	colonies/100mL	Monthly	Grab

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<sup>1</sup>These samples should be taken just prior to the effluent entering the manure slurry lagoon or discharged to the drip disposal system.

A sample is required to be taken in any month a discharge occurs. If a discharge is directed to both systems in any given month, samples representative of the discharge to each system must be taken.

The results of the effluent analysis shall be submitted to the Secretary prior to the 15<sup>th</sup> day of the second month following the date of sampling. Flow readings should be taken at about the same time each day and flow records should be submitted by the 15<sup>th</sup> of the month following the date of recording.

E3. Sand Filter Monitoring:

The depth of ponding in the six (6) observation wells in each sand filter shall be measured in feet (to the nearest tenth) below the ground surface and recorded weekly during the days of operation of the Shelburne House. The results of the measurements shall be submitted to the Secretary prior to the 15<sup>th</sup> day of the month following the month of measurement.

E4. Groundwater Monitoring:

The depth of water in the two monitoring wells located between the curtain drain and the sand filter shall be measured in feet (to the nearest tenth) below ground surface and recorded weekly during the days of operation of the Shelburne House, to determine the effectiveness of the curtain drain. The results of the measurements shall be submitted to the Secretary prior to the 15<sup>th</sup> day of the month following the month of measurement.

E4. Groundwater Monitoring (continued):

For the drip disposal system:

The depth to groundwater measurements in the **twelve (12)** monitoring wells in and around the drip disposal system shall be measured at least every seven (7) days and the results submitted, along with other Operations Data, **on the “Drip Disposal Operations Data” form.**

Starting on the effective date of this permit during the days of operation of the drip disposal system, the groundwater in the **twelve (12)** monitoring wells in and around the drip disposal system shall be sampled and analyzed as follows:

<u>Parameter</u>	<u>Measurement Units</u>	<u>Sample Frequency</u>	<u>Sample Type</u>
Total Dissolved Phosphorus	mg/L	Monthly	Grab
Nitrate (as N)	mg/L	Monthly	Grab
Chlorides	mg/L	Monthly	Grab

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Sampling is required anytime a monitoring well has water as determined by the groundwater depth measurements required above. Only one sample from each well is required in any given month. The results of the groundwater analyses shall be submitted to the Secretary prior to the 15<sup>th</sup> day of the second month following the date of sampling.

E5. Monthly Report – Manure Slurry Disposal System:

The permittee shall keep accurate records of the quantity of sewage effluent combined with the manure slurry and dairy waste, the volume of waste land-applied on individual fields, the dates of application and the groundwater levels according to an identified monitoring well, under the fields on the dates of application. This report shall be signed by the Grade I operator or the President of Shelburne Farms and be submitted to the Secretary by the 15<sup>th</sup> day of the month following the month of application.

E6. Monthly Report – Drip Disposal System:

The permittee shall keep accurate records of the quantity of sewage effluent disposed of via the drip disposal system, the dates of disposal, groundwater levels and other operational data on the Drip Disposal Operations Data reporting form. The report shall be signed by the Grade I operator or the President of Shelburne Farms and be submitted to the Secretary by the 15<sup>th</sup> day of the month following the month of application.

E7. 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.

E8. 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 included on the Discharge Monitoring Report Form.

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.

E9. Monitoring Requirements:

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

**SECTION F "COMPLIANCE REVIEW"**

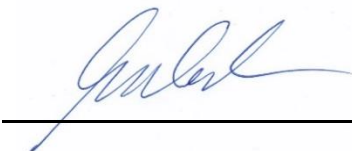
If the results of any inspection or monitoring indicate that a violation of the effluent disposal rate, or a violation of the Vermont Water Quality Standards, is occurring, or is likely to occur, the Secretary may require the permittee to take appropriate corrective actions to eliminate or reduce the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

The issuance of this permit amendment, ID-9-0177-1, to Shelburne Farms Inc., 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 Amendment, ID-9-0177-1, issued to Shelburne Farms, Inc., for the discharge of wastewater from the Shelburne House and three outbuildings located in Shelburne, Vermont is effective on this 25th day of May, 2016.

Alyssa B. Schuren, Commissioner  
Department of Environmental Conservation

By  \_\_\_\_\_

George Desch, Acting Director  
Drinking Water and Groundwater Protection Division