AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
ONE NATIONAL LIFE DRIVE, MAIN BUILDING, 2nd FLOOR
MONTPELIER, VT 05620-3522

Permit No.: 3-1290
PIN: SJ87-0002
NPDES No.: VT0100579

Name of Applicant: Town of St. Johnsbury
1187 Main St.
Suite 2
St. Johnsbury, VT 05819

Expiration Date: December 31, 2022

DRAFT
DISCHARGE PERMIT

In compliance with the provisions of the Vermont Water Pollution Control Act as amended (10 V.S.A. chapter 47), the Vermont Water Pollution Control Permit Regulations as amended (Environmental Protection Rules, Chapter 13), and the federal Clean Water Act as amended (33 U.S.C. § 1251 *et seq*.) and implementing federal regulations, the Town of St. Johnsbury, Vermont (hereinafter referred to as the "Permittee") is authorized by the Secretary of the Agency Natural Resources (Secretary) to discharge from the St. Johnsbury Wastewater Treatment Facility to the Passumpsic River in accordance with the following conditions.

This permit shall become effective on January 1, 2018

Emily Boedecker, Commissioner
Department of Environmental Conservation

By: _____ Date: _____

Jessica Bulova, Wastewater Section Supervisor

I. SPECIAL CONDITIONS

A. EFFLUENT LIMITS

1. During the term of this permit, the Permittee is authorized to discharge from outfall serial number S/N 001 of the St. Johnsbury Wastewater Treatment Facility (WWTF) to the Passumpsic River, an effluent for which the characteristics shall not exceed the values listed below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS							
	Annual Limit	Monthly Average	Weekly Average	Maximum Day	Monthly Average	Weekly Average	Maximum Day	Instantaneous Maximum
		Mass (**lbs./day**)			Concentration (**mg/L**)			
Flow (average annual) [3]	1.6 MGD							
Biochemical Oxygen Demand (BOD_5)		400	600		30	45	50	
Total Suspended Solids (TSS)		400	600		30	45	50	
Total Phosphorus (TP)							Monitor Only	
Total Nitrogen (TN)[1]	See Section I. B						Monitor Only	
Total Kjeldahl Nitrogen (TKN)							Monitor Only	
Total Ammonia Nitrogen (TAN)							Monitor Only	
Nitrate/Nitrite Nitrogen (NO_x)							Monitor Only	
Settleable Solids								1.0 ml/l
Escherichia coli								77/100 ml
Total Residual Chlorine (TRC)[2]								0.1 mg/L
pH					Between 6.5-8.5 Standard Units			

[1] Total nitrogen (TN) shall be reported as total monthly pounds, calculated as: *Monthly Average TN (mg/L) x Total Monthly Flow x 8.34*; where, *TN (mg/L) = TKN (mg/L) + NO_x (mg/L)*

[2] Total residual chlorine (TRC) prior to dechlorination shall be maintained at a concentration to ensure that an *E. coli* concentration of less than 77/100 ml is maintained at all times.

[3] Monthly average flow shall be calculated by summing daily effluent flow for each day in the given month and dividing the sum by the number of days of discharge in that month.

2. If the Secretary establishes a waste load allocation for discharge S/N 001, then this permit may be reopened and modified to include effluent limitations of Ultimate Oxygen Demand (UOD). Should attaining compliance with the UOD limitations require the design, purchase, installation, and start-up of pollution control equipment, then a reasonable schedule for completion of such activities shall be established.

3. The Permittee shall limit the volume of septage received such that it does not interfere with the proper operation of the WWTF or result in the failure to meet effluent limitations. If the Secretary determines that the volume of septage being received interferes with the proper operation of the WWTF or results in the failure to meet effluent limitations, then the Secretary may reopen this permit and establish a limitation on the volume of septage received.

4. The effluent shall not have concentrations or combinations of contaminants including oil, grease, scum, foam, or floating solids which would cause a violation of the Vermont Water Quality Standards.

5. The effluent shall not cause visible discoloration of the receiving waters.

6. The monthly average concentrations of biochemical oxygen demand (BOD_5) and total suspended solids (TSS) in the effluent shall not exceed 15 percent of the monthly average concentrations of BOD_5 and TSS in the influent into the Permittee's WWTF. For the purposes of determining compliance with this condition, samples from the effluent and the influent shall be taken with appropriate allowance for detention times.

This "85% removal criteria for secondary treatment" does not apply to discharge S/N 001 during storm events. However, S/N 001 shall comply with the effluent limitations and other requirements included in Conditions I.A.1. through I.A.8. of this permit.

7. If 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.

8. Any action on the part of the Secretary in reviewing, commenting upon, or approving plans and specifications for the construction of the WWTF shall not relieve the Permittee from the responsibility to achieve effluent limitations set forth in this permit and shall not constitute a waiver of, or act of estoppel against any remedy available to the Secretary, the State of Vermont, or the federal government for failure to meet any requirement set forth in this permit or imposed by state or federal law.

B. TOTAL NITROGEN

1. Optimization Plan

Within 60 days if the effective date of this permit the Permittee shall develop and submit to the Secretary for review and approval a Nitrogen Removal Optimization Evaluation Plan

for the evaluation of alternative methods of operating the existing WWTF to optimize the removal of nitrogen. The methods to be evaluated include: 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 to maintain a mass discharge of total nitrogen (TN) lower than the existing mass loading of TN. The baseline annual average daily TN load discharge from this facility is estimated to be **approximately 203 lbs./day**.

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

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

Implementation of the plan shall commence within 60 days of its approval by the Secretary.

2. Plan Evaluation

After implementing the Plan for one year, the Permittee shall evaluate the effectiveness of the Plan. The evaluation shall be conducted by a qualified professional with experience in the operation or design of municipal WWTFs in conjunction with the Chief Operator of the facility. The results of the evaluation shall be submitted to the Secretary for review and approval within one year and six months following the implementation of the Plan and shall be revised at the Secretary's request. Actions to implement the approved nitrogen removal optimization practices, if any, shall be initiated within 90 days of the Secretary's approval.

3. Reporting

Annually, the Permittee shall submit a report to the Secretary as an attachment to the **December** Discharge Monitoring Report (DMR) form WR-43 that documents the annual average TN discharged (in pounds per day) from the facility, summarizes nitrogen removal optimization and efficiencies, and tracks trends relative to the previous year. The first annual report shall include data collected during 2017, and shall be attached to the December 2017 DMR form WR-43.

TN (mg/L) = Total Kjeldahl Nitrogen (TKN) (mg/L) + Nitrite/Nitrate (NO_x) (mg/L).

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

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

TN (lbs./day) = TN (mg/L) × volume discharged (million gallons) 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./day]) / (count of TN samples)

4. Wasteload Allocation

This permit does not establish a formal wasteload allocation for the facility nor does it convey any right to ownership of the facility's estimated baseline annual average TN load.

The Secretary reserves the right to reopen and amend this permit, pursuant to Condition II.B.4 of this permit, to include an alternate TN limitation or additional monitoring requirements based on the monitoring data, the results of nitrogen optimization activities, a formal wasteload allocation promulgated under Vermont's Wasteload Allocation Rule for Total Nitrogen in the Connecticut River Watershed based on the Long Island Sound Total Nitrogen Total Maximum Daily Load (TMDL), or the final Long Island Sound TMDL.

C. WASTE MANAGEMENT ZONE

In accordance with 10 V.S.A. § 1252, this permit hereby establishes a waste management zone (WMZ) that extends from the outfall of the St. Johnsbury WWTF in the Passumpsic River downstream 4.8 miles.

D. REAPPLICATION

If the Permittee desires to continue to discharge after the expiration of this permit, the Permittee shall reapply on the application forms then in use at least 180 days before this permit expires.

Reapply for a Discharge Permit by: **June 30, 2022**

E. OPERATING FEES

This discharge is subject to operating fees as required by 3 V.S.A. § 2822.

F. TOXICITY TESTING

1. Whole Effluent Toxicity (WET) Testing

a) During **August or September 2019 and 2021**, the Permittee shall conduct a two-species (*Pimephales promelas* and *Ceriodaphnia dubia*) 48-hour acute and 96-hour chronic WET tests on a composite effluent sample collected from S/N 001. The results shall be submitted to the Secretary by **December 31, 2019 and December 31, 2021, respectively**.

b) During **March or April 2018 and 2020**, the Permittee shall conduct a two-species (*Pimephales promelas* and *Ceriodaphnia dubia*) 48-hour acute and 96-chronic WET test on a composite effluent sample collected from S/N 001. The results shall be submitted to the Secretary by **June 30, 2018 and June 30, 2020, respectively.**

The WET tests shall be conducted according to the procedures and guidelines specified in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" and "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" (both documents U.S. EPA October 2002 or, if a newer edition is available, the most recent edition).

If the WET effluent limitation is exceeded and the source of toxicity is known, the Permittee shall take immediate corrective actions and notify the Department as required under Condition II.A.2.

If the WET effluent limitation is exceeded and the source of toxicity is unknown, the Permittee shall resample and conduct an additional WET test within 30 days of receipt of the confirmation sample results. If the WET confirmation sample analysis exceeds the effluent limitation, the Permittee shall submit, within 30 days of receipt of the confirmation sample results, an investigative plan to determine the cause of toxicity.

2. Toxic Pollutant Scan

By **December 31, 2019, 2020, and 2021,** the Permittee shall conduct an effluent analysis of S/N 001 for the pollutants included in Appendix J, Table 2 of 40 C.F.R. Part 122 (see Attachment A) and submit the results to the Secretary.

Based upon the results of these tests or any other toxicity tests conducted, the Secretary reserves the right to reopen and amend this permit, pursuant to Condition II.B.4 of this permit, to require additional WET testing or a Toxicity Reduction Evaluation be conducted.

G. MONITORING AND REPORTING

1. Sampling and Analysis

The sampling, preservation, handling, and analytical methods used shall conform to the test procedures published in 40 C.F.R. Part 136.

The Permittee shall use sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. Part 136 for the analysis of the pollutants or pollutant parameters specified in Condition I.G.2 below.

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. A description of effluent sample locations is included in Condition I.G.2.

2. Effluent Monitoring

During the term of this permit, the Permittee shall monitor and record the quality and quantity of discharge(s) at outfall serial number S/N 001 of the St. Johnsbury WWTF, according to the following schedule and other provisions:

PARAMETER	MINIMUM FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	Continuous	Daily Total, Max., Min.
Biochemical Oxygen Demand (BOD_5)	1 × week	Composite[1]
Total Suspended Solids (TSS)	1 × week	Composite[1]
Total Phosphorus (TP)	1 × week	Composite[1]
Total Nitrogen (TN)	1 × week	[Calculated[2,3,4]]
Total Ammonia Nitrogen (TAN)	1 × month	Composite[1]
Total Kjeldahl Nitrogen (TKN)	1 × week	Composite[1,3]
Nitrate/Nitrite Nitrogen (NO_x)	1 × week	Composite[1,3]
Settleable Solids	1 × day	Grab[5]
Escherichia coli	1 × month	Grab[6]
Total Residual Chlorine	1 × day	Grab[7]
pH	1 × day	Grab
Temperature	1 × year	Grab
Dissolved Oxygen	1 × year	Grab
Oil & Grease	1 × year	Grab
Total Dissolved Solids	1 × year	Composite[1]

Samples collected in compliance with the monitoring requirements specified above shall be collected at the outfall weir of the chlorine contact tank.

[1] Composite samples for BOD_5, TSS, TP, TAN, TKN, NO_x, and TDS shall be taken during the hours 6:00 AM to 6:00 PM, unless otherwise specified. Eight hours is the minimum period for the composite, 24 hours is the maximum.

[2] TN = TKN + NO_x

[3] TKN, TN, and NO_x monitoring shall be taken weekly from March through September and monthly from October through February.

[4] Submit results each month on Total Nitrogen Monitoring Report Form WR-43-TN.

[5] Settleable Solids samples shall be collected between 10:00 AM and 2:00 PM or during the period of peak flow.

[6] The monthly *E. coli* samples shall be collected at the same time and location as a daily Total Residual Chlorine sample. Samples shall be collected between the hours of 6:00 AM and 6:00 PM.

[7] Total Residual Chlorine shall be monitored and recorded both prior to and following dechlorination.

3. Annual Constituent Monitoring

Annually, by **December 31**, the Permittee shall monitor outfall serial number S/N 001 and submit the results, including units of measurement, as an attachment to the DMR form WR-43 for the month in which the samples were taken for the following parameters:

Temperature
Dissolved Oxygen
Oil & Grease
Total Dissolved Solids

Grab samples shall be used for temperature, dissolved oxygen, and oil & grease; a composite sample shall be used for total dissolved solids. Samples shall be representative of the seasonal variation in the discharge.

The season in which samples are taken shall change chronologically from year to year. The sampling seasons are as follows: Winter (January 1 – March 31), Spring (April 1 – June 30), Summer (July 1 – September 30), and Fall (October 1 – December 31). The first samples under this permit should be taken during the **Fall** season. The second samples should be taken during the Spring, the third in Fall, and so forth in chronological order. For easy reference regarding the season in which you should sample, please refer to the "The Secretary's Guidance for Annual Constituent Monitoring."

4. Influent Monitoring

During the term of this permit, the Permittee shall monitor the quality of the influent according to the following schedule and provisions:

PARAMETER	MINIMUM FREQUENCY OF ANALYSIS	SAMPLE TYPE
Biochemical Oxygen Demand (BOD_5)	1 × month	composite[1]
Total Suspended Solids (TSS)	1 × month	composite[1]
Septage	Daily	total volume received

[1] Composite samples for BOD_5 and TSS shall be taken during the hours 6:00 AM to 6:00 PM, unless otherwise specified. Eight hours is the minimum period for the composite, 24 hours is the maximum for a composite.

5. Reporting

The Permittee is required to submit monthly reports of monitoring results on DMR form WR-43. Reports are due on the 15th day of each month, beginning with the month following the issuance date of this permit. When the Permittee submits DMRs using an electronic system designated by the Secretary, it is not required to submit hard copies of DMRs.

Total nitrogen shall be reported monthly, via electronic DMR, in the following ways:

a) Monthly average TN Concentration. See Condition I.B.3.

b) Total Monthly Pounds, meaning the total monthly pounds of TN discharged during the month.

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

All reports shall be signed:

a) 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 and the authorization is made in writing and submitted to the Secretary;

b) In the case of a partnership, by a general partner;

c) In the case of a sole proprietorship, by the proprietor; or

d) 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 shall be submitted to the Secretary on the DMR form WR-43. Operations reports shall be submitted monthly.

6. Recording of Results

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

a) The exact place, date, and time of sampling or measurement;

b) The individual(s) who performed the sampling or measurements;

c) The dates and times the analyses were performed;

d) The individual(s) who performed the analyses;

e) The analytical techniques and methods used including sample collection handling and preservation techniques;

f) The results of such analyses;

g) The records of monitoring activities and results, including all instrumentation and calibration and maintenance records; and

h) The original calculation and data bench sheets of the operator who performed analysis of the influent or effluent pursuant to requirements of Condition I.G of this permit.

i) For analyses performed by contract laboratories:

a. The detection level reported by the laboratory for each sample; and

b. The laboratory analytical report including documentation of the QA/QC and analytical procedures.

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

When "non-detects" are recorded, the method detection limit shall be reported and used in calculating any time-period averaging for reporting on DMRs.

7. 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 DMR form WR-43. Such increased frequency shall also be indicated.

H. DRY WEATHER FLOWS

Dry weather flows of untreated municipal wastewater from any sanitary or combined sewers are not authorized by this permit and are specifically prohibited by state and federal laws and regulations. If for any reason there is a discharge to waters of the State of dry weather flows of untreated municipal wastewater from any sanitary or combined sewer, the operator of the facility or the operator's delegate shall comply with the notice requirements outlined in Condition II.A.2 of this permit.

I. OPERATION, MANAGEMENT, AND EMERGENCY RESPONSE PLANS

1. By no later than **December 31, 2021** the Permittee shall update and submit to the Secretary for review and approval, an Operation, Management, and Emergency Response Plan for the treatment facility, sewage pumping stations, sewage collection system, and sewer line stream crossings.

This plan shall comply with the provisions of 10 V.S.A. § 1278. The Permittee shall implement the plan upon approval by the Secretary.

a) Identification of those elements of the facility, including collection systems that are determined to be prone to failure based on installation, age, design, or other relevant factors

b) Identification of those elements of the facility identified under subdivision (a) of this subsection which, if one or more failed, would result in a significant release of untreated or partially treated sewage to surface waters of the State.

c) A requirement that the elements identified in subdivision (b) of this subsection shall be inspected in accordance with a schedule approved by the Secretary.

d) An emergency contingency plan to reduce the volume of a detected spill and to mitigate the effect of such a spill on public health and the environment.

The Permittee shall revise these plans upon the Secretary's request or on its own motion to reflect equipment or operational changes.

J. EMERGENCY ACTION - ELECTRIC POWER FAILURE

The Permittee shall indicate in writing to the Secretary **within 90 days of the issuance date of this permit** that in the event the primary source of electric power to the WWTF (including pump stations) fails, the Permittee shall either provide an alternative source of power for the operation of its WWTF, or demonstrate that the treatment facility has the capacity to store the wastewater volume that would be generated over the duration of the longest power failure that would have affected the facility in the last five years, excluding catastrophic events.

The alternative power supply, whether from a generating unit located at the WWTF or purchased from an independent source of electricity, must be separate from the existing power source used to operate the WWTF. If a separate unit located at the WWTF is to be used, the Permittee shall certify in writing to the Secretary when the unit is completed and prepared to generate power.

K. COMBINED SEWER OVERFLOWS

All combined sewer overflows (CSOs) listed in Attachment B shall comply with the Vermont Water Quality Standards. The municipality shall implement the minimum technology-based requirements below, known as the "Minimum Controls," which are designed to maximize pollutant capture and minimize impacts to water quality:

1. Proper operation and regular maintenance programs for collection systems and CSO outfalls;

2. Maximum use of the collection system for storage without endangering public health or property, or causing solids deposition problems;

3. Review and modification of pretreatment requirements to assure that CSO impacts are minimized;

4. Maximization of flow to the treatment plant for treatment consistent with an evaluation of alternative treatment options;

5. Prohibition of CSOs during dry weather;

6. Control of solid and floatable materials in CSOs;

7. Establishment of pollution prevention programs to minimize contaminants in CSOs;

8. Public notification to ensure that the public receives adequate notification of CSOs and CSO impacts, which shall, at a minimum, comply with Condition II.A.2 of this permit;

9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls, which shall include at a minimum:

a) The municipality shall define through monitoring, modeling, and other means, as appropriate, the sewer system, the response of the system to a range of precipitation events that encompasses the 5-year design storm, the characteristics of the overflows, and the water quality impacts that result from CSOs. To comply with the foregoing requirement, the municipality shall, at a minimum:

i. Establish and maintain a precipitation monitoring system. The system must provide unique precipitation amounts specific to individual CSO subcatchments. Such a system does not necessarily demand a precipitation recording device for each CSO outfall. Precipitation measurements shall be to the nearest 0.01 inches, continuous at a five-minute interval over the duration of a storm event, and indexed to time and date. If establishing a physical precipitation monitoring system, the municipality shall work to minimize impacts of wind and surrounding trees and buildings that may hinder the accuracy of precipitation recording devices. If a municipality proposes to use a system other than a physical precipitation monitoring system, the municipality shall get prior approval from the Secretary.

ii. Establish a CSO flow monitoring system for the outfalls listed in Attachment B. At a minimum, the municipality shall install a tell-tale block in each overflow structure and check the block after every precipitation/runoff event.

b) The municipality shall submit to the Secretary, **by no later than January 31st of each year**, a report on CSO control project(s) of the previous calendar year. The Secretary will use the information from the report to monitor the progress on implementation of CSO control project(s). The municipality shall report progress on:

i. Compliance with the Minimum Controls;

ii. The condition and operation of the CSS;

iii. The frequency, duration, and magnitude of the precipitation events leading to CSOs from the system in the past year and a comparison to prior years;

iv. The frequency, duration, and magnitude of all CSOs from the system in the past year and a comparison to prior years;

v. The overall status of the Long-Term Control Plan (LTCP); and

vi. Key CSO control accomplishments, highlighting those that reduced the frequency and magnitude of CSOs; projects under design; and construction that occurred in the previous year.

L. SEWER ORDINANCE

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

1. Prohibit the introduction by any person into the Permittee's sewerage system or WWTF of any pollutant which:

a) 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;

b) Creates a fire or explosion hazard in the Permittee's treatment works;

c) Causes corrosive structural damage to the Permittee's treatment works, including all wastes with a pH lower than 5.0;

d) 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

e) In the case of a major contributing industry, as defined in this permit, contains an incompatible pollutant, as defined in this permit, 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.

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

a) 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;

b) 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; or

c) 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.

3. 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 and monitoring methods, keeping records of the results of such monitoring, and reporting the results of such

monitoring to the Permittee. Such records shall be made available by the Permittee to the Secretary upon request.

4. 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.

M. ENGINEERING EVALUATION AND REPORT

By **December 31, 2019**, the Permittee shall conduct an in-depth engineering inspection/evaluation of the WWTF and shall submit a written report of the results to the Secretary. The engineering inspection and report shall be conducted and prepared in accordance with the following conditions:

A professional engineer with experience in the design and operation of municipal WWTFs shall be hired to perform an in-depth inspection of the WWTF, pump stations, collection system, and manholes. At the treatment facility, all components which are critical to the treatment process or which could adversely affect effluent quality in the event of their failure shall be inspected. Such components shall include: grit removal systems, comminutors, tank and partition integrity, biological systems, aeration systems, piping, clarifier drives and chlorination and dechlorinating systems, flow metering systems, any critical and necessary valves, sludge handling equipment (digesters and appurtenances), etc. In the pump stations, all components critical to the proper conveyance of sewage, the prevention of sewage bypass, and the supporting appurtenances shall be inspected. This includes pumps, alarms, check valves, piping, motor controls, ventilators, dehumidifiers and sumps pumps, if so equipped, and the station structure.

The inspection is to be comprised of visual observation of equipment operability and condition as well as a review of maintenance records to determine recurring equipment problems and to estimate future life. Calibration checks shall be performed on all flow meters.

The resulting written inspection report shall document the components inspected, their condition, and include recommendations for currently needed repairs or replacements and the need for on-site spare parts. The projected date of replacement or major rehabilitation of each component and the anticipated cost shall be estimated. The Permittee shall determine how the future anticipated costs will be met and advise the Secretary in a letter transmitted with the written inspection report. The Agency recommends an annual set-aside to a sinking fund so that funds are immediately available for the necessary rehabilitations or replacements.

Should the Secretary determine that certain critical components are in need of repair or replacement due to the results of the inspection report, this permit may be reopened and amended to include an implementation schedule for repair or replacement of those components.

II. GENERAL CONDITIONS

A. MANAGEMENT REQUIREMENTS

1. Facility Modification / Change in Discharge

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 pursuant to 10 V.S.A. chapters 47, 201, and/or 211. Any anticipated facility alterations or expansions or process modifications which will result in new, different, or increased discharges of any pollutants must be reported by submission of a new permit application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Secretary of such changes. Following such notice, the permit may be modified, pursuant to Condition II.B.4 of this permit, to specify and limit any pollutants not previously limited.

In addition, the Permittee, within 30 days of the date on which the Permittee shall provide notice to the Secretary of the following:

a) 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;

b) Except for 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

c) 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.

The notice shall include:

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

ii. The anticipated impact of such change in the quality or quantity of the effluent to be discharged from the WWTF.

2. Noncompliance Notification

a) The Permittee shall give advanced notice to the Secretary of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

b) In the event the Permittee is unable to comply with any of the conditions of this permit due, among other reasons, to:

i. Breakdown or maintenance of waste treatment equipment (biological and physical-chemical systems including all pipes, transfer pumps, compressors, collection ponds or tanks for the segregation of treated or untreated wastes, ion exchange columns, or carbon absorption units);

ii. Accidents caused by human error or negligence;

iii. Any unanticipated bypass or upset which exceeds any effluent limitation in the permit;

iv. Violation of a maximum day discharge limitation for any of the pollutants listed by the Secretary in this permit; or

v. Other causes such as acts of nature,

the Permittee shall provide notice as specified in subdivisions (c) and (d) of this subsection.

c) Pursuant to 10 V.S.A. § 1295, notice for "untreated discharges," as defined.

i. Public notice. For "untreated discharges" an operator of a WWTF or the operator's delegate shall as soon as possible, but no longer than one hour from discovery of an untreated discharge from the WWTF, post on a publicly accessible electronic network, mobile application, or other electronic media designated by the Secretary an alert informing the public of the untreated discharge and its location, except that if the operator or his or her delegate does not have telephone or internet service at the location where he or she is working to control or stop the untreated discharge, the operator or his or her delegate may delay posting the alert until the time that the untreated discharge is controlled or stopped, provided that the alert shall be posted no later than four hours from discovery of the untreated discharge.

ii. Secretary notification. For "untreated discharges" an operator of a WWTF shall within 12 hours from discovery of an untreated discharge from the WWTF notify the Secretary and the local health officer of the municipality where the facility is located of the untreated discharge. The operator shall notify the Secretary through use of the DEC's online event reporting system. If, for any reason, the online event reporting system is not operable, the operator shall notify the Secretary via telephone or e-mail. The notification shall include:

(1) The specific location of each untreated discharge, including the body of water affected. For combined sewer overflows, the specific location of each untreated discharge means each outfall that has discharges during the wet weather storm event.

(2) Except for discharges from a WWTF to a separate storm sewer system, the date and approximate time the untreated discharge began.

(3) The date and approximate time the untreated discharge ended. If the untreated discharge is still ongoing at the time of reporting, the entity reporting the untreated discharge shall amend the report with the date and approximate time the untreated discharge ended within three business days of the untreated discharge ending.

(4) Except for discharges from a WWTF to a separate storm sewer system, the approximate total volume of sewage and, if applicable, stormwater that was released. If the approximate total volume is unknown at the time of reporting, the entity reporting the untreated discharge shall amend the report with the approximate total volume within three business days.

(5) The cause of the untreated discharge and a brief description of the noncompliance, including the type of event and the type of sewer structure involved.

(6) The person reporting the untreated discharge.

d) For any non-compliance not covered under Condition II.A.2.c of this permit, an operator of a WWTF or the operator's delegate shall notify the Secretary within 24 hours of becoming aware of such condition and shall provide the Secretary with the following information, in writing, within five days:

i. Cause of non-compliance;

ii. A description of the non-complying discharge including its impact upon the receiving water;

iii. 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;

iv. Steps taken by the Permittee to reduce and eliminate the non-complying discharge; and

v. Steps to be taken by the Permittee to prevent recurrence of the condition of non-compliance.

3. Operation and Maintenance

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

a) The Permittee shall, at all times, maintain in good working order and operate as efficiently as possible all treatment and control facilities and systems (and related appurtenances) installed or used by the Permittee to achieve compliance with the terms

and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the Permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

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

c) The operation and maintenance of this facility shall be performed only by qualified personnel who are licensed as required by the Secretary and the Director of the Vermont Office of Professional Regulation.

4. Quality Control

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.

The Permittee shall keep records of these activities and shall provide such records upon request of the Secretary.

The Permittee shall demonstrate the accuracy of the effluent flow measurement device weekly and report the results on the monthly report forms. The acceptable limit of error is ± 10%.

For purposes of demonstrating compliance with the requirements of Condition II.A.3.a of this permit regarding adequate laboratory controls and appropriate quality assurance procedures, the Permittee shall conduct an annual laboratory proficiency test (via a qualified laboratory or as part of an US EPA DMR-QA study) for the analysis of all pollutant parameters performed within their facility laboratory and reported as required by this permit. Results shall be submitted to the Secretary by **December 31, annually**.

5. Bypass

The bypass of facilities (including pump stations) is prohibited, except where authorized under the terms and conditions of an Emergency Pollution Permit issued pursuant to 10 V.S.A. § 1268. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the activity in order to maintain compliance with the conditions of this permit.

6. Duty to Mitigate

The Permittee shall take all reasonable steps to minimize or prevent any adverse impact to waters of the State, the environment, or human health resulting from non-compliance with any condition specified in this permit, including accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed, all calibration and maintenance of instrumentation records and all original chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained for a minimum of three years, and shall be submitted to the Secretary upon request. This period shall be extended during the course of unresolved litigation regarding the discharge of pollutants or when requested by the Secretary.

8. Solids Management

Collected screenings, sludges, and other solids removed in the course of treatment and control of wastewaters shall be stored, treated, and disposed of in accordance with 10 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 issuance date of this permit or is issued during the term of this permit.

9. 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 § 1268. The Permittee shall notify the Secretary of the emergency situation by the next working day.

10 V.S.A. § 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 issuance date of the emergency pollution permit. No emergency pollution permit shall be issued unless the applicant certifies and the Secretary finds that:

(1) 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;

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

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

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

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

Applications shall be made to the Secretary at the following address: Agency of Natural Resources, Department of Environmental Conservation, One National Life Drive, Main Building, 2nd Floor, Montpelier VT 05620-3522.

B. RESPONSIBILITIES

1. Right of Entry

The Permittee shall allow the Secretary or authorized representative, upon the presentation of proper credentials:

a) To enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b) To have access to and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;

c) To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d) To sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

2. Transfer of Ownership or Control

This permit is not transferable without prior written approval of the Secretary. All application and operating fees must be paid in full prior to transfer of this permit. In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the Permittee shall provide a copy of this permit to the succeeding owner or controller and shall send written notification of the change in ownership or control to the Secretary **at least 30 days in advance of the proposed transfer date**. The notice to the Secretary shall include a written agreement between the existing and new Permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them. The Permittee shall also inform the prospective owner or operator of their responsibility to make an application for transfer of this permit.

This request for transfer application must include as a minimum:

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

b) 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; and

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.

c) The date of the sale or transfer.

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

3. Confidentiality

Pursuant to 10 V.S.A. § 1259(b):

Any records or information obtained under this permit program that constitute trade secrets under 1 V.S.A. § 317(c)(9) shall be kept confidential, except that such records or information may be disclosed to authorized representatives of the State and the United States when relevant to any proceedings under the chapter.

Claims for confidentiality for the following information will be denied:

a) The name and address of any permit applicant or Permittee.

b) Permit applications, permits, and effluent data.

c) Information required by application forms, including information submitted on the forms themselves and any attachments used to supply information required by the forms.

4. Permit Modification, Suspension, and 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 the following:

a) Violation of any terms or conditions of this permit;

b) Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c) Reallocation of the WLA under the Long Island Sound Total Nitrogen TMDL;

d) Development of an integrated WWTF and stormwater runoff NPDES permit; or

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

The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance shall not stay any permit condition.

The Permittee shall provide to the Secretary, within a reasonable time, any information which the Secretary may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also furnish to the Secretary upon request, copies of records required to be kept by this permit.

5. Toxic Effluent 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 Permittee's discharge and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, then this permit shall be modified or revoked and reissued, pursuant to Condition II.B.4 of this permit, in accordance with the toxic effluent standard or prohibition and the Permittee so notified.

6. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under 10 V.S.A. § 1281.

7. 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:

a) They are not:

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

ii. Known to be hazardous or toxic by the Permittee, except that such materials indicated in (i) and (ii) may be discharged in certain limited amounts with the written approval of, and under special conditions established by, the Secretary or

his/her designated representative, if the substances will not pose any imminent hazard to the public health or safety;

b) The discharge of such materials will not violate the Vermont Water Quality Standards; and

c) The Permittee is not notified by the Secretary to eliminate or reduce the quantity of such materials entering the water.

8. Navigable Waters

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

9. Civil and Criminal Liability

The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Except as provided in "Bypass" (Condition II.A.5) and "Emergency Pollution Permits" (Condition II.A.9), nothing in this permit shall be construed to relieve the Permittee from civil or criminal penalties for noncompliance. Civil and criminal penalties for non-compliance are provided for in 10 V.S.A. chapters 47, 201, and 211.

10. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

11. Property Rights

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.

12. Other Information

If the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Secretary, it shall promptly submit such facts or information.

13. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the

application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

14. Authority

This permit is issued under authority of 10 V.S.A. §§ 1258 and 1259 of the Vermont Water Pollution Control Act, the Vermont Water Pollution Control Permit Regulation, and Section 402 of the Clean Water Act, as amended.

15. Definitions

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

Agency – means the Vermont Agency of Natural Resources.

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

Bypass – means the intentional diversion of waste streams from any portion of the treatment facility.

The Clean Water Act – means the federal Clean Water Act, as amended (33 U.S.C. § 1251, *et seq*.).

Composite Sample – means 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 limitations 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.

Discharge – means the placing, depositing, or emission of any wastes, directly or indirectly, into an injection well or into the waters of the State.

Grab Sample – means an individual sample collected in a period of less than 15 minutes.

Incompatible Substance – means 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 the works or on water quality. This includes all pollutants required to be regulated under the Clean Water Act.

Instantaneous Maximum – means a value not to be exceeded in any grab sample.

Major Contributing Industry – means 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 Clean Water Act; or (4) has a significant impact, either singly or in combination with other contributing industries, on a treatment works or on the quality of effluent from that treatment works.

Maximum Day (maximum daily discharge limitation) – The highest allowable "daily discharge" (mg/L, lbs., or gallons).

Mean – is the arithmetic mean.

Monthly Average (average monthly discharge limitation) – means 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 – means the National Pollutant Discharge Elimination System.

Secretary – means the Secretary of the Agency of Natural Resources or the Secretary's duly authorized representative.

Septage – means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Untreated Discharge – means (1) combined sewer overflows from a WWTF; (2) overflows from sanitary sewers and combined sewer systems that are part of a WWTF during dry weather flows, which result in a discharge to waters of the State; (3) upsets or bypasses around or within a WWTF during dry or wet weather conditions that are due to factors unrelated to a wet weather storm event and that result in a discharge of sewage that has not been fully treated to waters of the State; and (4) discharges from a WWTF to separate storm sewer systems.

Waste – means effluent, sewage or any substance or material, liquid, gaseous, solid, or radioactive, including heated liquids, whether or not harmful or deleterious to waters; provided however, the term "sewage" as used in this permit shall not include the rinse or process water from a cheese manufacturing process.

Waste Management Zone (WMZ) – means a specific reach of Class B (1) or (2) waters designated by a permit to accept the discharge of properly treated wastes that prior to

treatment contained organisms pathogenic to human beings. Throughout the receiving waters, water quality criteria must be achieved but increased health risks exist in a WMZ due to the authorized discharge.

Waters – includes all rivers, streams, creeks, brooks, reservoirs, ponds, lakes, springs, and all bodies of surface waters, artificial or natural, which are contained within, flow through, or border upon the State or any portion of it.

Weekly average (average weekly discharge limitation) – means 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.

WWTF or wastewater treatment facility shall have the same meaning as "pollution abatement facilities," as defined under 10 V.S.A. § 1251, which means municipal sewage treatment plants, pumping stations, interceptor and outfall sewers, and attendant facilities as prescribed by the Department to abate pollution of the waters of the State.

Attachment A

Hardness (of receiving water, upstream of outfall)

Metals (total recoverable), cyanide and total phenols:
Antimony
Arsenic
Beryllium
Cadmium
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Zinc
Cyanide
Total phenolic compounds

Volatile organic compounds:
acrolein
acrylonitrile
benzene
bromoform
carbon tetrachloride
chlorobenzene
chlorodibromomethane
chloroethane
2-chloroethylvinyl ether
chloroform
dichlorobromomethane
1,1-dichloroethane
1,2-dichloroethane
Trans-1,2-dichloroethylene
1,1-dichloroethylene
1,2-dichloropropane
1,3-dichloropropylene
ethylbenzene
methyl bromide
methyl chloride
methylene chloride
1,1,2,2-tetrachloroethane
tetrachloroethylene
toluene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethylene
vinyl chloride

Acid-extractable compounds:
p-chloro-m-cresol
2-chlorophenol2,4-dichlorophenol
2,4-dimethylphenol
4,6-dinitro-o-cresol
2,4-dinitrophenol
2-nitrophenol
4-nitrophenol
pentachlorophenol
phenol
2,4,6-trichlorophenol

Base-neutral compounds:
acenaphthene
acenaphthylene
anthracene
benzidine
benzo(a)anthracene
benzo(a)pyrene
3,4-benzofluoranthene
benzo(ghi)perylene
benzo(k)fluoranthene
bis(2-chloroethoxy)methane
bis(2-chloroethyl)ether
bis(2-chloroisopropyl)ether
bis(2-ethylhexyl)phthalate
4-bromophenyl phenyl ether
butyl benzyl phthalate
2-chloronaphthalene
4-chlorophenyl phenyl ether
chrysene
di-n-butyl phthalate
di-n-octyl phthalate
dibenzo(a,h)anthracene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3'-dichlorobenzidine
diethyl phthalate
dimethyl phthalate
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
flororanthene
fluorene
hexachlorobenzene
hexachlorobutadiene
hexachlorocyclo-pentadiene
hexachloroethane
indeno(1,2,3-cd)pyrene
isophorone
naphthalene nitrobenzene
N-nitrosodi-n-propylamine
N-nitrosodimethylamine
N-nitrosodiphenylamine
phenanthrene
pyrene
1,2,4-trichlorobenzene

Attachment B

Serial Number S/N 003:	**Combined Sewer Overflow # 003: ELIMINATED**
Location:	Ely and State Street
Receiving Water:	Moose River
Serial Number S/N 004:	**Combined Sewer Overflow # 005A: ELIMINATED**
Location:	Bay St. - Lawrence Sand and Gravel
Receiving Water:	Passumpsic River
Serial Number S/N 005:	**Combined Sewer Overflow # 005: ELIMINATED**
Location:	Bay Street - Lawrence Sand and Gravel
Receiving Water:	Passumpsic River
Serial Number S/N 006:	Combined Sewer Overflow # 006
Location:	Bay Street - south of CVPS
Receiving Water:	Passumpsic River
Serial Number S/N 007:	Combined Sewer Overflow # 007
Location:	River Road at Portland Street
Receiving Water:	Passumpsic River
Serial Number S/N 008:	Combined Sewer Overflow # 008
Location:	Bay Street - behind CVPS Garage
Receiving Water:	Passumpsic River
Serial Number S/N 009:	Combined Sewer Overflow # 009
Location:	Bay Street - Rapid Rubbish
Receiving Water:	Passumpsic River
Serial Number S/N 010:	Combined Sewer Overflow # 010
Location:	St. Mary’s Street behind Chaloux
Receiving Water:	Passumpsic River
Serial Number S/N 011:	Combined Sewer Overflow # 011
Location:	Elm Street ball field
Receiving Water:	Passumpsic River
Serial Number S/N 012:	Combined Sewer Overflow # 006A
Location:	Bay Street - South of CVPS
Receiving Water:	Passumpsic River
Serial Number S/N 013:	Combined Sewer Overflow # 010A
Location:	St. Mary’s Street - end of street
Receiving Water:	Passumpsic River

Serial Number S/N 014: **Combined Sewer Overflow # 014: ELIMINATED**
Location: Mill Street CVPS cement wall
Receiving Water: Passumpsic River

Serial Number S/N 014A: Combined Sewer Overflow # 014A
Location: Mill Street
Receiving Water: Passumpsic River

Serial Number S/N 015: Combined Sewer Overflow # 016A:
Location: Concord Avenue - Fred Mold Park
Receiving Water: Passumpsic River

Serial Number S/N 016: **Combined Sewer Overflow # 016: ELIMINATED**
Location: Concord Avenue - Fred Mold Park
Receiving Water: Passumpsic River

Serial Number S/N 019: **Combined Sewer Overflow # 019: ELIMINATED**
Location: Oak Street trunkline
Receiving Water: Passumpsic River

Serial Number S/N 020: Combined Sewer Overflow # 020
Location: Railroad Avenue - near pump station
Receiving Water: Passumpsic River

Serial Number S/N 021: Combined Sewer Overflow # 021
Location: Passumpsic St. at the junction of Tremont St.
Receiving Water: Passumpsic River

Serial Number S/N 023: Combined Sewer Overflow # 023
Location: Fairbanks Village behind Middle School
Receiving Water: Sleepers River

Serial Number S/N 024: Combined Sewer Overflow # 024
Location: Fairbanks Village behind Middle School
Receiving Water: Sleepers River

Serial Number S/N 025: **Combined Sewer Overflow # 025: ELIMINATED**
Location: Fairbanks Village
Receiving Water: Sleepers River

Serial Number S/N 026: **Combined Sewer Overflow # 026: ELIMINATED**
Location: Western Avenue
Receiving Water: Sleepers River

Serial Number S/N 027: Combined Sewer Overflow # 027
Location: Western Avenue
Receiving Water: Sleepers River

AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
ONE NATIONAL LIFE DRIVE, MAIN BUILDING, 2ND FLOOR
MONTPELIER, VT 05620-3522

FACT SHEET FOR DRAFT PERMIT
(November 2017)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE STATE:

PERMIT NO: 3-1290
PIN: SJ87-0002
NPDES NO: VT0100579

NAME AND ADDRESS OF APPLICANT:

Town of St. Johnsbury
1187 Main Street, Suite 2
St. Johnsbury, VT 05819

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

St. Johnsbury Wastewater Treatment Facility
799 Bay Street
St. Johnsbury, Vermont

RECEIVING WATER: Passumpsic River

CLASSIFICATION: All uses Class B(2) with a waste management zone (WMZ). Class B(2) waters are suitable for swimming and other primary contact recreation; irrigation and agricultural uses; aquatic biota and aquatic habitat; good aesthetic value; boating, fishing, and other recreational uses and suitable for public water source with filtration and disinfection or other required treatment. A WMZ is a specific reach of Class B(1) or B(2) waters designated by a permit to accept the discharge of properly treated wastes that prior to treatment contained organisms pathogenic to human beings.

I. Proposed Action, Type of Facility, and Discharge Location

The Secretary of the Vermont Agency of Natural Resources (Secretary) received a renewal application for the permit to discharge into the designated receiving water from the above-named applicant on **April 7, 2011**. The Town of St. Johnsbury's current discharge permit was issued on **October 20, 2006** and administratively continued, pursuant to 3 V.S.A. § 814, as the applicant filed a complete application for permit reissuance within the prescribed time period, as per the Vermont Water Pollution Control Permit Regulations (VWPCPR) § 13.5(b). At this time, the Secretary has made a tentative decision to reissue the discharge permit.

The Town of St. Johnsbury (Permittee) owns the wastewater treatment facility (WWTF), which is currently operated by Utility Partners, LLC. The WWTF is engaged in the treatment of municipal wastewater, including domestic, commercial, and industrial wastewaters, and services the Town of St. Johnsbury, which includes St. Johnsbury Center and the old village area as well as the Spaulding Hill and South Main Street areas, via a combined sewer system that collects both stormwater and sewage and conveys it to the WWTF. The collection system includes 14 combined sewer overflow (CSO) outfalls into the Passumpsic and Sleepers Rivers.

The WWTF is designed to treat 1.6 million gallons per day (MGD). The WWTF employs solids screening, primary and secondary clarifiers, rotating biological contactors (RBCs), and disinfection by chlorination (with dichlorination prior to discharge) to achieve treatment of wastewater. The discharge is from the outfall of the St. Johnsbury WWTF to the Passumpsic River.

A map showing the location of the facility, outfalls, and receiving water is provided in the Reasonable Potential Determination (RPD) (see Attachment A).

II. Description of Discharge

The WWTF maintains a constant discharge to the Passumpsic River. As stated above, the WWTF is engaged in the treatment of municipal wastewater, including domestic, commercial, and industrial wastewaters.

III. Limitations and Monitoring Requirements

The draft permit contains effluent limitations for flow, biochemical oxygen demand (BOD_5), TSS, settleable solids, *Escherichia coli,* total residual chlorine, and pH. It also contains monitoring requirements for total phosphorus (P), total nitrogen (TN), total ammonia-N, Total Kjeldahl Nitrogen, and nitrate/nitrite (NO_x).

IV. Statutory and Regulatory Authority

A. Clean Water Act and NPDES Background

Congress enacted the Clean Water Act (CWA or Act), "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." CWA § 101(a). To achieve this objective, the CWA makes it unlawful for any person to discharge any pollutant into the waters of the United States from any point source, except as authorized by specified permitting sections of the Act, one of which is Section 402. CWA §§ 301(a), 402(a). Section 402 establishes one of the CWA's principal permitting programs, the National Pollutant Discharge Elimination System (NPDES). Under this section of the Act, the U.S. Environmental Protection Agency (EPA) may "issue a permit for the discharge of any pollutant, or combination of pollutants" in accordance with certain conditions. CWA § 402(a). The State of Vermont has been approved by the EPA to administer the NPDES Program in Vermont. NPDES permits generally contain discharge limitations and establish related monitoring and reporting requirements. CWA § 402(a)(1) - (2).

Section 301 of the CWA provides for two types of effluent limitations to be included in NPDES permits: "technology-based" limitations and "water quality-based" limitations. CWA §§ 301, 303, 304(b); 40 Code of Federal Regulation (C.F.R.) Parts 122, 125, 131. Technology-based limitations, generally developed on an industry-by-industry basis, reflect a specified level of pollutant-reducing technology available and economically achievable for the type of facility being permitted. CWA § 301(b). As a class, WWTFs must meet performance-based requirements based on available wastewater treatment technology. CWA § 301(b)(1)(B). The performance level for WWTFs is referred to as "secondary treatment." Secondary treatment is comprised of technology-based requirements expressed in terms of BOD_5, TSS, and pH; 40 C.F.R. Part 133.

Water quality-based effluent limits, on the other hand, are designed to ensure that state water quality standards are achieved, irrespective of the technological or economic considerations that inform technology-based limits. Under the CWA, states must develop water quality standards for all water bodies within the State. CWA § 303. These standards have three parts: (1) one or more "designated uses" for each water body or water body segment in the State; (2) water quality "criteria," consisting of numerical concentration levels and/or narrative statements specifying the amounts of various pollutants that may be present in each water body without impairing the designated uses of that water body; and (3) an antidegradation provision, focused on protecting high quality waters and protecting and maintaining water quality necessary to protect existing uses. CWA § 303(c)(2)(A); 40 C.F.R. § 131.12. The applicable water quality standards for this permit are the 2017 Vermont Water Quality Standards (Environmental Protection Rule, Chapter 29a).

A permit must include limits for any pollutant or pollutant parameter (conventional, non-conventional, toxic, and whole effluent toxicity) that is or may be discharged at a level that causes or has "reasonable potential" to cause or contribute to an excursion above any water quality standard, including narrative water quality criteria. See 40 C.F.R. § 122.44(d)(1). An excursion occurs if the projected or actual instream concentration exceeds the applicable criterion. A NPDES permit must contain effluent limitations and conditions in order to ensure that the discharge does not cause or contribute to water quality standard violations.

Receiving stream requirements are established according to numerical and narrative standards adopted under state law for each stream classification. When using chemical-specific numeric criteria from the State's water quality standards to develop permit limits, both the acute and chronic aquatic life criteria are used and expressed in terms of maximum allowable instream pollutant concentrations. Acute aquatic life criteria are generally implemented through maximum daily limits and chronic aquatic life criteria are generally implemented through average monthly limits.

Where a state has not established a numeric water quality criterion for a specific chemical pollutant that is present in the effluent in a concentration that causes or has a reasonable potential to cause a violation of narrative water quality standards, the permitting authority must establish effluent limits in one of three ways: based on a "calculated numeric criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and fully protect the designated use;" on a "case-by-case basis" using CWA Section 304(a) recommended water quality criteria, supplemented as necessary by

other relevant information; or, in certain circumstances, based on an "indicator parameter." 40 C.F.R. § 122.44(d)(1)(vi)(A-C).

The state rules governing Vermont's NPDES permit program are found in the VWPCPR (Environmental Protection Rule, Chapter 13).

B. Reasonable Potential Determination (RPD)

In determining whether this permit has the reasonable potential to cause or contribute to an impairment, Vermont has considered:

1) Existing controls on point and non-point sources of pollution as evidenced by the Vermont surface water assessment database;

2) Pollutant concentration and variability in the effluent as determined from the permit application materials, monthly discharge monitoring reports (DMRs), or other facility reports;

3) Receiving water quality based on targeted water quality and biological assessments of receiving waters, as applicable, or other state or federal water quality reports;

4) Toxicity testing results based on the Vermont Toxics Control Discharge Strategy, and compelled as a condition of prior permits;

5) Available dilution of the effluent in the receiving water, expressed as the instream waste concentration. In accordance with the applicable Vermont Water Quality Standards, available dilution for rivers and streams is based on a known or estimated value of the lowest average flow which occurs for seven consecutive days with a recurrence interval of once in ten years (7Q10) for aquatic life and human health criteria for non-carcinogens, or at all flows for human health (carcinogens only) in the receiving water. For nutrients, available dilution for stream and river discharges is assessed using the low median monthly flow computed as the median flow of the month containing the lowest annual flow. Available dilution for lakes is based on mixing zones of no more than 200 feet in diameter, in any direction, from the effluent discharge point, including as applicable the length of a diffuser apparatus; and

6) All effluent limitations, monitoring requirements, and other conditions of the proposed draft permit.

The RPD for this facility is attached to this Fact Sheet as Attachment A.

C. Anti-Backsliding

Section 402(o) of the Clean Water Act provides that certain effluent limitations of a renewed, reissued, or modified permit must be at least as stringent as the comparable effluent limitations in the current permit. EPA has also promulgated anti-backsliding regulations which are found at 40 C.F.R. § 122.44(l). Unless applicable anti-backsliding exemptions are met, the limits

and conditions in the reissued permit must be at least as stringent as those in the current permit.

V. Description of Receiving Water

The receiving water for this discharge is the Passumpsic River, a designated Cold-Water Fish Habitat. At the point of discharge, the river has a contributing drainage area of 430 square miles. The summer 7Q10 flow of the river is estimated to be 85.96 cubic feet per second (CFS) and the summer Low Median Monthly flow is estimated to be 226.83 CFS. The instream waste concentration at the summer 7Q10 flow is 0.028 (2.8%) and the instream waste concentration at the summer Low Median Monthly flow is 0.011 (1.1%).

The Passumpsic River drains to the Long Island Sound, which is impaired for nitrogen and is subject to a TMDL for nitrogen. This is further discussed in Section VII of this Fact Sheet.

VI. Facility History and Background

The St. Johnsbury Wastewater Treatment Facility (WWTF) was originally constructed in 1963 with primary treatment. Between 1988 and 1991, the entire facility was redesigned and reconstructed to its current configuration. The WWTF is owned by the Town of St. Johnsbury and since 1990, has been operated by utility management companies, currently Utility Partners, LLC. The WWTF receives and treats wastewater from the Town of St. Johnsbury, including the old village area, St. Johnsbury center, Spaulding Hill, and South Main Street Areas.

The St. Johnsbury WWTF consists of two Archimedes-style screw pumps carrying influent to the headworks (screening and aerated grit chamber), two primary clarifiers (45’ diameter, 142,757 gal., each), 16 Rotating Biological Contactors (RBCs) as four trains of four RBC units, two secondary clarifiers (60’ diameter, 230,000 gal., each), and a chlorine contact tank. The facility also includes a septage receiving station, two anaerobic digesters (236,518 gal., each) and a sludge holding tank (1.25 Mgal.). The Town operates a land application program for anaerobically digested biosolids (Class B) using subsurface injection.

Recent WWTF upgrades included a new septage receiving station in 2015 and the replacement of both screw pumps in 2016. Upgrades planned for 2017 include a new headworks building with a new “auger monster” (grinder, fine screen, compactor) and a refurbishment of the two digesters.

The Town of St. Johnsbury collection system receives a combination of wastewater and stormwater flows. If, during large rain and snowmelt events, these combined flows exceed the capacity of the collection system, the excess flows are directed to the Passumpsic and Sleepers Rivers at several outfalls, or combined sewer overflow (CSO) locations. The Town of St. Johnsbury has eliminated several of its CSOs by separating or diverting stormwater from the sewer. Currently, the Town of St. Johnsbury maintains 14 CSO locations. A list of current CSO locations is included as Attachment B of NPDES Permit 3-1290.

The proposed draft permit incorporates the newest language and requirements to support the State of Vermont’s compliance with the Long Island Sound TMDL.

VII. Permit Basis and Explanation of Effluent Limitation Derivation

This permit was evaluated under the 2017 VWQS.

A. Flow

The draft permit maintains the annual average flow limitation of **1.6 MGD**. Continuous flow monitoring is required under this permit.

B. Conventional Pollutants

1. Biochemical Oxygen Demand (BOD_5)

The effluent limitations and weekly monitoring requirements for BOD_5 remain unchanged from the current permit.

The monthly average (**30 mg/L**) and weekly average (**45 mg/L**) reflect the minimum level of effluent quality specified for secondary treatment in 40 C.F.R. § 133.102. In addition, the draft permit contains a **50 mg/L**, maximum day, BOD_5 limitation. This is the Agency standard applied to all such discharges pursuant to 13.4(c) of the VWPCPR. The Secretary implements the limit to supplement the federal technology-based limitations to prevent a gross one-day permit effluent violation to be offset by multiple weekly and monthly sampling events which would enable a discharger to comply with the weekly average and monthly average permit limitations. Mass limits (**400 lbs./day**, monthly average and **600 lbs./day**, weekly average) correspond to the concentration limits outlined above.

2. Total Suspended Solids (TSS)

The effluent limitations and weekly monitoring requirement for TSS remain unchanged from the current permit.

The monthly average (**30 mg/L**) and weekly average (**45 mg/L**) reflect the minimum level of effluent quality specified for secondary treatment in 40 C.F.R. § 133.102. In addition, the draft permit contains a **50 mg/L**, maximum day, TSS limitation. This is the Agency standard applied to all such discharges pursuant to 13.4(c) of the VWPCPR. The Secretary implements the limit to supplement the federal technology-based limitations to prevent a gross one-day permit effluent violation to be offset by multiple weekly and monthly sampling events which would enable a discharger to comply with the weekly average and monthly average permit limitations. Mass limits (**400 lbs./day**, monthly average and **600 lbs./day**, weekly average) correspond to the concentration limits outlined above.

3. Escherichia coli

The *E. coli* limitation is **77/100 ml**, instantaneous maximum, and is based upon the limitation in the current permit and the anti-backsliding provisions of Section 402(o) of the CWA. E coli sampling has been increased to once per month to be consistent with other discharges of this size.

4. pH

The pH limitation remains at **6.5 - 8.5 Standard Units** as specified in Section 29A-303(6) in the Vermont Water Quality Standards. The daily monitoring requirement for pH remains unchanged from the current permit.

C. Non-Conventional and Toxic Pollutants

1. Total Phosphorus (TP)

In light of the adoption of numeric water quality criteria for phosphorus in the revised Vermont Water Quality Standards (effective January 15, 2017), the Secretary is including requirements in discharge permits to monitor for discharges of TP. For future permit reissuance, the criteria will be used to determine the potential of discharges to cause or contribute to eutrophication and/or to adversely impact the aquatic biota downstream of the discharge. To gather data on the amount of TP in this discharge and its potential impact on the receiving water, a **weekly** monitoring requirement has been included in the draft permit.

2. Total Nitrogen (TN)

On November 10, 2011, a letter from the EPA (Region I) to the Secretary indicated that Vermont must establish TN limitations in permits such that the TN load from all facilities in the Connecticut River watershed is consistent with the requirements of the Long Island Sound Total Maximum Daily Load (LIS TMDL).

Condition I.B in this draft permit requires the Permittee have a qualified consultant develop and submit a Nitrogen Removal Optimization Plan. The plan shall be provided to the Secretary before implementation. Additionally, an annual report will be due to the Secretary documenting the pounds of TN discharged as well as removal optimization and efficiencies. The first annual report shall be submitted by **January 15, 2018**, as an attachment to the December 2017 DMR WR-43 report. Finally, this condition contains a clause that allows the Secretary to reopen the permit to include a wasteload allocation for this facility based on the LIS TMDL.

To gather data on the amount of Total Nitrogen (TN) in this discharge and its potential impact on the receiving water, a new, **weekly "monitor only"** requirement from March through September and a **monthly "monitoring only"** requirement from October through February for TN has been included in the draft permit. TN is a calculated value based on the sum of TKN and Nitrate/Nitrite (NO_x) Nitrogen, and, shall be reported as pounds, calculated as:

Average TN (mg/L) x Total Daily Flow (MGD) x 8.34

where, TN (mg/L) = TKN (mg/L) + NO_x (mg/L)

According to the EPA, excess nitrogen (N) and phosphorus (P) are the leading cause of water quality degradation in the United States. Nutrient management focused on limiting a

single nutrient (i.e., P or N) is based on assumptions that production is usually P-limited in freshwater and N-limited in marine waters. Scientific research demonstrates this is an overly simplistic model. The evidence clearly indicates management of both P and N is necessary to protect water quality. The literature shows that aquatic flora and fauna have differing nutrient needs, some are P dependent, others N dependent and others are co-dependent on these two nutrients.

Like P, N promotes noxious aquatic plant and algal growth. High concentrations of P and N together cause greater growth of algae than P alone. The relative abundance of these nutrients also influences the type of species within the community. Furthermore, a high N-to-P ratio may exacerbate the growth of cyanobacteria, while elevated levels of N increase toxicity in some cyanobacteria species. Given the dynamic nature of all aquatic ecosystems, for the State to fully understand the degradation to water quality it is necessary to monitor P and monitor bioavailable N (including nitrate, ammonium, and certain dissolved organic nitrogen compounds).

For more information, see:
https://www.epa.gov/sites/production/files/documents/nandpfactsheet.pdf

3. Total Kjeldahl Nitrogen (TKN)

To gather data on the amount of TKN in this discharge and its potential impact in the receiving water, the monthly sampling frequency from October through February remains unchanged from the current permit, however, a weekly monitoring requirement for TKN from March through September has been included in the draft permit

4. Settleable Solids

The limitation of **1.0 ml/L** instantaneous maximum and daily monitoring remains unchanged from the current permit. This numeric limit was established in support of the narrative standard in Section 29A-303(2) of the Vermont Water Quality Standards. The daily monitoring requirement remains unchanged from the current permit.

5. Nitrate/Nitrite (NO_x)

To gather data on the amount of NO_x in this discharge and its potential impact on the receiving water, a **weekly, "monitor only"** requirement from March through September and a **monthly "monitor only"** requirement for NO_x from October through February has been included in the draft permit.

6. Total Ammonia Nitrogen (TAN)

To continue gathering data on the amount of Total Ammonia-N (TAN) in this discharge and its potential impact on the receiving water, a new, **monthly "monitor only"** requirement for TAN has been included in the draft permit. The Permittee shall monitor the discharge for TAN to be consistent with WWTFs of similar size in Vermont.

7. Total Residual Chlorine

The Total Residual Chlorine (TRC) limit of **0.1 mg/L**, instantaneous maximum, is based on meeting the instream water quality acute and chronic chlorine criteria (**0.028 mg/L** and **0.011 mg/L** respectively) in the Vermont Water Quality Standards, for the protection of aquatic biota. The facility employs dechlorination via sodium sulfite addition, therefore, TRC shall be monitored and recorded both prior to and following dechlorination. Daily monitoring is unchanged from the current permit.

8. Toxicity Testing

40 C.F.R. § 122.44(d)(1) requires the Secretary to assess whether the discharge causes, or has the reasonable potential to cause or contribute to an excursion above any narrative or numeric water quality criteria.

The draft permit (Condition I.F.1) proposes four, two-species acute/chronic WET tests during the permit period on a composite effluent sample collected from the outfall. WET test analysis shall include a dilution of 100% effluent. If the WET effluent limitation is exceeded and the source of toxicity is known, the Permittee shall take immediate corrective actions and notify the Department as required under Condition II.A.2.

9. Annual Constituent Monitoring

The Permittee shall monitor the outfall and submit the results, including units of measurement, as an attachment to the DMR form WR-43 for the month in which the samples were taken in for the parameters listed in the draft permit. Samples must be collected once annually such that by the end of the term of the permit, all quarters have been sampled at least once, and the results will be submitted by December 31 of each year. Sampling in 2017 should be taken in the fall. For subsequent sampling, the "Guidance for Annual Constituent Monitoring" document should be referred to determine the season in which samples should be taken each year.

D. Special Conditions

1. Waste Management Zone (WMZ)

As defined under 10 V.S.A. § 1251(16), a WMZ is "a specific reach of Class B waters designated by a permit to accept the discharge of properly treated wastes that prior to treatment contained organisms pathogenic to human beings. Throughout the receiving waters, water quality criteria must be achieved but increased health risks exist due to the authorized discharge."

The draft permit retains the existing waste management zone in the Passumpsic River that extends approximately 4.8 miles downstream from the outfall of the St. Johnsbury WWTF.

2. Laboratory Proficiency Testing

To ensure there are adequate laboratory controls and appropriate quality assurance procedures, the Permittee shall conduct an annual laboratory proficiency test for the analysis of all pollutant parameters performed within their facility laboratory and reported as required by their NPDES permit. Proficiency samples must be obtained from an accredited laboratory or as part of an EPA DMR-QA study. Results shall be submitted to the Secretary by December 31, annually.

3. Combined Sewer Overflows (CSOs)

The Town of St. Johnsbury owns and operates a combined sewer system which collects both stormwater and sewage and conveys it to the WWTF for treatment. The Permittee has eliminated nine of the City's 24 combined sewer overflows. There are currently 15 combined sewer overflows remaining that do not discharge during dry weather conditions. Most recently, the Secretary issued 1272 Order No. 3-1290-A2 to the Town of St. Johnsbury on August 2, 2013. In response to this Order, the Permittee performed an effectiveness study to assess compliance with the Combined Sewer Overflow Policy (CSO Policy) (June 1990). The effectiveness study indicated that the Permittee was not in compliance with the CSO Policy.

The recently adopted Combined Sewer Overflow Rule (CSO Rule) (Environmental Protection Rule, Chapter 34), which became effective in September 2016, supersedes the CSO Policy. The CSO Rule codifies, updates, and clarifies the technology-based and water quality-based requirements applicable to CSOs. The technology-based controls for CSOs are referred to as the "Minimum Controls" and are included in this draft permit under Condition I.K. To ensure the remaining CSOs are brought into compliance with the Vermont Water Quality Standards, the Secretary, concurrent with issuance of this final permit, shall issue a 1272 Order to the Permittee, requiring the creation of a Long-Term Control Plan that complies with the requirements of the CSO Rule.

The following CSO monitoring requirements are included in the draft permit:

- Implementation of a precipitation monitoring system;
- Continued monitoring and reporting of overflow events utilizing tell-tales, at a minimum;
- Notification of wet-weather overflows though public alert within one hour of discovery, and submit to the Secretary specified information regarding the discharge within 12 hours of discovery; and
- A report on CSO control project(s) of the previous calendar year, due by January 31 of each year.

4. Operation, Management, and Emergency Response Plans

10 V.S.A. § 1278 requires the Permittee to prepare and implement an Operation, Management and Emergency Response Plan for the wastewater treatment facility, sewage pump/ejector stations, stream crossings, and collection systems. An Operation, Management and Emergency Response Plan for the facility, pump stations, and stream crossings was approved by the Agency on January 13, 2009. By **December 31, 2021**, the Permittee shall update and resubmit for review the plan for the facility, pump stations, and stream crossings; the update shall also address the collection system. The Permittee shall implement the plan on approval. Through the term of this permit, the Permittee shall revise as necessary these plans to reflect any changes to the equipment or operation of the facility.

5. Engineering Evaluation

A 20-year engineering evaluation has not been completed for the St. Johnsbury WWTF and is therefore required for submission during the period of the proposed permit. By **December 31, 2019**, the Permittee shall conduct an in-depth engineering inspection/evaluation of the wastewater treatment facility and shall submit a written report of the results to the Secretary.

6. Electric Power Failure Plan

Within 90 days of the effective date of the permit, the Permittee must submit to the Secretary updated documentation addressing how the discharge will be handled in the event of an electric power outage.

7. Electronic Reporting

EPA recently promulgated a final rule to modernize the Clean Water Act reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. The final rule requires the inclusion of electronic reporting requirements in NPDES permits that become effective after December 21, 2015. The rule requires that NPDES regulated entities that are required to submit DMRs, including majors and nonmajors, individually permitted or covered by a general permit, must do so electronically after December 2016. The Secretary has created an electronic reporting system for DMRs and has recently trained facilities in its use. The Secretary completed a phased roll out of mandatory electronic reporting. As of December 2020, these NPDES facilities will also be expected to submit additional information electronically as specified in Appendix A in 40 C.F.R. Part 127.

8. Noncompliance Notification

As required by the passage of 10 V.S.A. § 1295, promulgated in the 2016 legislative session, Condition II.A.2 has been included in the proposed permit. This condition requires the Permittee to provide public notification of untreated discharges from WWTFs. The Permittee is required to post a public alert within one hour of discovery and submit to the Secretary specified information regarding the discharge within 12 hours of discovery.

9. Reopener

This draft permit includes a reopener whereby the Secretary reserves the right to reopen and amend the permit to implement an integrated plan to address multiple Clean Water Act obligations.

10. Reasonable Potential Determination (RPD)

The Secretary has conducted a reasonable potential analysis, which is attached to this Fact Sheet as Attachment A.

Based on available data, the Secretary has determined that this discharge does not have a reasonable potential to cause, or contribute to an instream toxic impact or instream excursion above the water quality criteria. In the instance that reasonable potential exists, the Clean Water Act requires the imposition of effluent limitations necessary to address the facility's proportion to the impairment.

Specific effluent limitations noted in the draft permit to address this contribution include reduced TN loads pursuant to the LIS TMDL, effluent WET test results as effluent limitations, and effluent monitoring requirements for TP, TAN, priority pollutants, among other constituents.

VIII. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from **November 17, 2017 through December 18, 2017** during which time interested persons may submit their written views on the draft permit. All written comments received by 4:30 PM on **December 22, 2017** will be retained by the Secretary and considered in the formulation of the final determination to issue, deny or modify the draft permit. The period of comment may be extended at the discretion of the Secretary.

Written comments should be sent to:

Agency of Natural Resources
Department of Environmental Conservation
Watershed Management Division
One National Life Drive, Main Building, 2nd Floor
Montpelier, VT 05620-3522

Comments may also be faxed to 802-828-1544 or submitted by e-mail to ANR.WSMDWastewaterComments@vermont.gov

For additional information, contact Jessica Bulova at 802-828-1535

Any interested person or groups of persons may request or petition for a public hearing with respect to this draft permit. Any such request or petition for a public hearing shall be filed within the public comment period described above and shall indicate the interest of the party filing such request and the reasons why a hearing is warranted.

The Agency will hold a hearing if there is significant public interest in holding such a hearing. Any public hearing brought in response to such a request or petition will be held in the geographical area of the proposed discharge or other appropriate area, at the discretion of the Agency and may, as appropriate, consider related groups of draft permits. Any person may submit oral or written statements and data concerning the draft permit at the public hearing. The Agency may establish reasonable limits on the time allowed for oral statements and may require the submission of statements in writing. All statements, comments, and data presented at the public hearing will be retained by the Agency and considered in the formulation of the final determination to issue, deny, or modify the draft permit.

The complete application, draft permit, and other information are on file and may be inspected by appointment on the 2nd floor of the Main Building at One National Life Drive, Montpelier, Vermont. Copies may be obtained by calling 802-828-1535 from 7:45 AM to 4:30 PM Monday through Friday, and will be made at a cost based upon the current Secretary of State Official Fee Schedule for Copying Public Records. The draft permit and fact sheet may also be viewed on the Watershed Management Division's website at http://www.watershedmanagement.vt.gov/.

Agency of Natural Resources
Department of Environmental Conservation

Watershed Management Division
1 National Life Drive 2 Main
802-828-1535

MEMORANDUM

To: Katie Parrish, Wastewater Program (WWP)

From: Rick Levey, Monitoring, Assessment and Planning Program (MAPP) Rick Levey 08/08/17

Cc: Pete LaFlamme, Director, WSMD
Jessica Bulova, Manager, WWP

Date: August 8, 2017

Subject: MAPP Reasonable Potential Determination for the St. Johnsbury Wastewater Treatment Facility (WWTF).

MAPP has evaluated the draft permit limits for the St. Johnsbury WWTF in St. Johnsbury, Vermont pursuant to the 2012 procedure outlining WWM-WSMD roles and responsibilities. This memoprovides MAPP's concurrence with the permit limits set forth by the draft permit for St. Johnsbury WWTF prepared by the WWMP.

Facility:
St. Johnsbury Wastewater Treatment Facility
Permit No. 3-1290
NPDES No. VT0100579

Hydrology for St. Johnsbury WWTF used in this evaluation:
Design Flow: 1.60 MGD = 2.47 CFS
7Q10 = 85.9 CFS
LMM = 226.8 CFS
IWC-7Q10 =0.028 (IWC > 1%)
IWC-LMM= 0.011 (IWC > 1%)

Receiving Water:
Passumpsic River, St. Johnsbury, VT
Facility Location: 44.41024, -72.01660 (WGS 84)

The Passumpsic River downstream of the St. Johnsbury WWTF is classified as Class B2 for all designated uses and is also designated a Cold-Water Fish Habitat. At the point of discharge, the riverhas a contributing drainage area of 430 square miles. The proposed permit retains the existing waste management zone (WMZ) in the Passumpsic River beginning at the outfall of this WWTF and extending approximately 4.8 miles downstream (Figure 1). There are several discharges upstream of this facility including the Lyndon WWTF and Danville WWTF and Weidmann Electrical.

General Assessment – VTDEC Assessment Database:
MAPP maintains the VTDEC assessment database, an EPA-required database which describes the conditions of Vermont's surface waters with respect to their attainment of the 2017 Vermont Water Quality Standards (VWQS). For the Passumpsic River segment to which this facility discharges, the database indicates full support of all designateduses.

Ambient Chemistry Data for the Passumpsic River above and below the St Johnsbury WWTF:
There is ambient chemistry data available above and below the WWTF discharge from VTDECwater quality sampling conducted in 2000, 2005, 2010, 2012, and 2015 (additional years of data going back to 1985 available but not included) at River Mile (RM) 8.6 and RM 6.7 respectively. There is also influent/effluent chemistry data from 2012 and 2013. Additionally, it is important to consider the contribution of the Sleepers River, a medium sized tributary joining the Passumpsic River between the two sampling locations.

Water chemistry measures for the following parameters are available: temperature, pH, conductivity, hardness, turbidity, total ammonia nitrogen, total nitrogen, total phosphorus and dissolved oxygen as summarized in Tables 1 & 2. Priority metals were also analyzed and were all below detectionlimits (Table 6).

Data representativeness was assessed by evaluating the flow conditions at which samples werecollected and from the most proximally-located USGS gauge for which data were available (USGS 01135500 on the Passumpsic River and USGS 01135300 on the Sleepers River), and in consideration of possible downstream sensitive reaches. The location of the upstream and downstream sampling locations, RM 8.6 and RM 6.7, bracket the WWTF outfall (Figure 1). The downstream sampling location is the most sensitive location and although it is a considerable distance below the outfall location, it is the first riffle habitat available to sample since the Passumpsic Dam creates a "backwater" downstream of the outfall location. The sampling results are representative of low flows based on the actual flows shown fromthe USGS gauge, and field notes collected by DEC technical staff. Thus, the data presented below are relevant for inclusion in this analysis.

Table 1. Concentrations of surface-water chemistry above and below the St. Johnsbury Wastewater Treatment Facility (River mile 8.6 and 6.7 refer to stations above and below the outfallrespectively).

Sample Date	River Mile	Water Temp (deg C)	pH	Conductivity (umho/cm)	Hardness	DO (%)	DO (mg/l)	Turbidity (NTU)	Total Phosphorus (ug/l)	Total Nitrogen (mg/l)	Total Ammonia Nitrogen (mg/l)
08/13/10	6.7	20.56	8	222	93.5	82.8	7.27	0.99	14.9	0.26	< 0.05
	8.6	20.39	8.4	212	88.9	98.2	8.67	0.64	12.6	0.24	< 0.05
09/08/10	6.7	18.92	8	287	91.4	81.2	7.26	1.8	30.5	0.43	< 0.05
	8.6	19.36	8.3	256	99.7	83	7.39	1.25	13.6	0.25	< 0.05
11/15/10	6.7	3.61	7.4	182	-	86.8	11.14	1.29	11.5	0.34	< 0.05
	8.6	3.74	7.6	166	-	105	13.5	1.19	8.79	0.31	< 0.05
07/13/12	6.7	22.7	8.1	293	-	-	-	2.73	23.5	0.46	< 0.05
	8.6	23.8	8.3	277	-	-	-	1	10.9	0.32	< 0.05
08/15/12	6.7	22.8	7.9	245	-	-	-	1.17	22.7	0.35	< 0.05
	8.6	23.1	8.3	227	-	-	-	1.36	15	0.27	< 0.05
08/20/12	6.7	20.5	8.3	290	-	-	-	-	23.4	0.49	-
09/10/12	6.7	16.6	8.1	166.8	71.8	93.4	8.79	3.43	22.4	0.33	-
	8.6	16.6	8.2	157.5	68.5	96.3	9.05	1.85	16.7	0.27	-
09/12/14	6.7	-	-	-	-	-	-	-	21.4	0.39	-
08/03/15	6.7	24	8.1	154.4	-	-	-	1.96	18.4	0.46	< 0.05
	8.6	19.8	8.2	138.9	-	-	-	0.98	9.2	0.38	< 0.05
08/20/15	6.7	24.2	8.1	298.4	-	84	6.77	1.25	26.7	0.43	0.055
	8.6	23.4	8.2	274.2	-	102.7	8.57	0.55	9.82	0.34	< 0.05
09/18/15	6.7	19.3	7.9	227.7	89.2	83.8	7.65	1.7	20.9	0.38	< 0.05
	8.6	18.5	8.1	211.1	84.2	107	9.62	0.97	13.9	0.32	< 0.05

Table 2. Concentrations of surface-water chemistry from the Sleepers River, below the St. Johnsbury Wastewater Treatment Facility.

Site and River Mile (RM)	Sample Date	Water Temp (deg C)	pH	Conductivity (umho/cm)	Hardness	DO (%)	DO (mg/l)	Turbidity (NTU)	Total Phosphorus (ug/l)	Total Dissolved Phosphorus (ug/l)	Total Nitrogen (mg/l)
Sleepers River	9/8/2010	19.23	7.9	390	176	105	9.54	1.5	11.1	10.3	0.23
0.4	9/2/2015		8.4	353	194			1.2	7.31		0.27

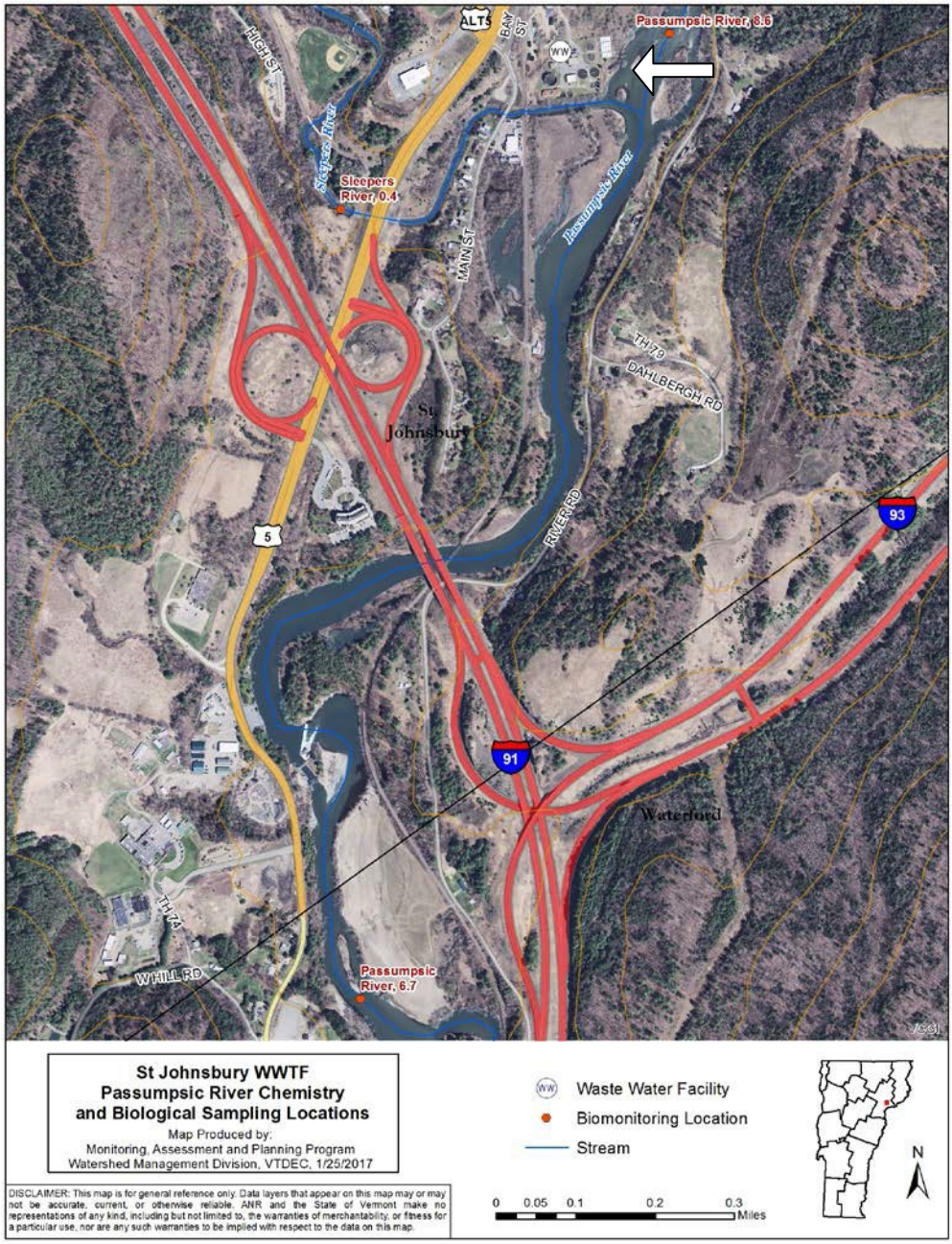

Figure 1. Passumpsic River near the St. Johnsbury WWTF, showing up and downstream sampling locations (RM 8.6 & 6.7) and Sleepers River (RM 0.4) sampling location. White arrow denotes approximate location of discharge.

Nutrients:

Total Phosphorus (TP) values below the outfall (RM 6.7) ranged from 11.5 – 30.5 µg/L, the highest concentration observed was on 9/8/2010. TP values above the outfall (RM 8.6) ranged from 8.8-16.7 µg/L. Total Nitrogen (TN) values below the outfall (RM 6.7) ranged from 0.26 – 0.49 mg/L, andabove the outfall (RM 8.6) ranged from 0.24 - 0.38 mg/L.

Turbidity, Dissolved Oxygen, pH:
Turbidity values below the outfall (RM 6.7) ranged from 0.99 – 3.43 Nephelometric Turbidity Units (NTU). Turbidity above the outfall (RM 8.6) ranged from 0.55 – 1.85 NTU. Dissolved oxygen below the outfall ranged from 6.77 mg/L to 11.14 mg/L, percent saturation below the outfall ranged from 81.2 – 93.4 percent. The dissolved oxygen and percent saturation above the outfall ranged from 7.39 mg/L–13.5 mg/L and 83.0 – 107 percent respectively. All pH values were within the range of VWQS, below the outfall pH ranged from 7.4 - 8.3, above the outfall the pH range was 7.6 – 8.4.

Biological Assessments:
The most recent biological assessments were conducted above and below the WWTF outfall in 2010, 2012 and 2015; a sample was collected below the discharge in 2005 (Table 3). All bioassessments conducted above and below the WWTF met and exceeded WQS for Warm Water Medium Gradient streams.

Table 3. Results of the Biological Monitoring for Macroinvertebrates on the Passumpsic River, above and below the St. Johnsbury WWTF discharge.

Macroinvertebrate Site Summary

Location:	Passumpsic River	**Location ID:**	501499/501498
Town:	St. Johnsbury	**Bio Site ID:**	210000000086/67
Description:	Sites Above and Below St Johnsbury WWTF Effluent Discharge.	**WBID:**	VT15-01
Stream Type:	Warm Water Medium Gradient		

Date	Location	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
9/21/2000	ABOVE	4182	54.5	27.5	70.1	4.60	0.05	0.83	0.63	Meets WQS
	BELOW	2384	51.0	24.0	72.6	4.37	0.41	0.85	0.66	Meets WQS
9/6/2005	BELOW	2422	50.0	23.0	69.7	4.45	2.81	0.91	0.46	Meets WQS
9/8/2010	ABOVE	4936	59.0	33.0	67.0	4.06	1.05	0.93	0.56	Meets WQS
	BELOW	5432	70.0	33.0	74.7	4.79	1.99	0.75	0.62	Meets WQS
9/10/2012	ABOVE	2972	53.0	28.0	80.3	4.44	1.08	0.83	0.59	Meets WQS
	BELOW	2412	49.0	34.0	78.3	4.34	0.00	0.97	0.56	Meets WQS
9/18/2015	ABOVE	4724	57.0	31.0	74.5	4.38	12.02	0.92	0.56	Meets WQS
	BELOW	4640	66.0	34.0	75.9	4.27	3.79	0.84	0.70	Meets WQS
Full Support		≥ 350	≥ 32	≥ 17	≥ 50	≤ 5.35	≤ 9.5	≥ 0.47	≥ 0.45	
Meets Threshold		≥ 300	≥ 30	≥ 16	≥ 45	≤ 5.4	≤ 12	≥ 0.45	≥ 0.4	
Near Threshold		≥ 250	≥ 28	≥ 15	≥ 40	≤ 5.65	≤ 14.5	≥ 0.43	≥ 0.35	
Non-Support		< 250	< 28	< 15	< 40	> 5.65	> 14.5	< 0.43	< 0.35	

*Scoring Guidelines for Stream Type WWMG and WQ Class B.

Total Nitrogen:
EPA, in a November 10, 2011 letter to the Agency indicated that Vermont must establish total nitrogen limitations in permits such that the total nitrogen load from all facilities in the Connecticut River watershed is consistent with the requirements of the Long Island Sound Total Maximum Daily Load (TMDL). We note and support the requirement for an optimization study to address controllable nitrogen discharges, and further note the requirement for a renewed engineering analysis, which will indicate options for the facility compliance with the Long Island Sound TMDL Wasteload Allocation.
These beneficial provisions will ensure that receiving waters remain fully compliant with Vermont Water Quality Standards. Further, weekly monitoring will be required for Total Kjeldahl Nitrogen and Nitrate/Nitrite (NOx) Nitrogen. The sum of TKN and NOx shall be calculated to determine Total Nitrogen (TN).

The Wastewater Treatment Facility effluent was characterized by VTDEC during 2012-2013 sampling effort to obtain data that would be needed for establishing a Total Nitrogen wasteload allocation forthe Long Island Sound TMDL. Results of the 8-hour composite effluent water chemistry parameters: total phosphorus (TP), total nitrogen (TN), nitrate + nitrite (NOX) and total kjeldahl nitrogen (TKN) are summarized in Table 4.

Table 4: Concentrations of effluent and influent chemistry (8-hour composite) for the St. Johnsbury Wastewater Facility.

	Effluent				Influent		
Date of Sample Collection	**TKN (mg/L)**	**TNOX (mg-N/l)**	**TN (mg/L)**	**TP (mg/L)**	**TKN (mg/L)**	**NOX (mg-N/l)**	**TN (mg/L)**
6/6/2012	3.7	9.7	14.9	0.7	28	<.05	29.0
7/3/2012	3.3	8.4	12.2	1.2	58	<.05	64.1
8/14/2012	3.9	13.9	18.5	1.4	38	<.05	36.6
11/6/2012	4.0	10.3	14.5	1.0	78	<.05	67.6
12/4/2012	2.7	7.6	10.4	0.8	36	<.05	38.6
1/8/2013	3.9	11.6	15.3	0.8	34	<.05	32.0
2/5/2013	6.6	9.7	17.3	0.7	38	0.24	36.3

Total Phosphorus:
Instream phosphorus concentrations were calculated using the low monthly median flow (LMM) of 226.8 CFS at design flow of 2.47 CFS (1.6 MGD) and using the effluent phosphorus concentration of 1.0 mg/L which was the average concentration overserved during the VTDEC 2012 /2013 study (Table 4) and is also reflective of recent 2015 effluent monitoring data. The calculated phosphorus concentration at these conditions attributable to the discharge was 0.011 mg/L (11µg/L). The average instream TP observed below the outfall in 2015 (RM 6.7) was 21.4 µg/L (Table 1). The average TP observed above theoutfall (RM 8.6) in 2015 was 12.2 µg/L, adding the 11µg/L-TP attributable from the discharge from computations above would yield instream TP concentration of 23.2 µg/L-TP, the average TP concentration observed below the outfall (RM 6.7) in 2015 was 22.0 µg/L.

While the mass balance calculations shown above do reflect instream sampling values, flowrecords indicate that the St. Johnsbury facility has been operating at less than ½ design flow, which wouldlower the TP attributable to the facility to about 5.5 µg/L. There are several streams entering the Passumpsic River between the above and below sampling locations, cumulatively they may be adding several micrograms of TP to the river. The Sleepers River is the largest, limited chemistry data from Sleepers (RM 0.4) indicates TP values average about 9 µg/L, at LMM flow conditions this would add about 1µg/L-TP to the Passumpsic River.

The potential impacts of phosphorus discharges from this facility to the receiving water have been assessed in relation to the narrative criteria in §§29A-303 and 29A-306 of the VWQS, which establish narrative and numeric nutrient criteria for phosphorus.

To implement these criteria, MAPP relies on a framework which examines TP concentrations inrelation to existing response criteria in the water quality standards, for streams that can be assessed using macroinvertebrate biocriteria. Under the framework, MAPP can make a positive finding ofcompliance

with the narrative standard when specific nutrient response variables; pH, Turbidity, DissolvedOxygen, and aquatic life use, all display compliance with their respective criteria in the Water QualityStandards.

The total phosphorus concentrations in the receiving waters below the outfall (RM 6.7) have been below the (2012-2015 data) Class B2 nutrient criterion value of 27 µg/L-TP established for Warm Water Medium Gradient Streams. Mass balance calculations presented above, indicated that increases in phosphorus attributable to the facility are modest. Aquatic life use is shown to be fully supported at high levels, and the stream complies with VWQS for all identified response variables. Therefore, the criteria presented in§§29A-303 and 29A-306 of the VWQS are supported (Table5). As described below, for facilities where there are increases in phosphorus attributable to the discharge, and biological monitoring results do consistently indicate attainment of all thresholds, MAPP does not recommend biomonitoring be included in the permit. To better assess compliance with the VWQS nutrient criteria at the next permit issuance, MAPP does support effluent monitoring detailed in the draft permit.

Table 5. Assessment of phosphorus response variables for St. Johnsbury WWTF. The relevanttarget values are referenced to the appropriate section of the VWQS.

Response variable (VWQS §29A-306(a)(3)(C))	Target Value	River-mile 8.6 (Upstream) 9/18/2015	River-mile 6.7 (Downstream) 9/18/2015
pH , range	<8.5 s.u.	8.14	7.87
Turbidity, range	< 10 NTU at low mean annual flow	0.97	1.7
Dissolved Oxygen, min	>6 mg/L and 70% saturation	9.62 (107%)	7.65 (83.8%)
Aquatic biota, based on macroinvertebrates, also see Table 3.	Attaining an assessment of good, or better.	Meets WQS	Meets WQS

Whole Effluent Toxicity (WET) and Priority Pollutant Testing:
40 CFR Part 122.44(d)(1) requires the Agency to assess whether the discharge causes, or has the reasonable potential to cause or contribute to an excursion above any narrative or numeric water quality criteria. The goal of the Vermont Toxic Discharge Control Strategy is to assure that the state water quality standards and receiving water classification criteria are maintained. As required in the 2006permit issued, a two-species WET test was conducted in 2008 and 2010. Review of the 2008 and 2010 WET test results indicate there was no effluent toxicity. The draft permit includes a requirement to conduct a two-species 48-hour acute and 96-hour chronic WET test in August or September of 2019 and 2021 and March or April 2018 and 2020. If the results of the tests indicate a reasonable potential to cause an instream toxic impact, the Department may require additional WET testing, establish a WET limit, or require a Toxicity Reduction Evaluation.

Ammonia Monitoring:
Review of the St. Johnsbury WWTF effluent ammonia records from 2012 - 2016, indicate effluent ammonia concentrations ranged from 0.7 mg – 2.7 mg TAN/L. Using the highest effluent ammonia concentration of 2.7 mg/L TAN observed in 2015, the receiving water concentration (RWC) at 7Q10 instream waste concentration (IWC) of 2.8% used for implementing the acute criteria would be 0.075 mg TAN/L (7Q10 IWC .028 X 2.7 mg TAN/L). This value is below both the chronic and acute criteria, illustrating that there is not a reasonable potential for VWQS excursion. MAPP supportsthe ammonia monitoring be continued to provide additional data for evaluation.

Sediment, Hardness, and Metals:
Instream total suspended solids were calculated using the 7Q10 of 85.9 CFS at design flow of 2.47 CFS (1.6 MGD), assuming the maximum permitted daily concentration of 50 mg/L. The calculated suspended sediment concentration at these conditions was 1.4 mg/L, indicating a minor augmentation of instream ambient suspended sediment concentrations in receiving waters.

The hardness of the Passumpsic River below the St. Johnsbury WWTF (RM 6.7) was recorded to be 89.2 mg/L CaCO3 on 9/18/2015 (Table 1). Hardness data is utilized to determine compliance with Vermont's aquatic biota based metals criteria as specified in § 29A-303(7) and Appendix C of the Vermont Water Quality Standards. Vermont DEC priority metal chemistry data above and below the outfall (Table 6) did not detect any exceedances and were below detection limits for arsenic, cadmium, chromium, copper, lead, nickel and zinc.

Table 6. Passumpsic River and Sleepers River Metals (Total) Water Chemistry – above and below the St. Johnsbury WWTF outfall.

Date	09/18/15		09/02/15
Site (River Mile)	Above (8.6)	Below(6.7)	Sleepers River 0.4
Aluminum (ug/l)	73.5	132	< 50
Antimony (ug/l)	< 10	< 10	< 10
Arsenic (ug/l)	< 1	< 1	< 1
Beryllium (ug/l)	< 1	< 1	< 1
Cadmium (ug/l)	< 1	< 1	< 1
Chromium (ug/l)	< 5	< 5	< 5
Cobalt (ug/l)	< 1	< 1	< 1
Copper (ug/l)	< 10	< 10	< 10
Hardness (mg/l)	84.2	89.2	194
Iron (ug/l)	156.9	226.9	161.9
Lead (ug/l)	< 1	< 1	< 1
Manganese (ug/l)	38.8	66.5	81.7
Molybdenum (ug/l)	< 5	< 5	< 5
Nickel (ug/l)	< 5	< 5	< 5
Selenium (ug/l)	< 5	< 5	< 5
Silver (ug/l)	< 1	< 1	< 1
Thallium (ug/l)	< 1	< 1	< 1
Zinc (ug/l)	< 50	< 50	< 50

Recommended Biological and Water Quality Monitoring:
In light of the fact that biological monitoring results consistently indicate attainment of all thresholds, and the stream complies with VWQS for all identified response variables, and thus the narrative standard presented in §3-01.B.2 of the VWQS is supported (Table 5), MAPP does not recommend biomonitoring be included in the permit. To better assess compliance with the 2014 nutrient criteria MAPP doessupport effluent monitoring detailed in the draft permit.

Conclusion:

The available data indicate that this discharge does not cause, have a reasonable potential to cause, or contribute to an instream toxic impact or instream excursion above the water quality criteria, and assuch, the development of a WQBEL's will not be necessary. The effluent water quality monitoring and chemical and biological assessments conducted above and below the St. Johnsbury WWTF discharge to date supports this conclusion.

AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
1 NATIONAL LIFE DRIVE – MAIN 2
MONTPELIER, VERMONT 05620-3522

NOTICE:	DRAFT DISCHARGE PERMIT
PUBLIC NOTICE NUMBER:	3-1290
PUBLIC COMMENT PERIOD:	November 17 – December 22, 2017

PERMITTEE INFORMATION

PERMITTEE NAME:	City of St. Johnsbury
PERMITTEE ADDRESS:	1187 Main Street Suite 2 St. Johnsbury, VT 05819
PERMIT NUMBER:	3-1290
PROJECT ID NUMBER:	SJ87-0002

DISCHARGE INFORMATION

NATURE:	Municipal wastewater including domestic, commercial, and industrial wastewaters.
VOLUME:	1.6 MGD
RECEIVING WATER:	Passumpsic River
EXPIRATION DATE:	December 31, 2022
DESCRIPTION:	Draft discharge permit renewal proposed for issuance to the City of St. Johnsbury for the discharge of municipal wastewater from the St. Johnsbury Wastewater Treatment Facility to the Passumpsic River.

TENTATIVE DETERMINATIONS

Tentative determinations regarding effluent limitations and other conditions to be imposed on the pending Vermont permit have been made by the State of Vermont Agency of Natural Resources. The limitations imposed will assure that the Vermont Water Quality Standards and applicable provisions of the Federal Clean Water Act, PL 92-500, as amended, will be met.

FURTHER INFORMATION

The complete application, proposed permit, and other information are on file and may be inspected by appointment on the 2nd floor of the Main Building at 1 National Life Drive, Montpelier, Vermont. Copies, obtained by calling 802-828-1535 from 7:45 AM to 4:30 PM Monday through Friday, will be made at a cost based upon the current Secretary of State Official Fee Schedule for Copying Public Records. The draft permit and fact sheet may also be viewed on the Wastewater Management Program's website at http://dec.vermont.gov/watershed/wastewater.

PUBLIC COMMENTS

Written public comments on the proposed permit are invited and must be received on or before the close of the business day (4:30 pm) on **December 22, 2017** to the Agency of Natural Resources, Department of Environmental Conservation, Watershed Management Division, 1 National Life Drive – Main 2, Vermont 05620-3522. Comments may also be submitted by e-mail to ANR.WSMDWastewaterComments@vermont.gov. All comments received by the above date will be considered in formulation of the final determinations.

FINAL ACTION/RIGHTS TO APPEAL TO THE ENVIRONMENTAL COURT

At the conclusion of the public notice period and after consideration of additional information received during the public notice period, VANR will make a final determination to issue or to deny the permit. Pursuant to 10 V.S.A. Chapter 220, any appeal of this decision must be filed with the clerk of the Environmental Court within 30 days of the date of the decision. The appellant must submit the Notice of Appeal and include the applicable filing fee, payable to the state of Vermont.

The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Court; and must be signed by the appellant or their attorney. In addition, the appeal must give the address or location and the description of the property, project or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal.

The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings.

The address for the Vermont Environmental Court is: Vermont Superior Court, Environmental Division, 32 Cherry Street, 2nd Floor, Suite 303, Burlington VT 05401 (Tel. 802-951-1740). For further information see the Vermont Rules for Environmental Court Proceedings, available at www.vermontjudiciary.org.

Emily Boedecker, Commissioner
Department of Environmental Conservation