AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
1 NATIONAL LIFE DRIVE
MONTPELIER, VERMONT 05620-3522

DISCHARGE PERMIT AMENDMENT

Permit No. 3-1296
NPDES Number: VT0101214
ID-9-0006-1/ID-9-0027
PIN: NS88-0044

In compliance with the provisions of the Vermont Water Pollution Control Act as amended (hereinafter referred to as the "Act"), the provisions of 10 V.S.A.§ 1263, and the Vermont Water Pollution Control Permit Regulations, and the Federal Clean Water Act, as amended (33 U.S.C. §1251 et seq), the permittee:

Cold Brook Fire District No. 1
18 Coldbrook Road
Unit One
Wilmington, Vermont 05363

is authorized by the Secretary, Agency of Natural Resources, Montpelier, Vermont, to discharge treated domestic sewage from the Cold Brook Fire District No. 1 Wastewater Treatment Facilities indirectly through separate spray disposal fields, to Rose Brook and Haystack Brook, and after the use of these disposal systems have been maximized, effluent may be discharged directly to the North Branch of the Deerfield River in accordance with the conditions A(1) through A(9) of this permit.

This is one discharge permit which regulates two indirect discharges and one direct discharge.

This permit **amendment** shall be effective on the date of signing and shall expire on March 31, 2019.

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DISCHARGE PERMIT SUMMARY

This discharge permit authorizes the discharge of treated and disinfected domestic sewage directly to the North Branch Deerfield River and indirectly, via two spray disposal fields through groundwater, to Rose Brook and Haystack Brook only. The discharge permit has six parts:

PART A
This part contains the effluent limitations and monitoring requirements specific to the direct discharge to the North Branch Deerfield River.

PART B
This part contains operational and monitoring requirements specific to the Golf Course Tract Wastewater Treatment Facility located at the Golf Course Area of the Haystack Ski Area. The facility has a sewage treatment capacity of 49,026 gpd (however, see Condition B(2)(c) – Reserve Connection Capacity).

PART C
This part contains operational and monitoring requirements specific to the Base Area Tract Wastewater Treatment Facility located at the Base Area of the Haystack Ski Area. **This amendment increases the sewage treatment capacity of the Base Area Tract Wastewater Treatment Facility from 60,000 gpd to 85,000 gpd.**

PART D
This part contains the conditions and monitoring requirements specific to the Golf Course Tract Spray Disposal System which discharges indirectly, via groundwater, to Rose Brook. This indirect discharge is subject to the provisions of the Indirect Discharge Rules as they pertain to existing systems. The spray disposal field is adequate for 41,064 gallons per day.

PART E
This part contains the conditions and monitoring requirements specific to the Base Area Tract Spray Disposal System which discharges, indirectly, via groundwater, to Haystack Brook. This indirect discharge was originally authorized by the issuance of Indirect Discharge Permit ID-9-0006 on July 18, 1988 and as such must be in compliance with the Indirect Discharge Rules as they pertain to new and expanded discharges. **This amendment increases the spray disposal capacity of the Base Area Tract Spray Disposal System from 18,374 gpd to 30,000 gpd.**

PART F
This part contains general conditions and requirements which pertain to all treatment facilities and to both direct and indirect discharges.

PART A
DIRECT DISCHARGE TO NORTH BRANCH DEERFIELD RIVER

A1. SPECIAL CONDITIONS:

a. Effluent Limits - Summer (June 1 through October 31):

From the effective date of this permit until March 31, 2019, the permittee is authorized to discharge from S/N 001, outfall, Cold Brook Fire District #1, to the North Branch of the Deerfield River, an effluent whose characteristics shall not exceed the limitations listed below.

Effluent Characteristic	Daily Maximum	Daily Maximum (concentration)
Flow (gpd)	28,000 **(1)**	
Ultimate Oxygen Demand (UOD)	21 lbs/day **(2)**	
Biochemical Oxygen Demand (5-day, 20° C)		30 mg/L **(2)**
Total Suspended Solids (TSS)		30 mg/L
Total Kjeldahl Nitrogen (TKN)	Monitor only **(2)**	Monitor only **(2)**
Nitrite/Nitrate Nitrogen (NOx)	Monitor only	Monitor only
Total Nitrogen **(3)**	See Condition A5 below	See Condition A5 below
Total Phosphorus	Monitor only	Monitor only
Total Ammonia (as N)	Monitor only	Monitor only
Escherichia coli		77 col/100 ml
Total Residual Chlorine		0.10 mg/L **(4)**
Settleable Solids		1.0 ml/L **(4)**
pH		6.5 to 8.5 S.U.

Samples taken in compliance with the monitoring requirements specified above shall be collected at the effluent sampling station.

(1) The peak discharge rate through the chlorine contact chambers at the Golf Course Tract Sewage Treatment Facility shall not exceed an instantaneous flow rate of 47.2 gpm.

(2) The quantity of BOD_5 and TKN discharged shall be limited so as to not exceed the daily maximum limitation for Ultimate Oxygen Demand (UOD) specified above, or the BOD_5 concentrations specified above, whichever is more stringent.
UOD (in lbs/day) is calculated using the following equation:

UOD = Flow (MGD) x 8.34 x [(BOD5 (mg/L) x 1.43) + (TKN (mg/L) x 4.57)]

(3) Total Nitrogen = TKN + NOx where: $NOx = NO_2 + NO_3$

(4) Instantaneous Maximum

A1. SPECIAL CONDITIONS:

b. Effluent Limits - Winter (November 1 through May 31)

From the effective date of this permit until March 31, 2019, the permittee is authorized to discharge from S/N 001, outfall, Cold Brook Fire District #1, to the North Branch of the Deerfield River, an effluent whose characteristics shall not exceed the limitations listed below.

Effluent Characteristic	**Daily Maximum**	**Daily Maximum (concentration)**
Flow (gpd)	28,000**(1)**	
Biochemical Oxygen Demand (5-day, 20°C) (BOD_5)		30 mg/L
Total Suspended Solids (TSS)		30 mg/L
Total Kjeldahl Nitrogen (TKN)	Monitor only	Monitor only
NO_x	Monitor only	Monitor only
Total Nitrogen **(2)**	See Condition A4 below	See Condition A4 below
Total Phosphorus	Monitor only	Monitor only
Escherichia coli		77 col/100 ml
Total Residual Chlorine		0.10 mg/L **(3)**
Settleable Solids		1.0 ml/L **(3)**
pH		6.5 to 8.5 S.U.

Samples taken in compliance with the monitoring requirements specified above shall be collected at the effluent sampling station.

(1) The peak discharge rate through the chlorine contact chambers at the Golf Course Tract Sewage Treatment Facility shall not exceed an instantaneous flow rate of 47.2 gpm.

(2) Total Nitrogen = TKN + NO_x where: $NO_x = NO_2 + NO_3$

(3) Instantaneous Maximum

A2. GENERAL CONDITIONS:

a. Prior to initiating a direct discharge to the North Branch Deerfield River, the permittee shall have a Vermont Registered professional engineer inspect the cross-country effluent line and submit a report to the Agency on its suitability for use. The report shall be subject to the review and approval of the Secretary.

b. To assure proper operation of the wastewater treatment facility and full compliance with all the effluent limitations established by this permit during the construction of this Upgrade, the permittee shall implement the "Plan of Operation" included as part of the Basis of Design report approval memorandum dated May 5, 2014.

c. The Phase A Facility Upgrade (see Condition B.3.b and C.3.b) shall be considered complete when the permittee notifies the Agency, via an engineer's certification, that the construction of the upgrade is complete and upgraded facility is operational and is capable of providing additional treatment and complying with the applicable terms and conditions of this permit and the Agency issues written acknowledgement of its operational status. Record drawings shall be included as part of the engineer's certification. **The Certification of Construction and the As-Built Plans for the Phase A Upgrade – 2014 were reviewed and accepted by the Secretary on January 26, 2015.**

d. The effluent shall not cause or contribute to violations of the Water Quality Standards of the receiving waters.

e. The discharge shall not cause visible discoloration of the receiving waters.

f. The monthly average concentrations of BOD5 and total suspended solids (TSS) in the discharge shall not exceed 15 percent of the monthly average concentrations of BOD5 and TSS in the influent into the permittee's wastewater treatment facilities. For the purposes of determining whether the permittee is in compliance with this condition, samples from the influent and the effluent shall be taken with appropriate allowance for detention times.

g. When the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the permitted flow limitation, the permittee shall submit to the Secretary projected loadings and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

h. Per 40 CFR 122.62 (a) (2), the Secretary may modify a permit based on 'new information' not available at the time of permit issuance. Further study of the assimilative capacity and adoption of a wasteload allocation for the North Branch Deerfield River for the winter and spring trimesters shall provide such 'new information' and may warrant modification of this permit.

A3. WASTE MANAGEMENT ZONE:

In accordance with 10 V.S.A. Section 1252, this permit hereby established a waste management zone that extends from the outfall of the Cold Brook Wastewater Treatment Facility in the North Branch of the Deerfield River downstream 1.0 miles.

A4. TOTAL NITROGEN

a. Optimization Plan

By December 31, 2014, the permittee shall develop and submit to the Department for review and approval a Nitrogen Removal Optimization Evaluation Plan (the Plan) for the evaluation of alternative methods of operating the existing wastewater treatment facility to optimize the removal of nitrogen. The methods to be evaluated include, but are not limited to: operational, process, or equipment changes designed to enhance nitrification and denitrification (seasonal and year-round); incorporation of anoxic zones; septage receiving policies and procedures; and side stream management. The permittee shall implement these recommended operational changes in order to maintain the existing mass discharge loading of total nitrogen. The baseline annual average daily total nitrogen load discharge from this facility is estimated to be approximately 6 lbs/day.

This Plan shall be developed by a qualified professional with experience in the operation and/or design of municipal wastewater treatment facilities in conjunction with the Chief Operator of the facility.

This Plan shall be provided to the Agency for review and approval prior to implementation and shall be revised upon the Agency's request or by the Permittee to address equipment or operational changes.

Implementation of the Plan shall commence within 30 days of its approval by the Agency. **The plan was received on December 30, 2014.**

b. Reporting

Annually, beginning in January 2018, the permittee shall submit, a report to the Agency, as an attachment to the December Discharge Monitoring Report form (WR-43), that documents the annual average daily Total Nitrogen discharged (in pounds per day) from the facility, summarizes nitrogen removal optimization and efficiencies, and tracks trends relative to the previous year.

Total Nitrogen (TN) = Total Kjeldahl Nitrogen (TKN) + Nitrite/Nitrate (NOx).

TN pounds per day, annual average, shall be calculated as follows:

1. **Calculate the pounds of TN discharged on each sample date:**

   TN (lbs) = TN (mg/L) × volume discharged (MGD) on day of sample × 8.34

2. **Calculate the TN, pounds per day, annual average:**

   TN (lbs/day, annual average) = (Sum of all TN [lbs])/(count of TN samples)

c. Wasteload Allocation

The Agency reserves the right to reopen and amend this permit to include a Total Nitrogen effluent limitation to implement an adopted Wasteload Allocation for Total Nitrogen in the Connecticut River Watershed based on the Long Island Sound Total Nitrogen TMDL.

A5. MONITORING AND REPORTING

a. Sampling and Analysis

The sampling, preservation, handling, and analytical methods used shall conform to regulations published pursuant to Section 304(g) of the Clean Water Act, under which such procedures may be required. Guidelines establishing these test procedures have been published in the Code of Federal Regulations, Title 40, Part 136 (Federal Register, Vol. 56, No. 195, July 1, 1999 or as amended).

Samples shall be representative of the volume and quality of effluent discharged over the sampling and reporting period. All samples are to be taken during normal operating hours. The permittee shall identify the effluent sampling location used for each discharge.

b. Effluent Monitoring

i. From the effective date of this permit until March 31, 2019, the effluent discharged to the N. Br. Deerfield River shall be sampled and analyzed as follows:

Parameter	Measurement Frequency	Sample Type
Flow	Continuous	Daily total
UOD	Monthly	Calculated **(1)**
BOD5	Monthly	8 hour composite **(2,3)**
Total Suspended Solids (TSS)	Monthly	8 hour composite **(2)**
TKN	Monthly	8 hour composite **(2,3)**
NOx	Monthly	8 hour composite **(2)**
Total Nitrogen	Monthly	Calculated **(4)**
Total Phosphorus	Quarterly	8 hour composite **(2)**
Total Ammonia (as N)	Monthly	Grab **(5)**
Settleable Solids	Daily	Grab
Escherichia coli	Monthly	Grab **(6)**
pH	Daily	Grab
Total Chlorine Residual	2 x daily	Grab **(6)**

(1) UOD analysis only required from June 1 through October 31.
UOD = Flow (MGD) x 8.34 x [(BOD5 (mg/L) x 1.43) + (TKN (mg/L) x 4.57)]

(2) Composite samples shall be taken during the hours 6:00 am and 6:00 pm, unless otherwise specified. Eight hours is the minimum period for the composite.

(3) BOD5 and TKN analysis shall be conducted on the same sample.

(4) Total Nitrogen (TN) = TKN + Nitrite/Nitrate (NO_x).

(5) Total Ammonia analysis is only required from June 1 through October 31.

(6) On the day that the E. coli grab sample is collected, a daily total residual chlorine grab sample for that day shall be collected at the same time and location as the E. coli sample.

c. Influent Monitoring

The permittee shall monitor the quality of the influent according to the schedule and other provisions as specified in Conditions B(5)(b) and C(5)(b).

d. Reporting

The permittee is required to submit monthly reports of monitoring results on form WR-43. Reports are due on the 15th day of each month, beginning with the month following the effective date of this permit.

If, in any reporting period, there has been no discharge, the permittee must submit that information by the report due date.

Signed copies of these, and all other reports required herein, shall be submitted to the Secretary at the following address:

Agency of Natural Resources
Department of Environmental Conservation
Drinking Water and Groundwater Protection Division
1 National Life Drive Building 2 Main
Montpelier, Vermont 05620-3521

All reports shall be signed:

1. In the case of corporations, by a principal executive officer of at least the level of vice president, or his/her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the permit form originates;

2. In the case of a partnership, by a general partner;

3. In the case of a sole proprietorship, by the proprietor;

4. In the case of a municipal, State, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

In addition to the monitoring and reporting requirements given above, daily monitoring of certain parameters for operational control are required by the Agency. Operations reports (reporting form WR-43) shall be submitted monthly.

e. Recording of Results

The permittee shall maintain records of all information resulting from any monitoring activities required, including:

1. The exact place, date, and time of sampling;

2. The dates and times the analyses were performed;
3. The person(s) who performed the analyses;
4. The analytical techniques and methods used including sample collection handling and preservation techniques;
5. The results of all required analyses.
6. The records of monitoring activities and results, including all instrumentation and calibration and maintenance records;
7. The original calculation and data bench sheets of the operator who performed analysis of the influent or effluent pursuant to requirements of this permit.

The results of monitoring requirements shall be reported (in the units specified) on the Vermont reporting form WR-43 or other forms approved by the Secretary.

f. Additional Monitoring

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form WR-43. Such increased frequency shall also be indicated.

A6. OPERATION, MANAGEMENT, AND EMERGENCY RESPONSE PLANS

a. The permittee shall implement the Operation, Management, and Emergency Response Plan for the wastewater treatment facility, pump stations, and stream crossings as approved by the Agency on December 26, 2008.

b. The permittee shall implement the Operation, Management, and Emergency Response Plan for the wastewater collection system as approved by the Agency on November 10, 2010.

A7. AGENCY REVIEW:

Any action on the part of the Agency of Natural Resources in reviewing, commenting upon, or approving plans and specifications for the construction of wastewater treatment facilities shall not relieve the permittee from their responsibility to achieve the effluent limitations set forth in this permit and shall not constitute a waiver of, or act of estoppel against, any remedy available to the Agency, the State of Vermont, of the Federal Government for failure to meet any requirement set forth in this permit or imposed by State or Federal law.

A Wastewater System and Potable Water Supply permit may be required prior to connection to any of the wastewater collection, treatment and disposal facilities. Connection approval by the Secretary will be required for all connections to any of the wastewater collection, treatment and disposal facilities.

A8. BYPASS OF WASTEWATER TREATMENT FACILITIES:

The diversion or bypass of any discharge from the treatment works and/or sewerage system (e.g. pump stations) by the permittee is prohibited. Such diversions or bypasses will be authorized if the permittee apply for and obtain an Emergency Pollution Permit (see Paragraph A(9) below) under the provisions of 10 V.S.A. Chapter 47, Section 1268.

A9. EMERGENCY POLLUTION PERMITS:

Maintenance activities, or emergencies resulting from equipment failure or malfunction, including power outages, which result in an effluent which exceeds the effluent limitations specified herein, shall be considered a violation of the conditions of this permit, unless the permittee immediately applies for, and obtains, an emergency pollution permit under the provisions of 10 V.S.A., Chapter 47, Section 1268. The permittee shall notify the Secretary of the emergency situation by the next working day.

10 V.S.A., Chapter 47, Section 1268 reads as follows:

"When a discharge permit holder finds that pollution abatement facilities require repairs, replacement, or other corrective action in order for them to continue to meet standards specified in the permit, he may apply in the manner specified by the secretary for an emergency pollution permit for a term sufficient to effect repairs, replacements or other corrective action. The permit may be issued without prior public notice if the nature of the emergency will not provide sufficient time to give notice; provided that the secretary shall give public notice as soon as possible but in any event no later than five days after the effective date of the emergency pollution permit.

No emergency pollution permit shall be issued unless the applicant certifies and the Secretary finds that:

(a) there is no present, reasonable alternative means of disposing of the waste other than by discharging it into the waters of the State during the limited period of time of the emergency;

(b) the denial of an emergency pollution permit would work an extreme hardship upon the applicant;

(c) the granting of an emergency pollution permit will result in some public benefit;

(d) the discharge will not be unreasonably harmful to the quality of the receiving waters;

(e) the cause or reason for the emergency is not due to willful or intended acts or omissions of the applicant."

Application shall be made to the Secretary of the Agency of Natural Resources, Department of Environmental Conservation, Watershed Management Division, 1 National Life Drive, Montpelier, Vermont 05620-3522.

PART B - GOLF COURSE TRACT WASTEWATER TREATMENT FACILITY

B1. SUMMARY:

The Golf Course Tract Wastewater Treatment Facility currently consists of a two cell aerated lagoon treatment system. The original treatment capacity was 40,142 gallons per day (gpd) while maintaining a storage capacity of 1,613,708 gallons. The storage in the system is considered "vertical storage" in that it exists on top of the eight feet of lagoon depth required for treatment. This storage was originally required for periods during the year when spray disposal was not possible (e.g. spring runoff, high groundwater table, etc.)

The Indirect Discharge Rules require that the permittee maintain a storage volume equivalent to 30 days of spray effluent disposal at the Golf Course Tract Treatment Facility. Therefore, the storage volume required is 1,231,920 gallons [30 days x 41,064 gpd; however, see Condition B(2)(c)].

Because there is additional lagoon volume for treatment due to the decreased volume of storage required, the Golf Course Tract Treatment Facility currently has a treatment capacity of 49,026 gpd. Treatment capacity at the Golf Course Tract may be increased as provided for under Condition B(2)(c) – Reserve Connection Capacity.

Before any discharge to the N. Branch Deerfield River, the effluent from the Golf Course Treatment Facility must be dechlorinated to reduce the total residual chlorine in the effluent to 0.1 mg/L. In addition, any discharge from the Golf Course Tract Treatment Facility which is disposed of in the sprayfield must have a total residual chlorine of 4 mg/L at the spray nozzle (or 1.0 mg/L free chlorine residual).

Under the provisions of this discharge permit, the effluent from the Golf Course Tract Wastewater Treatment Facility can be disposed of in either of two ways:

a. Disposal in the Golf Course Tract Sprayfield and indirectly, through groundwater, to Rose Brook (See PART D).

b. Direct discharge to the North Branch Deerfield River (see PART A). Before any effluent may be discharged directly to the North Branch Deerfield River the permittees must first maximize the effluent disposal capacity of the Golf Course Tract Spray Area in accordance with the conditions of PART B and the Base Area Tract Spray Area in accordance with the conditions of PART C. The maximizing of effluent by spraying and use of available effluent storage is required in accordance with PART F, Condition F(1).

B2. ADMINISTRATION

a. Compliance Schedule Summary:

The following schedule summarizes the actions and requirements necessary for compliance with the conditions of this permit specific to the operation and maintenance of the Golf Course Tract Wastewater Treatment Facility. The permittee shall complete the requirements in accordance with the dates indicated. See the designated section for specific details.

Condition # & Description	Schedule Date
B3 Complete system construction	As Specified
B5(a) Submit updated QA/QC Plan	By September 30, 2017
B5(b) Collect and analyze influent and effluent samples	As Specified
B5(c) Sample lagoon monitoring wells/lagoon underdrains	Quarterly (Feb., June, Sept. Dec.)
B5(d) Submit results of monitoring and analyses to the Secretary	By the 15th of the second month following the date of sampling.

b. Modifications and Additions to System:

Modifications and additions to the treatment system require the permittee to submit plans and an application for an Amendment to the Discharge Permit to the Secretary. These plans and application must be approved and permitted by the Secretary before any of the modifications or additions are to be made.

c. Reserve Connection Capacity:

The reserve capacity for additional construction will be determined by subtracting the highest monthly average flow during the previous year from the design flow for this treatment and disposal facility. Connections will be authorized using design sewage flows contained in the Environmental Protection Rules, Chapter 1, Wastewater System and Potable Water Supply Rules (as amended) or other flows as determined by the Secretary and the calculated reserve capacity for this treatment facility.

Before the capacity assigned to approved units is removed from the committed reserve capacity, the units must have been connected and occupied during the previous winter trimester.

If the Secretary determines that there is no reserve capacity for additional connections based on the method outlined above, the permittee will be allowed to convert the equivalent of 10-days of effluent storage capacity to treatment capacity. The treatment capacity would be added to the bottom 9.5 feet of the lagoon dedicated for this purpose. From that point forward, the permittee will be required to maintain 20-days of effluent storage volume in the system (= 821,280 gallons)."

B3. SYSTEM CONSTRUCTION

a. Approved Plans:

A listing of the previously approved plans for the Golf Course Wastewater Treatment Facility can be found in a previous Fact Sheet (July, 1999) for this permit.

b. Phase A Upgrades:

The system improvements under Phase A, authorized as part of the Basis of Design report approval memorandum dated May 5, 2014, shall be constructed under the inspection of a Vermont-registered professional engineer and in accordance with the plans listed in the attachment for the May 5, 2014 approval memorandum. No changes shall be made to the plans as listed without the approval of the Secretary. Following completion of construction at the Golf Course WWTF, the Engineer shall certify in writing to the Secretary that the construction is complete and was built in accordance with approved plans and specifications and under the engineer's inspection, and submit as-built plans for the system. Any results of testing as required shall be submitted as part of the inspecting engineer's certification of construction. The engineer's certification of construction shall be subject to the review and acceptance of the Secretary. **The Certification of Construction and the As-Built Plans for the Phase A Upgrade – 2014 were reviewed and accepted by the Secretary on January 26, 2015.**

c. Lining of Golf Course Wastewater Treatment Facility Lagoons

The permittee shall install impermeable liners and underdrain systems in the existing Golf Course Wastewater Treatment Facility Lagoons, after obtaining all necessary permits, in accordance with the following schedule:

ACTION	DATE
Submit Final Plans and Specifications for Lining Golf Course Wastewater Treatment Facility Lagoons	Prior to Phase B of facility upgrade
Start Construction	As part of Phase B of facility upgrade
Complete Lagoon Lining Construction and Achieve Operational Status	Upon Completion of Phase B of facility upgrade

B4. SYSTEM OPERATION

a. Spray Effluent Limits:

The sewage treatment system shall be operated at all times to comply with the spray effluent limitations listed in Part D.

b. Lagoon Freeboard Requirement:

A three (3) foot freeboard shall be maintained in the combined treatment/storage ponds at all times.

B5. MONITORING AND REPORTING

a. Quality Assurance/Quality Control Plan:

The laboratory identified in the Quality Assurance/Quality Control Plan (QA/QC Plan) 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. By September 30, 2017, the permittee shall submit an updated QA/QC Plan to the Secretary for review and approval.

b. Influent and Spray Effluent Monitoring:

From the effective date of this permit, the Golf Course Tract Wastewater Treatment System influent and effluent for spray disposal shall be sampled and analyzed as follows:

Parameter	**Location**	**Measurement Frequency**	**Sample Type**
Flow volume	influent and spray effluent	continuous	daily total
BOD(5)	influent and spray effluent	monthly	8 hour composite (1)
Total Suspended Solids (TSS)	influent and spray effluent	monthly	8 hour composite (1)
TKN	spray effluent	monthly	8 hour composite (1)
Escherichia coli	spray effluent	monthly	grab (2)
pH	influent and spray effluent	monthly	grab
Total Chlorine Residual	spray effluent	2 x daily	grab (2)
Total Ammonia (as N)	spray effluent	monthly	grab
Nitrate	spray effluent	monthly	8 hour composite (1)
Nitrite	spray effluent	monthly	8 hour composite (1)
Total Phosphorus	effluent	monthly	8 hour composite (1)
Total Dissolved Phosphorus	effluent	monthly	8 hour composite (1)
Chloride	effluent	monthly	8 hour composite (1)
Treatment Pond	staff gauge	weekly	Levels

(1) Composite samples shall be taken during the hours 6:00 am and 6:00 pm, unless otherwise specified. Eight hours is the minimum period for the composite.
(2) On the day that the E. coli grab sample is collected, the daily total residual chlorine grab sample for that day shall be collected at the same time and location as the E. coli sample.

c. Groundwater Monitoring: Lagoon Monitoring Wells and Underdrains:

Until the lagoons have been lined during Phase B of the facility upgrade, the permittee shall record the depth to groundwater in the two groundwater monitoring wells adjacent to the treatment facility lagoons on a weekly basis. The permittee shall collect and analyze groundwater samples during the months of February, June, September and December for the following:

Nitrate-Nitrite Total Dissolved Phosphorus Chloride pH

Following construction of impermeable liners and underdrain systems in the Golf Course Tract wastewater treatment lagoons, the permittee shall monitor each underdrain for the parameters listed above during the months of February, June, September and December.

d. Sampling Requirements:

1. Samples and measurements as required herein shall be representative of the volume and nature of the monitored discharge.

2. All grab or composite samples required to be taken less frequently than daily shall be taken between the hours of 6:00 am and 6:00 pm during the period of Monday through Friday, inclusive, unless otherwise specified.

3. If there is no spray effluent discharge in a given month, then a spray effluent s ample is not required to be taken during that month. Influent sampling is still required.

e. Reporting Requirements:

The permittee is required to submit monthly reports of monitoring results on form WR-43. Reports are due on the 15th day of the second month following the date of sampling or measurement. If, in any reporting period, there has been no discharge, the permittee must submit that information by the report due date.

Signed copies of these, and all other reports required herein, shall be submitted to the Secretary at the following address:

Agency of Natural Resources
Department of Environmental Conservation
Drinking Water and Groundwater Protection Division
1 National Life Drive Main-2
Montpelier, Vermont 05620-3521

In addition to the monitoring schedule and reporting requirements given above daily monitoring of certain parameters for operational control are required by the Agency. Operations reports (reporting form WR-43) shall be submitted monthly.

PART C - BASE AREA TRACT WASTEWATER TREATMENT FACILITY

C1. SUMMARY:

The Base Area Tract Wastewater Treatment Facility currently consists of an aerated/facultative treatment lagoon with a total volume, below the three-foot freeboard level, of **1,400,000** gallons and an effluent holding lagoon with a total volume, below the three foot freeboard level, of **1,400,000** gallons.

The current treatment capacity of the system, as modified by the addition of a floating baffle in the first (treatment) lagoon, is 60,000 gpd which was achieved by providing a new aeration system and expanding the volume of the lagoon to 1.4 million gallons.

In order to increase the treatment capacity of the system to 85,000 gpd, a new floating baffle will be installed in Lagoon 2 which will serve to increase detention time in the system and allow for additional treatment. This will convert Lagoon 2 from a storage lagoon to a treatment lagoon, resulting in no effluent storage capacity at the Base Area Tract Wastewater Treatment Facility. This is only allowed because the permittee has authorization to discharge treated effluent to the North Branch of the Deerfield River when spraying is not permitted.

In lieu of field-verifying kinetic reaction rates in each lagoon cell during the winter months when sampling may not be practical or safe, the permittee is required to collect and analyze effluent samples from the discharge on a weekly basis to determine compliance with effluent limits. Lagoon covers will also need to be installed if the permittee cannot achieve spray effluent limits in the winter months. See Condition C(5)(b).

Any discharge from the Base Area Treatment Facility which is disposed of in the sprayfield must have a total residual chlorine of 4 mg/L at the spray nozzle (or 1.0 mg/L free chlorine residual). However, these minimal concentrations for spray effluent will not apply if the permittee chooses to utilize disinfection prior to effluent storage as allowed under §14-1705(a)(2) of the Indirect Discharge Rules, effective April 30, 2003.

Under the provisions of this discharge permit, the effluent from the Base Area Tract Treatment Facility can be disposed in three ways:

a. Disposal in Base Area Tract Sprayfield and indirectly, through groundwater, to Haystack Brook (see Part E).
b. Disposal in Golf Course Tract Sprayfield (after passage through the Golf Course Tract Blending Tank) and indirectly, through groundwater, to Rose Brook (see Part D).
c. Direct discharge to the North Branch Deerfield River (after passage through the Golf Course Tract Blending Tank) via the Golf Course Tract WWTF chlorination and dechlorination facilities (see Part A).

C2. ADMINISTRATION:

a. Compliance Schedule Summary:

The following schedule summarizes the actions and requirements necessary for compliance with the conditions of this permit specific to the operation and maintenance of the Base Area Tract Wastewater Treatment Facility. The permittee shall complete the requirements in accordance with the dates indicated. See the designated section for specific details.

Condition # & Description	Schedule Date
C5a Submit updated QA/QC Plan	By September 30, 2017
C5(c) Collect and analyze influent and effluent samples	As specified
C5(d) Collect and analyze lagoon underdrain samples	Quarterly (Feb., June, Sept. and Dec.)
C6(f) Submit results of monitoring and analyses	By the 15th of the second month following the date of sampling or measurement

Note: Additional sampling is required when influent flows equal or exceed 48,000 gpd in conjunction with the requirements of C(5)(b) below.

b. Modifications and Additions to System:

Modifications and additions to the treatment system require the permittee to submit plans and an application for an Amendment to the Discharge Permit to the Secretary. These plans and application must be approved and permitted by the Secretary before any of the modifications or additions are to be made.

c. Reserve Connection Capacity:

The reserve capacity for additional construction will be determined by subtracting the highest monthly average flow during the previous year from the design flow for this treatment and disposal facility. Connections will be authorized using design sewage flows contained in the Environmental Protection Rules, Chapter 1, Wastewater System and Potable Water Supply Rules, or other flows as determined by the Secretary and the calculated reserve capacity for this treatment facility.

Before the capacity assigned to approved units is removed from the committed reserve capacity, the units must have been connected and occupied during the previous winter trimester.

C3. SYSTEM CONSTRUCTION:

a. Approved Plans:

A listing of the previously approved plans for the Base Area Tract Wastewater Treatment Facility can be found in a previous Fact Sheet (July, 1999) for this permit.

b. **Phase A Upgrade - 2014:**

The system improvements under Phase A - 2014, authorized as part of the Basis of Design report approval memorandum dated May 5, 2014, were constructed under the supervision of a Vermont-registered professional engineer and in accordance with the plans listed in the attachment for the May 5, 2014 approval memorandum. The Certification of Construction and the As-Built Plans for the Phase A Upgrade – 2014 were reviewed and accepted by the Secretary on January 26, 2015.

c. **Phase A Upgrade – Approved Plans for Increased Effluent Treatment:**

The system improvements under Phase A, authorized as part of the Basis of Design Report, prepared by Stantec Consulting Services, Inc., dated April 2017, shall be constructed in accordance with the plans included in the Basis of Design Report. No changes shall be made to the plans without the approval of the Secretary.

d. **Phase A Upgrade – Certification of Construction of Increased Effluent Treatment:**

Following completion of construction of the Base Area effluent treatment expansion, the Engineer shall certify in writing to the Secretary that the construction was constructed in accordance with approved plans and specifications and under the engineer's inspection, and submit as-built plans for the system. Any results of testing as required shall be submitted as part of the inspecting engineer's certification of construction. The engineer's certification of construction shall be subject to the review and acceptance of the Secretary. Upon written acceptance of the engineer's certification of construction and as-built plans the treatment capacity of the Base Area Tract WWTF will be 85,000 gpd.

e. **Phase A Upgrade – Installation of Lagoon Covers**

If the Base Area WWTF fails to achieve a spray effluent BOD_5 of 25 mg/L or less on a consistent basis during the months of November – March when influent flows equal or exceed 48,000 gpd, the permittee shall not allow new connections to the Base Area WWTF until lagoon covers are designed, approved and installed. In addition, during this period, BOD_5 sampling frequency shall be increased to weekly in accordance with Condition C(5)(b). The permittee shall apply for an amendment of this discharge permit to authorize the construction of the lagoon covers and provide engineering plans and specifications as part of the application for amendment.

C4. SYSTEM OPERATION:

a. Spray Effluent Limits:

The sewage treatment system shall be operated at all times to comply with the spray effluent limitations listed in Part E.

b. Lagoon Freeboard and Storage Pond Requirements:

A three (3) foot freeboard shall be maintained in the treatment pond at all times. A minimum of six (6) feet of effluent shall be maintained in the storage pond during the winter months to protect the aeration system against damage from ice. The storage pond is equipped with a backup aeration system to provide treatment should the treatment pond need to be drained for cleaning or repairs. The aeration system in the storage pond shall be operated as necessary to prevent the growth of algae in the tubing, to prevent the tubing from being clogged, and to assure the backup aeration system is operable when needed as the primary treatment system.

C5. MONITORING AND REPORTING:

a. Quality Assurance/Quality Control Plan:

The laboratory identified in the Quality Assurance/Quality Control plan 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.

By September 30, 2017, the permittee shall submit an updated QA/QC Plan to the Secretary for review and approval.

b. Increased Effluent Treatment Capacity:

After construction of the Phase A upgrade for increased effluent treatment capacity, in lieu of determining kinetic reaction rates in Lagoon 2, the permittee shall collect a composite effluent sample from the discharge from Lagoon 2 on a weekly basis from November 1st – March 31st each year and have the sample analyzed for BOD_5 when influent flows equal or exceed 48,000 gpd. The permittee shall achieve BOD_5 treatment of 30 mg/L or less to meet spray effluent limitations of the Indirect Discharge Rules, effective April 30, 2003.

c. Influent and Spray Effluent Monitoring:

From the effective date of this permit, the Base Area Tract Wastewater Treatment System influent and effluent for spray disposal shall be sampled and analyzed as follows:

Parameter	**Location**	**Measurement Frequency**	**Sample Type**
Flow volume	influent and spray effluent	continuous	daily total
BOD5	Influent and spray effluent	**weekly or monthly (1)**	8 hour composite (2,3)
Total Suspended Solids (TSS)	influent and spray effluent	monthly	8 hour composite (2,3)
TKN	spray effluent	monthly	8 hour composite (2,3)
Escherichia coli	spray effluent	monthly	grab (2)(4)
pH	influent and spray effluent	monthly	grab (2)
Total Chlorine Residual	spray effluent	2 x daily	grab (2)(4)
Total Ammonia (as N)	spray effluent	monthly	grab (2)
Nitrate	spray effluent	monthly	8 hour composite (2,3)
Nitrite	spray effluent	monthly	8 hour composite (2,3)
Total Phosphorus	effluent	monthly	8 hour composite (2,3)
Total Dissolved Phosphorus	effluent	monthly	8 hour composite (2,3)
Chloride	effluent	monthly	8 hour composite (2,3)
Treatment Pond	staff gauge	weekly	levels

Footnotes

(1) Weekly sampling of WWTF effluent from November 1st – March 31st (see Condition C(5)(b)).

(2) Effluent sampling monthly; influent sampling only during the months of January, February, March, June, September and December.

(3) Composite samples shall be taken during the hours 6:00 am and 6:00 pm, unless otherwise specified. Eight hours is the minimum period for the composite.

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

d. Groundwater Monitoring: Lagoon Underdrain:

On a quarterly basis, (in Feb., June, Sept. and Dec.) the permittee shall check the lagoon underdrain system weekly. Should groundwater be present at any time, the permittee shall collect a sample and analyze for the following:

1. Nitrate-Nitrite
2. Total Dissolved Phosphorus
3. Chlorides
4. pH

Only one sample from the underdrain is required to be collected and analyzed in any given month.

e. Sampling Requirements:

1. Samples and measurements as required herein shall be representative of the volume and nature of the monitored discharge.

2. All grab or composite samples required to be taken less frequently than daily shall be taken between the hours of 6:00 am and 6:00 pm during the period of Monday through Friday, inclusive, unless otherwise specified.

3. If there is no spray effluent discharge in a given month, then a spray effluent sample is not required to be taken during that month. Influent sampling is still required.

f. Reporting Requirements:

The permittee is required to submit monthly reports of monitoring results on form WR-43. Reports are due on the 15th day of the second month following the date of sampling or measurement. If, in any reporting period, there has been no discharge, the permittee must submit that information by the report due date.

Signed copies of these, and all other reports required herein, shall be submitted to the Secretary at the following address:

Agency of Natural Resources
Department of Environmental Conservation
Drinking Water and groundwater Protection Division
1 National Life Drive Main-2
Montpelier, Vermont 05620-3521

In addition to the monitoring schedule and reporting requirements given above daily monitoring of certain parameters for operational control are required by the Agency. Operations reports (reporting form WR-43) shall be submitted monthly.

PART D - INDIRECT DISCHARGE TO ROSE BROOK

D1. SUMMARY:

The indirect discharge associated with the Golf Course Tract Spray Disposal System is located on Rose Brook in the Town of Wilmington, Windham County, Vermont with an estimated drainage area of 0.47 square miles at the point of compliance. The indirect discharge can be located on the USGS Wilmington, Vermont 15' quadrangle map at Latitude N 42° 54' 05" and Longitude W 72° 53' 43".

The treated wastewater is discharged from a spray disposal system which currently has a disposal capacity of 41,064 gpd. The wetted area for the spray field is 6.61 acres in size, with 1.35 acres at a design loading rate of 1.0 inches/week, 1.36 acres at a design loading rate of 1.34 inches/week, and 3.9 acres at a design loading rate of 2 inches/week (see D4(a)(3)).

The estimated low median monthly flow of Rose Brook is 0.096 cfs (62,042 gpd) and results in a stream flow effluent dilution of 1.5 to 1 at the point of application.

D2. ADMINISTRATION:

a. Compliance Schedule Summary:

The following schedule summarizes the actions and requirements necessary for compliance with the conditions specific to the operation of the Golf Course Tract Sprayfield and the indirect discharge to Rose Brook. The permittee shall complete the requirements in accordance with the dates indicated. See the designated section for specific details.

Condition # & Description	Schedule Date
D5(a) Submit updated QA/QC Plan	By September 30, 2017
D5(b) Collect and analyze spray effluent samples	As Specified
D5(b) Record volume of effluent sprayed	Continuously
D5(c) Collect and analyze groundwater monitor samples	Quarterly, as specified
D5(c) Measure and record the depths to groundwater in the monitor wells	Weekly when spraying
D5(d) Collect and analyze receiving stream samples	Quarterly, as specified

a. Compliance Schedule: (continued):

Condition # & Description	Schedule Date
D5(b),D5(c),D5(d) Submit results of monitoring and analyses to the State.	By the 15th of the second month following the date of sampling.
D5(d)(ii) Conduct biological sampling of Rose Brook.	Upon Secretary's request.
D5(e) Submit evaluation by a water quality specialist of all ground and surface water quality data and biological monitoring data.	Annually by March 31st

b. Indirect Discharge Rules:

This indirect discharge was originally reviewed and qualified for a discharge permit under the Interim Administrative Procedures for the Issuance of Indirect Discharge Permits, §3-04 Existing Disposal Systems.

This indirect discharge was reviewed and qualified for an Indirect Discharge Permit in accordance with Section 14-603 (b) 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.

c. Modifications and Additions to System:

Modifications and additions to the disposal system require the permittee to submit plans and an application for an Amendment to the Discharge Permit to the Secretary. These plans and application must be approved and permitted by the Secretary before any of the modifications or additions are to be made.

d. Nature of Indirect Discharge:

A summary of the groundwater monitoring well data for the Golf Course Tract sprayfield and the water quality of Rose Brook can be found in the Fact Sheet dated May, 2014.

D3. SYSTEM CONSTRUCTION:

No additional construction in the existing Golf Course Tract Sprayfield is required.

D4. SYSTEM OPERATION:

a. General Operating Requirements:

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

The spray disposal fields shall be operated at all times in accord with the following limits:

1. The groundwater table shall not rise closer than one foot to the ground surface in the disposal area as a result of spraying.

2. No spraying shall be conducted when air temperature is below 10°F.

3. The total wastewater applied to the spray field shall not exceed the approved loading rate for the wetted area of the field in any seven (7) day period as follows:

   Spraylines 5-7: 1.0 inches per 7-day period
   Spraylines 8A, 9A, 10 and 11: 1.34 inches per 7-day period
   Spraylines 1-4, 8B, 9B: 2.0 inches per 7-day period

   In addition to the above limitations, the permittee shall not or dispose of more than a total of 287,448 gallons in any seven-day period.

4. The actual maximum hourly rate of wastewater application shall not exceed 0.25 inches per hour.

5. There shall be a minimum of a 12-hour rest period between spray applications for any spray line.

6. The effluent shall have a minimum of 4.0 mg/L total chlorine residual at the spray nozzle at all times (or 1.0 mg/L free chlorine residual).

Spray Effluent Limits:

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

SPRAY EFFLUENT		
Parameter	**Maximum in 7-Day Period**	**Maximum at Any Time**
Flow	287,448 gallons	N/A
BOD5	N/A	30 mg/L
TSS	N/A	30 mg/L
Escherichia coli	N/A	77 col/100 ml
Chlorine Residual at spray nozzle	N/A	4 mg/L (minimum – total) 1 mg/l (minimum – free)

D5. MONITORING AND REPORTING:

a. Quality Assurance/Quality Control Plan:

The laboratory identified in the Quality Assurance/Quality Control Plan 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. By September 30, 2017, the permittee shall submit an updated QA/QC Plan to the Secretary for review and approval.

b. Spray Disposal:

From the effective date of this permit, effluent discharged from the Golf Course Tract Sprayfield shall be sampled and analyzed as follows:

Parameter	**Measurement Units or Location**	**Measurement Frequency**	**Sample Type**
Flow volume	Gallons per day	continuous(1)	Daily total, Maximum and Minimum
Total Chlorine Residual	At spray nozzle effluent	2 x daily, when spraying	grab(2)
Air Temperature	In sprayfield	2 x daily, when spraying	At beginning and end of spray period
(1)Continuous Influent Metering and Effluent Metering when spraying.			
(2)After spray system has been operating that day for a minimum of 30 minutes and at end of spray period.			
The results of these analyses and measurements shall be submitted to the Secretary prior to the 15th day of the second month following the date of sampling.			

c. Groundwater Monitoring:

1. Chemical & Bacteriological Monitoring:

From the effective date of this permit, one groundwater monitoring well upgradient and all the downgradient monitoring wells shall be sampled and analyzed for the following parameters:

Parameter	Measurement Units	Measurement Frequency	Sample Type
Nitrate Nitrogen (NO_3)	mg/L	Quarterly (1)	Grab
Total Dissolved Phosphorus (TDP)	mg/L	Quarterly (1)	Grab
Chlorides (Cl)	mg/L	Quarterly (1)	Grab
pH	mg/L	Quarterly (1)	Grab
Escherichia coli	Colonies/100 ml	Quarterly (1)	Grab
Depth to Groundwater (below ground surface)	Inches	Once per week	Instantaneous
(1) Quarterly means January – March, April -June, July-September, and October- December			

Because of changing water table conditions, the samples from the groundwater monitors might not be collected on the same day or in the same week. If a monitor has water at any time during the quarter specified then the single sample from that well for the quarter is required to be collected and analyzed.

2. Groundwater Levels:

The Quality Control/Quality Assurance monitor plan includes the location of 6 groundwater monitors installed in and around the sprayfield to monitor the level of the ground water table. The depth to groundwater (below ground surface) shall be measured and recorded weekly when spraying. Dry wells shall be recorded as "no water to depth of well".

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

d. Receiving Stream Monitoring:

1. Chemical

From the effective date of this permit, Rose Brook shall be sampled at locations upstream and downstream of the indirect discharge and analyzed for the following:

Parameter	Measurement Units	Measurement Frequency	Sample Type
Nitrate Nitrogen (NO3)	mg/L	Quarterly (1)	Grab
Total Phosphorus (TDP)	mg/L	Quarterly (1)(2)	Grab
Total Dissolved Phosphorus (TDP)	mg/L	Quarterly (1)(2)	Grab
Chlorides (Cl)	mg/L	Quarterly (1)	Grab
pH	mg/L	Quarterly (1)	Grab
Escherichia coli	Colonies/100 ml	Quarterly (1)	Grab
Turbidity	NTU	Quarterly (1)	Grab
Temperature	Degrees °C	Quarterly (1)	Instantaneous
(1) Quarterly means February, June, September, and December			
(2) Two independent samples shall be taken and analyzed on each sampling date.			
(3) The results of these analyses and measurements shall be submitted to the Secretary prior to the 15th day of the second month following the date of sampling.			

2. Biological

Upon the Secretary's request, the permittee shall conduct biological sampling in Rose Brook upstream and downstream of the indirect discharge in accordance with procedures approved by the Secretary.

e. Summary Water Quality Evaluation

By March 31st of each year, the permittee shall have a qualified water quality specialist submit an evaluation to the Secretary of all the past ground 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 required, 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.

D7. COMPLIANCE REVIEW:

If the results of monitoring the receiving stream [Section D(5)(d)] show there is a possibility that the Water Quality Standards may be violated at the designated stream flow conditions due to the indirect discharge from this facility, 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 water quality violation has occurred, 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.

PART E - INDIRECT DISCHARGE TO HAYSTACK BROOK

E1. SUMMARY:

Location of Indirect Discharge:

The indirect discharge is located on Haystack Brook in the Town of Wilmington, Windham County, Vermont with a drainage area of 1.53 square miles at the point of compliance. The indirect discharge can be located on the USGS Wilmington, Vermont 15' quadrangle map at Latitude N 42° 55' 00" and Longitude W 72° 54' 25". The spray disposal laterals are located between elevations 2070' and 2130'.

The treated wastewater is discharged to a spray disposal system with an approved disposal capacity of 18,374 gpd. **This disposal capacity increases to 30,000 gpd following the expansion of the spray field. The wetted area for the spray field increases from is 2.46 acres to 3.87 acres in size with a maximum loading rate of 2 inches per week.**

The low median monthly flow of Haystack Brook is 0.312 cfs (201,640 gpd) and results in a stream flow effluent dilution of 6.7 to 1 at the point of compliance after expansion.

E2. ADMINISTRATION:

a. Compliance Schedule Summary:

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.

Condition # & Description	Schedule Date
E5(a) Submit updated QA/QC Plan	By September 30, 2017
E5(b) Collect and analyze effluent samples	As Specified
E5(b) Record volume of effluent sprayed	Continuously
E5(c)(i) Collect and analyze groundwater monitor samples	Monthly
E5(c)(ii) Measure and record the depths to groundwater in the monitor wells	Weekly when spraying
E5(d) Collect and analyze receiving stream samples	Quarterly

a. Compliance Schedule Summary (continued):

Condition # & Description	Schedule Date
E5(b),E5(c),E5(d) Submit results of monitoring and analyses to the State.	By the 15th of the second month following the date of sampling
E5(d)(ii) Start biological sampling of Haystack Brook.	Upon Secretary's request
E5(e) Submit evaluation by a water quality specialist of all ground and surface water quality data and biological monitoring data.	Annually by March 31st

b. Indirect Discharge Rules:

This indirect discharge was originally reviewed and qualified for an Indirect Discharge Permit in accordance with the Site Specific Compliance Test (In Situ Effluent-Soil Test) of the September 3, 1986 Interim Administrative Procedures for Indirect Discharge Permits and the original Indirect Discharge Permit ID-9-0006 was issued on July 18, 1988.

This indirect discharge was reviewed and qualified for an Indirect Discharge Permit in accordance with Section 14-603 (d) of the Indirect Discharge Rules for new and expanding indirect discharges of sewage.

The increase in disposal capacity from 18,374 gpd to 30,000 gpd for the Base Area Tract spray field was demonstrated to meet the Aquatic Permitting Criteria of the Indirect Discharge Rules in Haystack Brook.

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

c. Modifications and Additions to System:

Modifications and additions to the disposal system require the permittee to submit plans and an application for an Amendment to the Discharge Permit to the Secretary. These plans and application must be approved and permitted by the Secretary before any of the modifications or additions are to be made.

E3. SYSTEM CONSTRUCTION:

a. **Approved Plans for Sprayfield Expansion:**

The Base Area sprayfield expansion shall be constructed in accordance with the following plans titled "Base Area Wastewater Treatment Facility Effluent Spray System Expansion", prepared by Stantec Consulting Services, Inc.:

Sheet	Title	Latest Date
1 of 7	Cover Sheet	November 2016
2 of 7	Existing Conditions	November 2016
3 of 7	Proposed Spray Field Expansion	November 2016
4 of 7	Profiles	November 2016
5 of 7	Details	November 2016
6 of 7	Control Building Equipment Modifications	November 2016
7 of 7	Electrical and Instrumentation Details	November 2016

No changes shall be made to the plans without the approval of the Secretary.

b. **Certification of Construction of Sprayfield Expansion:**

Following completion of the sprayfield expansion, the Engineer shall certify in writing to the Secretary that the construction was constructed in accordance with approved plans and specifications and under the engineer's inspection, and submit as-built plans for the system. The engineer's certification of construction shall be subject to the review and acceptance of the Secretary. Upon written acceptance of the engineer's certification of construction and as-built plans, the spray disposal capacity of the Base Area sprayfield will be 30,000 gpd.

E4. SYSTEM OPERATION:

a. General Operating Requirements:

The wastewater disposal system shall be operated at all times in a manner that will (1) not permit the discharge of untreated sewage onto the surface of the ground; (2) not result in the resurfacing of spray effluent after disposal onto the ground; (3) not result in the direct discharge of sewage into the waters of the State, (4) not result in a violation of Water Quality Standards, and (5) not cause a significant alteration of the aquatic biota in Haystack Brook.

The spray disposal fields shall be operated at all times in accord with the following limits:

1. The groundwater table shall not rise closer than one foot to the ground surface in the disposal area as a result of spraying.

2. No spraying shall be conducted when air temperature is below 10°F.

3. The total wastewater applied to the spray field shall not exceed 2.0 inches on the wetted area of the field in any seven (7) day period or more than 128,618 gallons in any seven-day period. **After expansion of the spray field, no more than 210,000 gallons shall be applied in any seven-day period.**

4. The actual maximum hourly rate of wastewater application shall not exceed 0.25 inches per hour.

5. There shall be a minimum of a 12-hour rest period between spray applications for any spray line.

6. The effluent shall have a minimum of 4.0 mg/L total chlorine residual at the spray nozzle at all times (or 1.0 mg/L free chlorine residual) (for exceptions, see effluent limits below).

b. Spray Effluent Limits:

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

SPRAY EFFLUENT		
Parameter	**Maximum in 7-Day Period**	**Maximum at Any Time**
Flow	128,618 gallons (1)	N/A
BOD5	N/A	30 mg/L
TSS	N/A	30 mg/L
Escherichia coli	N/A	77 col/100 ml
Chlorine Residual at spray nozzle	N/A	4 mg/L (minimum – total) 1 mg/l (minimum – free) (2)

(1) **Increases to 210,000 gallons after spray field expansion.**

(2) Unless the permittee chooses to utilize disinfection prior to effluent storage as allowed under §14-1705(a)(2) of the Indirect Discharge Rules, effective April 30, 2003.

E5. MONITORING AND REPORTING:

a. Quality Assurance/Quality Control Plan:

The laboratory identified in the Quality Assurance/Quality Control plan 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.

By September 30, 2017, the permittee shall submit an updated QA/QC Plan to the Secretary for review and approval.

b. Spray Disposal:

From the effective date of this permit, effluent to the Base Area Tract Sprayfield shall be sampled and analyzed as follows:

Parameter	**Measurement Units or Location**	**Measurement Frequency**	**Sample Type**
Flow volume	Gallons per day	continuous(1)	Daily total, Maximum and Minimum
Total Chlorine Residual	At spray nozzle effluent	2 x daily, when spraying	grab(2)
Air Temperature	In sprayfield	2 x daily, when spraying	At beginning and end of spray period
(1)Continuous Influent Metering and Effluent Metering when spraying.			
(2)After spray system has been operating that day for a minimum of 30 minutes and at end of spray period. [Sampling frequency may be modified if the permittee chooses to utilize disinfection prior to effluent storage as allowed under §14-1705(a)(2) of the Indirect Discharge Rules, effective April 30, 2003]			
The results of these analyses and measurements shall be submitted to the Secretary prior to the 15th day of the second month following the date of sampling.			

c. Groundwater Monitoring:

1. Chemical & Bacteriological Monitoring:

From the effective date of this permit, one groundwater monitoring well upgradient and all the downgradient monitoring wells shall be sampled and analyzed for the following parameters:

Parameter	Measurement Units	Measurement Frequency	Sample Type
Nitrate Nitrogen (NO3)	mg/L	Monthly	Grab
Total Dissolved Phosphorus (TDP)	mg/L	Monthly	Grab
Chlorides (Cl)	mg/L	Monthly	Grab
pH	mg/L	Monthly	Grab
Escherichia coli	Colonies/100 ml	Monthly	Grab
Depth to Groundwater (below ground surface)	Inches	Once per week	Instantaneous

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

2. Groundwater Levels:

The Quality Control/Quality Assurance monitor plan includes the location of 6 groundwater monitors installed in and around the sprayfield to monitor the level of the ground water table. The depth to groundwater (below ground surface) shall be measured and recorded weekly when spraying. Dry wells shall be recorded as "no water to depth of well".

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

d. Receiving Stream Monitoring:

1. Chemical

From the effective date of this permit, Haystack Brook shall be sampled at locations upstream and downstream of the indirect discharge as per the Quality Assurance/Quality Control plan and analyzed for the following:

Parameter	Measurement Units	Measurement Frequency	Sample Type
Nitrate Nitrogen (NO3)	mg/L	Quarterly (1)	Grab
Total Phosphorus (TDP)	mg/L	Quarterly (1)(2)	Grab
Total Dissolved Phosphorus (TDP)	mg/L	Quarterly (1)(2)	Grab
Chlorides (Cl)	mg/L	Quarterly (1)	Grab
pH	mg/L	Quarterly (1)	Grab
Escherichia coli	Colonies/100 ml	Quarterly (1)	Grab
Turbidity	NTU	Quarterly (1)	Grab
Temperature	Degrees ° C	Quarterly (1)	Instantaneous
(1) Quarterly means February, June, September, and December			
(2) Two independent samples shall be taken and analyzed on each sampling date.			
(3) The results of these analyses and measurements shall be submitted to the Secretary prior to the 15th day of the second month following the date of sampling.			

2. Biological Monitoring:

Upon written request from the Secretary, the permittee shall conduct biological sampling in the receiving stream upstream and downstream of the indirect discharge in accordance with procedures approved by the Secretary.

e. Summary Water Quality Evaluation:

By March 31st of each year, the permittee shall have a qualified water quality specialist submit an evaluation to the Secretary of all the past ground 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 available, 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.

E6. COMPLIANCE REVIEW:

If the results of monitoring the receiving stream [Section E(5)(d)] show there is a possibility that the aquatic permitting criteria of the Indirect Discharge Rules may be exceeded at the designated stream flow conditions, 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 water quality violation has occurred, 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.

PART F - GENERAL CONDITIONS AND REQUIREMENTS:

These conditions and requirements apply to all components of the sewage collection, treatment, and disposal system operation under this permit:

F1. MAXIMIZING UTILIZATION OF SPRAY DISPOSAL:

The permittee shall maximize the spray disposal capability of the Base Area Spray Disposal System and the Golf Course Tract Spray Disposal System before any direct discharge to the North Branch Deerfield River can occur. To demonstrate compliance with this condition, the permittee must maintain records to indicate that both the sprayfields' capacities were fully utilized before a direct discharge to the North Branch Deerfield River occurs.

The permittee must maintain staffing to spray seven days per week if necessary to maximize the use of the permitted spray field capacity. If the spray fields are not used there must be data to demonstrate that spray disposal was not possible on either spray field due to surface runoff, high groundwater, etc. This permit condition is not meant to restrict WWTF operations should the operator choose not to spray during the low flow summer months. With sufficient storage available, the operator has this option. However, during periods of surface runoff and/or high groundwater the operator shall maximize the use of available storage in the system prior to utilizing the direct discharge option. **This permit amendment authorizes the conversion of the Base Area WWTF storage lagoon to treatment, thus reducing the overall volume of storage available to the permittee to only that at the Golf Course WWTF.**

Notwithstanding the above, the permittee may submit a written request to the Secretary to utilize the direct discharge to the North Branch of the Deerfield River during a test period for the purpose of determining that the equipment and transmission lines involved with the direct discharge are functioning properly. The written request shall state the proposed duration (# of days) of the test period. The permittee must submit the written request for testing by March 15th. The secretary will review the request and either approve or deny the request in writing. If approved, the approval will contain testing conditions which the permittee must comply with including additional monitoring and reporting requirements. No discharge shall occur under this paragraph without the written approval of the Secretary.

F2. EXPIRATION DATE:

This permit, unless revoked or amended, shall be valid until March 31, 2019 despite any intervening change in Water Quality Standards or the classification of receiving waters. Renewal of this Discharge Permit will be subject to all rules applicable at the time of renewal, including biological standards to determine significant alteration of aquatic biota for each of the indirect discharges.

The permittee shall apply for a Discharge Permit renewal by September 30, 2018. For the purposes of Title 3, an application for renewal of this Discharge Permit will be considered timely if a complete application is received by the expiration date.

F3. OPERATING FEES:

This discharge is subject to operating fees. The permittee shall submit the operating fees in accordance with the procedures provided by the Secretary.

F4. REVOCATION:

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. violation of any terms or conditions of this permit; or

b. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

c. submitting information to the Agency under this permit that is inaccurate; or

d. a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

F5. 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 or lease or other transfer of ownership of the property from which the permitted discharges originates. Responsibility for compliance with 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.

a. This permit shall be transferred only upon showing by the permittee of proposed transferee of compliance with the following conditions:

1. The transferee shall be a legal entity, financially and technically competent to operate, inspect, maintain and replace the systems.

2. 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.

3. 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.

b. This request for transfer application must also include as a minimum:

1. A properly completed application form provided by the Secretary and the applicable processing fee.

2. A written statement from the prospective owner or operator certifying:

   i. The conditions of the operation that contribute to, or affect, the discharge will not be materially different under the new ownership.
   ii. The prospective owner or operator has read and is familiar with the terms of the permit and agrees to comply with all terms and conditions of the permit.
   iii. The prospective owner or operator has adequate funding to operate and maintain the treatment system and remain in compliance with the terms and conditions of the permit.

3. The Secretary may require additional information dependent upon the current status of the facility operation, maintenance, and permit compliance.

F6. MINOR MODIFICATIONS OF PERMIT:

The Secretary may modify this permit without requiring a permit application, a public notice, or a public hearing only to correct typographical errors or increase the monitoring frequency in accordance with Conditions Part D, Condition D(7) and Part E, Condition E(6).

F7. RIGHT OF AGENCY TO INSPECT:

The permittee shall permit the Secretary or the Secretary's authorized representative upon the presentation of his credentials and at reasonable times:

a. To enter upon permittee's premises in which an 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.

F8. PERMIT AVAILABILITY:

Copies of this permit shall remain at the office of the permittee and, upon request, shall be made available for inspection by Secretary. A copy of this permit shall also be kept at the control buildings for the Golf Course and Base Area WWTFs.

F9. ANNUAL INSPECTION:

a. Annually during the month of April, the permittee shall engage a professional engineer registered in the State of Vermont to make a thorough inspection, evaluation, and report of each complete treatment and spray disposal system. The engineer's inspection shall include, but not be limited to the following:

1. verification of the proper operation of all lift station pumps, alarms and controls;

2. 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;

3. verification of the proper operation of all components of the treatment systems as well as the blending tank, chlorination and dechlorination facilities;

4. determination of the amount of accumulated sludge in all treatment lagoons and determining whether or not the sludge should be removed;

5. walking each spray lateral in the spray fields and checking for the proper operation of the spray system, noting any repairs needed and any areas of erosion or concentrated surface runoff;

6. inspecting the entire cross country effluent sewer line from the Base Area to the North Branch Deerfield River, including the outfall structure in the river;

7. conducting flow checks on each meter to verify that there is not more than 10% error in flow measurement; and

8. noting any additional repairs or maintenance that needs to be performed.

b. Before July 1st each year the permittee shall have a professional engineer submit an annual report including the following items:

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

2. a discussion of the recommended repairs and maintenance required; and

3. an evaluation of the previous year's influent flow records, spray records and the groundwater levels in the spray fields to verify compliance with the permit requirements.

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

F10. OPERATIONS AND MAINTENANCE MANUALS:

Within 60 days of completion of construction of the Phase A upgrades at both the Golf Course WWTF and the Base Area WWTF, the permittee shall submit an updated Operations and Maintenance Manual for each facility for review and approval by the Secretary. The Operations and Maintenance Manuals for each facility must be submitted prior to any direct discharge to the North Branch Deerfield River. **The O&M Manual updates were received on December 30, 2015.**

F11. WASTEWATER TREATMENT PLANT OPERATOR QUALIFICATIONS:

a. The permittee is required at all times, to employ two full time wastewater treatment plant operators, one for each wastewater treatment facility and each with a minimum Grade II operator certificate from the Department of Environmental Conservation Water Pollution Control Operator Certification Program.

b. The permittee shall notify the Secretary in writing of the names of the operators and any change in the certified operators employed to operate either treatment facility.

F12. BIOSOLIDS REMOVAL:

Collected screenings, sludges, and other solids removed in the course of treatment and control of wastewaters shall be stored, treated and disposed of in accord with10 V.S.A., Chapter 159 and with the terms and conditions of any certification, interim or final, transitional operation authorization or order issued pursuant to 10 V.S.A., Chapter 159 that is in effect on the effective date of this permit or is issued during the term of this permit.

F13. SAMPLING AND ANALYSIS:

a. Testing Procedures

1. The sampling, preservation, handling, and analytical methods used to analyze wastewater treatment facility influent and effluent shall conform to regulations published pursuant to Section 304(g) of the Clean Water Act, under which such procedures may be required. Guidelines establishing these test procedures have been published in the Code of Federal Regulations, Title 40, Part 136 (Federal Register, Vol. 56, No. 195, October 8, 1991 or as amended).

2. All 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.

b. Record Keeping and Reporting:

1. The permittee shall maintain records of all information resulting from any monitoring activities required herein. Any records of monitoring activities and results shall include for all samples: (a) the date, exact place, and time of sampling; (b) the dates and times analyses were performed; (c) who performed the sampling and analyses; (d) the analytical techniques/methods used, including samples, handling, and preservation techniques; (e) records of monitoring activities and results, including all instrumentation and calibration and maintenance records; and (f) the original calculation and data bench sheets of the permittee's operator who performed analysis of plant influent or effluent pursuant to requirements of this permit.

2. These records shall be retained for a minimum of three years and shall be made available to the Secretary upon request. This period shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Secretary.

3. The results of monitoring requirements shall be reported on the Vermont reporting form WR-43 or other acceptable form in the units specified. The permittee shall include in this report any previously approved non standard methods used.

4. Permanent elimination of a discharge should be brought to the attention of the Secretary within 15 days by a special written notification. A written report should be submitted if there have been any modifications in the waste collection, treatment, and disposal facilities; changes in operational procedures; or other significant activities which alter the nature and frequency of the discharges or otherwise concern the conditions of this permit.

5. Except for data determined to be confidential under Section 308 of the Clean Water Act, all monitoring reports required by this permit shall be available for public inspection at the offices of the head of the State Water Pollution Control Agency and the Regional Administrator. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Clean Water Act.

6. All reports shall be prepared by the operator and a principal executive officer, ranking elected official, or other duly authorized employee for Cold Brook Fire District No. 1.

c. Quality Control:

1. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at regular intervals to ensure accuracy of measurements or shall ensure that both activities will be conducted. Samples shall be representative of the volume and quality of effluent discharged over the sampling and reporting period. All samples are to be taken during normal operating hours.

2. The permittee shall provide the above records and shall demonstrate the accuracy of the flow measuring device annually and report the results in the annual inspection report (see Condition F(9). The acceptable limit of error is +/- 10%. The permittee shall identify the effluent sampling point used for each discharge.

3. The permittee shall analyze any additional samples as may be required by the Secretary to ensure analytical quality control.

F14. IMPLEMENTATION SCHEDULE:

a. Reporting and Monitoring:

The permittee shall submit to the Secretary the required report of progress or, where a specific action is required under the Implementation Schedules in Part A to be taken by a certain date, a written notice of compliance or non-compliance with each of the schedule dates, postmarked no later than 14 days following each elapsed date. Each notice of non-compliance shall include the following information.

1. A short description of the non-compliance;

2. A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirement without further delay;

3. A description of any factors which tend to explain or mitigate the non-compliance; and

4. An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.

F15. SEWER USE ORDINANCE:

The permittee shall have in effect a sewer use ordinance acceptable to the Secretary, which, at a minimum, shall

a. Prohibit the introduction by any discharger into the permittee's sewerage system or treatment facilities of any pollutant which

1. is a toxic pollutant in toxic amounts as defined in standards issued from time to time under Section 307(a) of the Clean Water Act;

2. creates a fire or explosion hazard in the permittee's treatment works;

3. causes corrosive structural damage to the permittee's treatment works, including all wastes with a pH lower than 5.0;

4. contains solid or viscous substances in amounts which would cause obstruction to the flow in sewers or other interference with proper operation of the permittee's treatment works; or

5. in the case of a major contributing industry, as defined herein, contains an incompatible pollutant, as further defined herein, in an amount or concentration in excess of that allowed under standards or guidelines issued from time to time pursuant to Sections 304, 306, and/or 307 of the Clean Water Act.

b. Require 45 days prior notification to the permittee by any person or persons of a:

1. proposed substantial change in volume or character of pollutants over that being discharged into the permittee's treatment works at the time of issuance of this permit;

2. proposed new discharge into the permittee's treatment works of pollutants from any source which would be a new source as defined in Section 306 of the Clean Water Act if such source were discharging pollutants,

3. proposed new discharge into the permittee's treatment works of pollutants from any source which would be subject to Section 301 of the Clean Water Act if it were discharging such pollutants.

4. Require any industry discharging into the permittee's treatment works to perform such monitoring of its discharge as the permittee may reasonably require, including the installation, use, and maintenance of monitoring equipment methods, to keep records of the results of such monitoring, and to report the results of such monitoring to the permittee. Such records shall be made available by the permittee to the Secretary upon request.

5. Authorize the permittee's authorized representatives to enter into, upon, or through the premises of any industry discharging into the permittee's treatment works to have access to and copy any records, to inspect any monitoring equipment or method required under subsection 3 above, and to sample any discharge into the permittee's treatment works.

The permittee shall notify the Secretary of any discharge specified in subsection 2 above within 30 days of the date on which the permittee are notified of such discharge. This permit may be amended accordingly.

F16. AUTHORIZED DISCHARGES:

a. All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than, or at a level in excess of, that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such a violation may result in the imposition of civil and/or criminal penalties as provided for in Section 1274 and 1275 of the Act.

b. No facility modifications, additions, and/or expansions that increase the plant capacity may be made without obtaining a public building permit for all changes. Approved modifications which alter the volume or quality of the permitted discharges must also be accompanied by an amended discharge permit.

c. The permittee shall provide notice to the Secretary of the following:

1. any new introduction of pollutants into the treatment works from a source which would be a new source as defined in Section 306 of the Clean Water Act if such source were discharging pollutants;

2. except as to such categories and classes of point sources or discharges specified by the Secretary, any new introduction of pollutants into the treatment works from a source which would be subject to Section 301 of the Clean Water Act if such source were discharging pollutants; and

3. any substantial change in volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into such works at the time of issuance of the permit.

d. The required notice to the Secretary shall include:

1. the quality and quantity of the discharge to be introduced into the system, and

2. the anticipated impact of such change in the quality or quantity of the effluent to be discharged from the permitted facility.

F17. PROPERTY RIGHTS:

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges; nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations; nor does it waive the necessity of obtaining State or local assent required by law for the discharges authorized herein.

F18. OPERATION OF WASTEWATER TREATMENT AND DISPOSAL FACILITIES:

All waste collection, control, treatment, and disposal facilities shall be operated in a manner consistent with the following conditions:

a. At all times, all facilities shall be maintained in good working condition and operated as efficiently as possible and in a manner which is acceptable to the Secretary and will minimize upsets and discharges of excessive pollutants;

b. The permittee shall provide an adequate operating staff which is duly qualified to carry out the operation, maintenance, and testing functions required to insure compliance with the conditions of this permit; and

c. The operation and maintenance of this facility shall be performed only by qualified personnel in accordance with the requirements of Condition F(11).

d. All maintenance activities, or emergencies resulting from equipment failure or malfunction, including power outages, which result in an effluent which exceeds the effluent limitations specified herein, shall be considered a violation of the conditions of this permit, unless the permittee immediately applies for and obtains an emergency pollution permit under the provisions of 10 V.S.A. Chapter 47, Section 1268. The permittee shall notify the Secretary of the emergency situation by the next working day.

F19. OIL DISCHARGES:

There shall be no discharge of harmful quantities of oil, as defined pursuant to 10 VSA Section 1259, including (1) any amendments or revisions made subsequent hereto, or (2) any more restrictive limitations which may be imposed otherwise by law or regulation. The authorization of this permit does not preclude the institution of any legal action nor relieve the permittee from any liabilities, penalties, or responsibilities established by Section 311 of the Clean Water Act, by any subsequent amendments thereto, or by any superseding Federal or State legislation.

F20. OTHER MATERIALS:

Other materials ordinarily produced or used in the operation of this facility, which have been specifically identified in the application, may be discharged at the maximum frequency and maximum level identified in the application, provided they are not:

a. designated as toxic or hazardous under provisions of Sections 307 and 311, respectively, of the Clean Water Act, or

b. known to be hazardous or toxic by the permittee except that such materials indicated in (a) and (b) above may be discharged in certain limited amounts with the written approval of, and under special conditions established by, the Secretary or designated representative, if the substances will not pose any imminent hazard to the public health or safety;

c. The discharge of such materials will not violate applicable water quality standards; and

d. The permittee is not notified by the Secretary to eliminate or reduce the quantity of such materials entering the watercourse.

F21. NON-COMPLIANCE:

a. In the event the permittee is unable to comply with any of the conditions of this permit due, among other reasons, to:

1. breakdown or improper maintenance of wastewater treatment equipment (biological and physical-chemical systems including, but not limited to, all pipes, transfer pumps, compressors, collection ponds or tanks for the segregation of treated or untreated wastes, ion exchange columns, or carbon absorption units),

2. accidents caused by human error or negligence, or

3. other causes such as acts of nature,

the permittee shall notify the Secretary within 24 hours or on the next business day and shall provide the Secretary with the following information in writing within five days of such occurrence:

4. cause of non-compliance;

5. a description of the non-complying discharge including its impact upon the receiving water;

6. anticipated time the condition of non-compliance is expected to continue or, if such condition has been corrected, the duration of the period of non-compliance;

7. steps taken by the permittee to reduce and eliminate the non-complying discharge; and

8. steps to be taken by the permittee to prevent recurrence of the condition of non-compliance.

b. The permittee shall take all reasonable steps to minimize any adverse impact to waters of the State resulting from non-compliance with any effluent limitation specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

c. Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for non-compliance, whether or not such non-compliance is due to factors beyond their control, such as equipment breakdown, electric power failure, accident, or natural disaster.

F22. EMERGENCY ACTION - ELECTRIC POWER FAILURE:

In the event the primary source of electric power to the waste treatment facilities fails, the permittee will attempt to comply with the conditions of this permit regarding any discharge into the receiving waters, but in no case shall the discharge receive less than primary treatment (or its equivalent) plus disinfection (chlorination and dechlorination).

For the purpose of providing chlorination and dechlorination of the discharge to the receiving waters, the permittee shall maintain an alternative source of power for the operation of its disinfection facilities, such as battery-powered backup for chemical feed pumps. Alternatively, the permittee may provide assurance to the Secretary that the treatment facility has the capacity to store the wastewater volume that would be generated over the duration of a typical power failure such that no discharge from the facility during the outage would be necessary.

F23. NAVIGABLE WATERS:

This permit does not authorize or approve the undertaking of any work in any navigable waters.

F24. FUTURE EFFLUENT LIMITATIONS OR STANDARDS:

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition, and the permittee shall be so notified.

F25. SEVERABILITY:

The provisions of this permit are severable, and the invalidity of any condition of subdivision thereof shall not make void any other condition or subdivision thereof.

F26. ABBREVIATIONS AND DEFINITIONS:

The following abbreviations, when used, are defined below.

BOD5	five-day biochemical oxygen demand unless otherwise specified
Cl_2	total residual chlorine
CFS	cubic feet per second
COD	chemical oxygen demand
D.O.	dissolved oxygen
E. Coli	*Escherichia coli* bacteria
lbs/day	pounds per day
ug/L	micrograms per liter
MGD	million gallons per day
mg/L	milligrams per liter
ml/L	milliliter(s) per liter
NO_2-N	nitrite nitrogen as nitrogen
NO_3-N	nitrate nitrogen as nitrogen
NO_3 & NO_2	combined nitrate and nitrite nitrogen as nitrogen
Oil & Grease	freon extractable material

PCB	polychlorinated biphenyl
pH	a measure of the hydrogen ion concentration
Surfactant	surface-active agent
Temp. °C	temperature in degrees Centigrade
Temp. °F	temperature in degrees Fahrenheit
Total Coliform	total coliform bacteria
Total N-N	ammonia nitrogen as nitrogen
TKN	total Kjeldahl nitrogen as nitrogen
Total N	total nitrogen as nitrogen
TNFR or TSS	total nonfilterable residue or total suspended solids
TOC	total organic carbon
Total P	total phosphorus as phosphorus
Turb.	turbidity measured in Nephelometric Turbidity Units (NTU)
U.O.D.	Ultimate Oxygen Demand

For purposes of this permit, the following definitions shall apply.

Annual Average - The highest allowable average of daily discharges calculated as the sum of all daily discharges (mg/L, lbs or gallons) measured during a calendar year divided by the number of daily discharges measured during that year.

Average - The arithmetic means of values taken at the frequency required for each parameter over the specified period.

The Clean Water Act - the federal Clean Water Act, as amended.

Composite Sample - A sample consisting of a minimum of one grab sample per hour collected during a 24-hour period (or lesser period as specified in the section on Monitoring and Reporting) and combined proportionally to flow over that same time period.

Daily Discharge - Means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.

For pollutants with limitation expressed in pounds the daily discharge is calculated as the total pounds of pollutants discharged over the day.

For pollutants with limitations expressed in mg/L the daily discharge is calculated as the average measurement of the pollutant over the day.

Grab Sample - An individual sample collected in a period of less than 15 minutes.

Incompatible Substance (Pollutant) - Any waste being discharged into the treatment works which interferes with, passes through without treatment, or is otherwise incompatible with said works or would have a substantial adverse effect on these works or on water quality. This includes all pollutants required to be regulated under the Federal Clean Water Act.

Instantaneous Maximum - A value not to be exceeded in any grab sample.

Low Median Monthly Flow (LMM) - is that flow which is computed by arranging all individual daily flows from large to small for each month of the year for the period of record for the gage and the median value determined for each month. The month with the lowest medial flow during the seasonal release period is used for determining the allowable release rate for nutrients based on instream receiving water concentrations.

Major Contributing Industry - One that: (1) has a flow of 50,000 gallons or more per average work day; (2) has a flow greater than five percent of the flow carried by the municipal system receiving the waste; (3) has in its wastes a toxic pollutant in toxic amounts as defined in standards issued under Section 307(a) of the Act; or (4) has a significant impact, either singly or in combination with other contributing industries, on a publicly owned treatment works or on the quality of effluent from that treatment works.

Maximum Day (maximum daily discharge limitation) - Means the highest allowable "daily discharge" (mg/L, lbs or gallons).

Mean - The mean value is the arithmetic mean unless used for fecal or total coliform, which would be a geometric mean.

Monthly Average - (Average monthly discharge limitation) - The highest allowable average of daily discharges (mg/L, lbs or gallons) over a calendar month, calculated as the sum of all daily discharges (mg/L, lbs or gallons) measured during a calendar month divided by the number of daily discharges measured during that month.

NPDES - The National Pollutant Discharge Elimination System.

Secretary - The Secretary of the Agency of Natural Resources.

Seven Day Low Flow, Ten Year Return Period (7Q10) - is that instantaneous flow which is equal to the lowest mean flow for seven consecutive days which has a 10% chance of occurring in a given year.

State Certifying Agency: Agency of Natural Resources
Department of Environmental Conservation
1 National Life Drive
Montpelier, Vermont 05622-3522

Ultimate Oxygen Demand - measures the oxygen required for the total degradation of organic material (ultimate carbonaceous demand) and the oxygen required to oxidize reduced nitrogen compounds (ultimate nitrogenous demand).

Weekly Average - (Average weekly discharge limitation) - The highest allowable average of daily discharges (mg/L, lbs or gallons) over a calendar week, calculated as the sum of all daily discharges (mg/L, lbs or gallons) measured during a calendar week divided by the number of daily discharges measured during that week.

F27. AGENCY REVIEW OF APPLICATION:

This application has been reviewed and the information was determined to be sufficient for the issuance of this discharge permit for the specified direct and indirect discharges. There is clear and convincing evidence that the proposed indirect discharge (from Base Area Tract sprayfield) will not significantly alter the aquatic biota in the receiving water.

The issuance of this permit by the Secretary relies upon the data, designs, judgement and other information supplied by the applicant, their 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.

This permit amendment is effective on this 2ND **day of** August **, 2017**, and shall expire on March 31, 2019.

Emily Boedecker, Commissioner
Department of Environmental Conservation

By: Digitally signed by Peter LaFlamme
DN: cn=Peter LaFlamme, o=VTDEC, ou=Watershed Management Division, email=pete.laflamme@vermont.gov, c=US
Date: 2017.07.31 13:24:21 -04'00'

Peter LaFlamme, Director
Watershed Management Division

By: Bryan J. Redmond

Bryan Redmond, Director
Drinking Water and Groundwater Protection Division