VERMONT

Vermont Department of Environmental Conservation
Watershed Management Division
1 National Life Drive, Main-2
Montpelier VT 05620-3522

Agency of Natural Resources

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September 18, 2019

Mr. Dominic Cloud
City Manager
City of St. Albans
P.O. Box 867
St. Albans, VT 05478

Subject: NPDES Discharge Permit #3-1279
Updated Total Residual Compliance Limit

Dear Mr. Cloud:

The following amendments were made to discharge permit 3-1279 originally issued September 28, 2017:

1. Pages 2 & 3. In section I.A.1, I.A.2 a footnote has been added clarifying that a testing method must be used that has a Minimum Level no greater than 0.05 mg/L and that the Compliance Level for Total Residual Chlorine is 0.05 mg/L. This has been done because the permit's limitation for Total Residual Chlorine of 0.02 mg/L is less than the Minimum Level of the EPA approved methods and therefore the Minimum Level is used for compliance purposes.
2. Page 5. Section I.A.13 has been added. This section includes the text of the footnote described above and the additional information that samples with a Total Residual Chlorine concentration of 0.05 mg/L or less are considered to be in compliance with the permit limits.

These changes do not alter the limits of your permit or require any actions upon your part. They have been made in order to clarify that while a Total Residual Chlorine limit of 0.02 mg/L is necessary to protect aquatic life in the receiving waters, the available analysis methods are limited by a Minimum Level of 0.05 mg/L and that this value is used to determine compliance.

If you have any questions I can be reached at 802 490 6188 or at john.merrifield@vermont.gov .

Sincerely,

John Merrifield
Environmental Analyst

cc: Brian Willett, Chief Operator, St. Albans City Wastewater Treatment Facility
Chris Gianfagna, Manager, Wastewater Program, Watershed Management Div.
Jill Draper, Environmental Technician, Business & Operational Support Services,Watershed Management Division
City of St. Albans Electronic Compliance File

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.: 3-1279
PIN: EJ95-0314
NPDES No.: VT0100323

Name of Applicant: City of St Albans
PO Box 867
St. Albans, VT 05478

Expiration Date: September 30, 2022

AMENDED 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 City of St. Albans, Vermont (hereinafter referred to as the "Permittee") is authorized by the Secretary of the Agency of Natural Resources (Agency) to discharge from the St. Albans Wastewater Treatment Facility (WWTF) to Lake Champlain via contiguous Stevens Brook wetland complex in accordance with the following conditions.

This permit shall become effective on October 1, 2017

Emily Boedecker, Commissioner
Department of Environmental Conservation

By: _____ Date: 9/18/19

Chris Gianfagna, Wastewater Section Manager
Watershed Management Division

I. SPECIAL CONDITIONS

A. EFFLUENT LIMITS

1. During the term of this permit, for the period of **October 1 through May 31**, the Permittee is authorized to discharge from outfall serial number S/N 001 of the St. Albans City WWTF to the Stevens Brook wetlands contiguous with Lake Champlain, 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) [1]	4.0 MGD							
Biochemical Oxygen Demand (BOD_5)		1001	1501		30	45	50	
Total Suspended Solids (TSS)		1001	1501		30	45	50	
Total Phosphorus (TP) [2,3]	2436 lbs.				0.5			
Total Phosphorus (TP) [2,3,7]	6,089 lbs.				0.5			
Total Nitrogen (TN) [4]		Monitor only			Monitor only			
Total Kjeldahl Nitrogen (TKN) [4]					Monitor only			
Nitrate/Nitrite Nitrogen (NO_x) [4]					Monitor only			
Total Ammonia Nitrogen (TAN)		Monitor only			Monitor only			
Settleable Solids								1.0 ml/l
Escherichia coli prior to dechlorination								77/100 ml
Total Residual Chlorine (TRC)[8]								0.02 mg/L
TRC prior to dechlorination [5]								Monitor only
pH					Between 6.5-8.5 Standard Units			
Whole Effluent Toxicity, C-NOEC [6]								100%

[1] 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] TP shall be reported as total monthly pounds, running total annual pounds, and percentage of running total annual pounds to annual permit limitation. See Condition I.B.5.
[3] The Permittee shall operate the facility to meet the concentration limitations or pounds limitation, whichever is more restrictive.
[4] Total nitrogen (TN) shall be reported as pounds, calculated as: *TN (lbs) = Average TN (mg/L) x Total Daily Flow x 8.34*; where, *TN (mg/L) = TKN (mg/L) + NOx (mg/L)*
[5] 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.
[6] C-NOEC is the No-Observed-Effect (chronic)-Concentration of the effluent in a sample.
[7] Total phosphorus effluent limitations of 6,089 lbs. in effect until the completion of the phosphorus removal system upgrade or by no later than July 1, 2020.
[8] For the purposes of this permit, TRC analysis must be completed using a test method in 40 C.F.R. § 136 that achieves a minimum level no greater than 0.05 mg/L. The compliance level for TRC is 0.05 mg/L.

2. During the term of this permit, for the period of **June 1 through September 30**, the Permittee is authorized to discharge from outfall serial number S/N 001 of the St. Albans City WWTF to the Stevens Brook wetlands contiguous with Lake Champlain, 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) [1]	4.0 MGD							
Biochemical Oxygen Demand (BOD_5)		334			10			
Total Suspended Solids (TSS)		334			10			
Total Phosphorus (TP) [2,3]	2436 lbs.				0.5			
Total Phosphorus (TP) [2,3,7]	6,089 lbs.				0.5			
Total Nitrogen (TN) [4]		Monitor only			Monitor only			
Total Kjeldahl Nitrogen (TKN) [4]		334			10			
Nitrate/Nitrite Nitrogen (NO_x) [4]					Monitor only			
Total Ammonia Nitrogen (TAN)		Monitor only			Monitor only			
Settleable Solids								1.0 ml/l
Escherichia coli prior to dechlorination								77/100 ml
Total Residual Chlorine (TRC) [8]								0.02 mg/L
TRC prior to dechlorination [5]								Monitor only
pH					Between 6.5-8.5 Standard Units			
Whole Effluent Toxicity, A-NOEC [6]								100%

[1] 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] TP shall be reported as total monthly pounds, running total annual pounds, and percentage of running total annual pounds to annual permit limitation. See Condition I.B.5.
[3] The Permittee shall operate the facility to meet the concentration limitations or pounds limitation, whichever is more restrictive.
[4] Total nitrogen (TN) shall be reported as pounds, calculated as: *TN (lbs) = Average TN (mg/L) x Total Daily Flow x 8.34*; where, *TN (mg/L) = TKN (mg/L) + NO_x (mg/L)*
[5] 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.
[6] C-NOEC is the No-Observed-Effect (chronic)-Concentration of the effluent in a sample.
[7] Total phosphorus effluent limitations of 6,089 lbs. in effect until the completion of the phosphorus removal system upgrade or by no later than July 1, 2020.
[8] For the purposes of this permit, TRC analysis must be completed using a test method in 40 C.F.R. § 136 that achieves a minimum level no greater than 0.05 mg/L. The compliance level for TRC is 0.05 mg/L.

3. 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.

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

5. 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.

6. 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.

7. Any action on the part of the Secretary in reviewing, commenting upon or approving plans and specifications for the construction of WWTFs 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.

8. The Permittee shall convey all wastewater flows up to 8.0 million gallons per day (MGD) through primary, secondary, and tertiary wastewater treatment units.

9. If secondary treatment capacity of 8.0 MGD is exceeded, the Permittee shall not discharge septage into the treatment process.

10. If secondary treatment capacity of 8.0 MGD is exceeded, the discharge of by-passed flow must not violate water quality standards, must comply with the limits in Condition I.A.1 of the permit, and be sampled at a representative location as specified in I.A.11.

11. If discharging effluent that by-passes secondary treatment, the Permittee shall sample S/N 001 at a representative location after the treated effluent and the partially-treated (primary treatment and disinfected) effluent have combined.

a) In addition to the sampling frequencies specified in Condition I.G.2., the Permittee shall sample the combined discharge during a minimum of 12 flow bypass events.

b) Samples shall be analyzed for the parameters and comply with the limitations specified in Condition I.A.1 and Condition I.A.2 above, except Whole Effluent Toxicity. The results shall be highlighted on the monthly Discharge Monitoring Reporting (DMR) form WR-43 and incorporated into the monitoring results.

c) Grab samples for E. *coli*, TRC, pH, and settleable solids shall be representative of the combined discharge during the bypass event to the extent practicable.

12. If discharging effluent that by-passes secondary treatment, the Permittee shall maintain the capability to: chlorinate the tertiary effluent immediately following filtration, chlorinate the combined discharge during high flow bypass mode, and dechlorinate at the Brigham Road manhole.

13. For the purposes of this permit, TRC analysis must be completed using a test method in 40 C.F.R. § 136 that achieves a minimum level no greater than 0.05 mg/L. The compliance level for TRC is 0.05 mg/L. Samples with a TRC concentration of 0.05 mg/L and below will be considered in compliance.

B. TOTAL PHOSPHORUS

1. Waste Load Allocation and Implementation Schedule

This permit includes a formal total phosphorus (TP) waste load allocation (WLA) of 2436 lbs., or 1.105 metric tons, per year, as established by the United States Environmental Protection Agency (U.S. EPA) in the 2016 "Phosphorus TMDLs for Vermont Segments of Lake Champlain" (TMDL). The Secretary reserves the right to reopen and amend this permit, pursuant to Condition II.B.4 of this permit, to include an alternate TP limitation or additional monitoring requirements based on the monitoring data or the results of phosphorus optimization activities, or a reallocation of phosphorus wasteload allocations between the Permittee and another WWTF pursuant to the requirements of TMDL and Vermont's "Wasteload Allocation Process" Rule (Environmental Protection Rule, Chapter 17).

The Permittee shall achieve compliance with the TP limit of **2436 lbs** (1.105 metric tons) annual load, as specified in Condition I.A.1 and Condition I.A.2 of this permit, in accordance with the following schedule:

a) Within 120 days of permit issuance, the Permittee shall develop and submit a plan to the Secretary for review to ensure the WWTF is brought into compliance with its WLA. The plan shall be developed by qualified professionals with experience in the operation and design of WWTFs in consultation with the Chief Operator of the WWTF. The plan shall include:

i. Plans and specifications necessary to implement needed facility modifications;

ii. An engineer approved design and construction schedule, that shall ensure the WWTF's compliance with its WLA as soon as possible but no later than by July 1, 2020; and

b) **As soon as possible, but by no later than July 1, 2020**, the Permittee shall achieve compliance with the TP limitations specified in Condition I.A.1 and Condition I.A.2. From the effective date of the permit until that time, the facility shall have interim TP limits from the previous discharge permit (**6,089 lbs**., annually; **0.5 mg/L**, monthly average).

c) The Permittee shall notify the Secretary, in writing, within 30 days after completion of the facility modifications necessary to achieve compliance with the TP effluent limitations specified in Condition I.A.1 and Condition I.A.2.

d) The Permittee shall submit project progress reports pertaining to facility modifications necessary to achieve compliance with the TP effluent limitations specified in Condition I.A.1 and Condition I.A.2, for review by the Secretary. Progress reports shall be submitted on the following dates: **March 31, 2018, December 31, 2018,** and **September 31, 2019**.

Progress reports shall include the following:

i. A description of the progress the Permittee has made toward making the facility modifications necessary to achieve compliance with the TP effluent limitations specified in Condition I.A.1 and Condition I.A.2;

ii. An assessment as to whether the Permittee is on schedule in its efforts to comply with the date specified in Condition I.B.1.b); and

iii. If the Permittee is not on-track with its original design and construction schedule, the progress reports shall detail the steps the Permittee will take to ensure compliance with the date specified in Condition I.B.1.b).

2. Phosphorus Optimization Plan

a) **Within 120 days of completion of tertiary phosphorus treatment upgrades, or July 1, 2020, whichever occurs first**, the Permittee shall develop or update (as appropriate), and submit to the Secretary, a Phosphorus Optimization Plan (POP) to increase the WWTF phosphorus removal efficiency by implementing optimization techniques that achieve phosphorus reductions using primarily existing facilities and equipment. The POP shall:

i. Be developed by a qualified professional with experience in the operation and design of WWTFs in consultation with the WWTF;

ii. Evaluate alternative methods of operating the existing WWTF, including operational, process, and equipment changes designed to enhance phosphorus removal. The techniques to be evaluated may include operational process changes to enhance biological and/or chemical phosphorous removal, incorporation of anaerobic/anoxic zones, septage receiving policies and procedures, and side stream management.

iii. Determine which alternative methods of operating the existing WWTF, including operational, process, and equipment changes will be most effective at increasing phosphorus removal; and

iv. Include a proposed implementation schedule for those methods of operating the WWTF determined to be most effective at increasing phosphorus removal.

b) The Secretary shall review the POP. The Permittee shall commence implementation of the POP 60 days after submittal to the Secretary, unless the Secretary rejects the POP prior to that date for failure to meet the requirements of subsection (a) of this section.

c) The Permittee shall annually submit a report to the Secretary as an attachment to the monthly electronic Discharge Monitoring Report (DMR) form WR-43 that documents:

i. The optimization techniques implemented under the POP during the previous year.

ii. Whether the techniques are performing as expected.

iii. The phosphorus discharge trends relative to the previous year.

The first annual report shall include data collected during **2019**, and shall be attached to the December 2019 DMR form WR-43.

3. Phosphorus Elimination/Reduction Plan

a) The facility shall have **12-months from completion of tertiary phosphorus treatment upgrades, or July 1, 2020, whichever occurs first,** to optimize removal of TP.

b) If, after the 12-month optimization period, the WWTF's actual TP loads reach or exceed 80% of the TMDL WLA for the WWTF, based on the WWTF's 12-month running annual load calculated using the Running Total Annual Pounds calculation (Condition I.B.4) the Permittee shall, within 90 days of reaching or exceeding 80% of the TMDL WLA for the WWTF, develop and submit to the Secretary a projection based on the WWTF's current operations and expected future loadings of whether it will exceed its WLA during the permit term.

c) If the facility is not projected to exceed its WLA within the permit term, the WWTF shall reassess when it is projected to reach its WLA prior to seeking permit renewal and submit that information with its next permit application.

d) If the facility is projected to exceed its WLA during the permit term, the Permittee shall submit a Phosphorus Elimination/Reduction Plan (PERP) within 6 months to the Secretary to ensure the WWTF continues to comply with its WLA.

e) The PERP shall be developed by qualified professionals in consultation with the WWTF.

f) The PERP shall include:

i. An evaluation of alternatives to ensure the WWTF's compliance with its WLA;

ii. An identification of the chosen alternative or alternatives to ensure the WWTF's compliance with its WLA;

iii. A proposed schedule, including an engineer approved design and construction schedule and, if the chosen alternative or alternatives require a pilot study, a schedule for testing, that shall ensure the WWTF's compliance with its WLA as soon as possible; and

iv. A financing plan that estimates the costs for implementing the PERP and describes a strategy for financing the project

g) The PERP shall be treated as an application to amend the permit, and therefore, shall be subject to all public notice, hearing, and comment provisions, in place at the time the plan is submitted, that are applicable to permit amendments. The WWTF shall revise the PERP, if required by the Secretary.

4. Running Total Annual Pounds Calculation

Compliance with the annual TP limitation (as specified in Condition I.A.1.) will be evaluated each month, using the Running Total Annual Pounds Calculation. In order to calculate running, annual TP loading relative to the TMDL WLA:

a) Calculate the average of results for all TP monitoring events conducted in a month (Monthly Average TP Concentration). Units = mg/L

b) For flow, use the average daily flow for the month as reported on the DMR. Units = MGD

c) Calculate Total Monthly Pounds = Monthly Average TP concentraion × average daily flow from DMR × 8.34 × number of daily discharges in the month. Units = pounds.

d) Sum the results for the immediately preceding 12 months to derive the Running Total Annual Pounds.

5. Total Phosphorus Reporting

Total Phosphorus shall be reported monthly, via electronic Discharge Monitoring Report, in the following ways:

a) Monthly Average TP Concentration, as specified in Condition I.B.4.a.

b) Total Monthly Pounds, meaning the total monthly pounds of TP discharged during the month, as specified by Condition I.B.4.c.

c) Running Total Annual Pounds, meaning the 12-month running annual TP load, in pounds, as specified by Condition I.B.4.d.

d) Comparison (%) of Running Total Annual Pounds to Annual Permit Limitation (specified in Conditions I.A.1). The comparison shall be calculated as a percentage (%) as:

Running Total Annual Pounds / Annual TP Permit Limit × 100. Units = %.

C. WASTE MANAGEMENT ZONE

In accordance with 10 V.S.A. § 1252, this permit hereby establishes a waste management zone that extends from the outfall of the St. Albans WWTF in the Lake Champlain/Stevens Brook wetland complex to the Route 36 bridge (approximately 1 mile).

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: **March 31, 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 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 **January or February 2018 and 2020**, the Permittee shall conduct 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 **April 30, 2018 and April 30, 2020**, respectively.

The WET tests shall have a limit of No Observed Effect Concentration-Chronic (C-NOEC) at 100% effluent, where NOEC is the concentration of effluent in a sample that causes no observed effect (i.e. growth or reduced reproduction) to the test population at the chronic exposure interval of observation. WET tests shall include chemical analysis for TAN and TRC.

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 within 30 days of receipt of the confirmation sample results. If the WET confirmation sample 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.A. above.

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. Albans 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[1,4]
Total Nitrogen (TN)	1 × month	[calculated[2]]
Total Kjeldahl Nitrogen (TKN)	1 × month	composite[1,2,3]
Nitrate/Nitrite Nitrogen (NO_x)	1 × month	composite[1,2]
Total Ammonia Nitrogen (TAN)	1 x month	grab
Settleable Solids	1 × day	grab[5]
Escherichia coli (E. coli)	1 x week	grab[6]
Total Residual Chlorine (TRC)	1 × day	grab[6,7,8]
pH	1 × day	grab
Temperature	1 x year	grab
Dissolved Oxygen	1 x year	grab
Oil & Grease	1 x year	grab
Total Dissolved Solids	1 × year	composite

Samples collected in compliance with the monitoring requirements specified above shall be collected at the pump room wet well. During bypass mode (> 8.0 MGD), samples shall be collected at the bypass chamber after partially treated effluent combines with treated effluent, except samples for E. coli and TRC prior to dechlorination which shall be collected at the Brigham Rd manhole. Samples for TRC following dechlorination may be collected at the Kellogg Rd manhole.

[1] Composite samples for BOD_5, TSS, TP, TKN, and NO_x 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 monitoring is weekly from June through September and monthly from October through May.
[4] Submit TP results each month per Condition I.B.5.
[5] Settleable Solids samples shall be collected between 10:00 AM and 2:00 PM or during the period of peak flow.
[6] The weekly *E. coli* samples shall be collected at the same time and location as a daily TRC sample. Samples shall be collected between the hours of 6:00 AM and 6:00 PM.
[7] TRC shall be monitored and recorded both prior to and following dechlorination.
[8] *Samples for TRC following dechlorination may be collected at the Kellogg Rd manhole.*

3. Annual Constituent Monitoring

Annually, by **December 31**, the Permittee shall monitor S/N 001 for **temperature, dissolved oxygen, oil & grease** and **total dissolved solids** and submit the results, including units of measurement, as an attachment to the DMR form WR-43.

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 summer, the third in fall, and so forth in chronological order. For easy reference regarding the season in which you must sample, please refer to 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
Total Suspended Solids (TSS)	1 × month	composite

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 forms WR-43. Reports are due on the 15th day of each month, beginning with the month following the effective 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.

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

Until such time as the permittee is required by the Secretary to submit monitoring and reports electronically, the permittee shall send signed copies of these to the Secretary at the following address:

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

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.A of this permit.

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.

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. The Permittee shall implement the Operation, Management, and Emergency Response Plan for the treatment facility, sewage pump/ejector stations, and stream crossings as approved by the Secretary on August 13, 2008." 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, and sewer line stream crossings. This plan shall comply with the provisions of 10 V.S.A. § 1278. The Permittee shall implement the Operation, Management, and Emergency Response Plan upon Agency approval.

2. Upon approval by the Secretary, the Permittee shall implement the Operation, Management, and Emergency Response Plan for the sewage collection system submitted by the Permittee on July 6, 2010.

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 effective 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:

iii. Compliance with the Minimum Controls;

iv. The condition and operation of the CSS;

v. 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;

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

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

viii. 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 Condition 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 Section 304, 306, 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.

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 is notified of such discharge, 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 Department of Environmental Conservation'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 Section 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 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 effective 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. § Section 1268 reads as follows:

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

Application 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 constitutes 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 this 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 LC 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" (Section 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 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 emissions of any wastes, directly or indirectly into an injection well or into the into 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) – means 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.

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 – 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 the waste management zone 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
fluroranthene
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

[65 FR 42469, August 4, 1999]

ATTACHMENT B

CSO #	Location	Receiving Water	Latitude	Longitude
001	Lower Weldon Street	Stevens Brook	44.80881	-73.09359

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

AMENDED FACT SHEET FOR PERMIT (*August 2019*)

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

PERMIT NO: 3-1279
PIN: EJ95-0314
NPDES NO: VT0100323

NAME AND ADDRESS OF APPLICANT:

City of St. Albans
PO Box 867
St. Albans, VT 05478

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

St. Albans Wastewater Treatment Facility
190 Rewes Drive
St. Albans, Vermont

RECEIVING WATER: Lake Champlain via contiguous Stevens Brook wetland complex

CLASSIFICATION OF USES OF RECEIVING WATER: All uses are Class B(2) with a waste management zone. Class B(2) waters are suitable for swimming and 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 waste management zone 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 **February 27, 2013**. The City of St. Albans' current discharge permit was issued on **October 3, 2008** 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 City of St. Albans (Permittee) owns and operates the City of St. Albans wastewater treatment facility (WWTF). The WWTF is engaged in the treatment of municipal wastewater, including domestic, commercial, and industrial wastewaters and services the communities of the City of St. Albans and portions of the Town of St. Albans via a combined sewer system that collects both stormwater and sewage and conveys it to the WWTF. The collection system includes one combined sewer overflow (CSO) outfall into Stevens Brook.

The WWTF is designed to treat 4.0 million gallons per day (MGD) and average flow to the facility over the last 20 years is ~2.7 MGD. The WWTF employs solids screening, primary and secondary clarifiers, a trickling filter, rotating biological contactors (RBC), tertiary filters for effluent polishing, and disinfection by chlorination (with dichlorination prior to discharge) to achieve treatment of wastewater. The discharge is from the outfall of the St. Albans WWTF to the Stevens Brook wetlands complex contiguous with Lake Champlain.

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 Lake Champlain via the contiguous Stevens Brook wetlands complex. During the current permitting period (2006-2016), the discharge typically (average, daily) contained ~6 pounds of total phosphorus (TP), 21.6 pounds of ammonia-nitrogen, 157 pounds of biochemical oxygen demand (BOD_5), and 176 pounds of total suspended solids (TSS).

There is currently one overflow point within the City's combined sewer system to Stevens Brook, located at Lower Weldon Street.

III. Limitations and Monitoring Requirements

The draft permit contains effluent limitations for flow, BOD_5, TSS, TP, Total Kjeldahl Nitrogen (TKN), settleable solids, *Escherichia coli,* total residual chlorine, pH, and whole effluent toxicity. It also contains monitoring requirements for total nitrogen (TN), total ammonia-N, Total Kjeldahl Nitrogen, and nitrate/nitrite (NOx).

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 delegated 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 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 Vermont Water Quality Standards (VWQS) (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 VWQS, 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; 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 CWA 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 previous permit. The 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 previous permit.

V. Description of Receiving Water

The receiving water for this discharge is Lake Champlain via a contiguous wetland complex ("Black Creek Wetlands") at the lowest reaches of the Stevens and Jewett Brooks. The previous NPDES discharge permit issued in 2002 indicated the receiving water as Stevens Brook.

However, prior to reissuance of the permit in 2008, the Secretary investigated the exact location of the outfall. Based on site visits and a review of the "Record Plan City of St. Albans Outfall Sewer Sheet 2" dated April 1984, it was determined that due to the elevation of the outfall, the receiving water for this discharge is a wetland contiguous with Lake Champlain. Specifically, while the pipe outlets in a defined channel, the bottom of the outfall pipe is at 92.4' and is significantly below the lowest recorded lake level, therefore the discharge is constantly under the influence of Lake Champlain.

Lake Champlain is impaired for phosphorus and is subject to a TMDL that specifies the required TP limit for the facility. This is further discussed in Section VII.C.1 of this Fact Sheet.

VI. Facility History and Background

The City of St. Albans owns and operates the St. Albans WWTF. Originally constructed in 1930, the WWTF currently services the communities of the City of St. Albans and portions of the Town of St. Albans. From the sewer collection system, the influent to the WWTF enters the headworks for solids screening and grit removal, passes through primary clarifiers, then is pumped to a trickling filter for preliminary biological treatment. The wastewater then flows through rotating biological contactors (RBCs) and into a flocculation tank where alum and polymer are added for TP and suspended solids removal in the secondary clarifiers. Following secondary treatment, wastewater flows through sand filters for effluent polishing. Disinfection is achieved by chlorination followed by dechlorination prior to discharge to the receiving water.

The City also owns and operates a combined sewer system which collects both stormwater and sewage and conveys it to the WWTF for treatment. Combined flows up to 8.0 MGD to the WWTF receive primary, secondary, and tertiary treatment and disinfection at the WWTF. Combined storm and wastewater flows that exceed 8.0 MGD to the WWTF cause a portion of the flow to overflow a weir after the primary clarifiers, thus receiving only primary treatment and disinfection.

During certain precipitation/runoff events, the flow of combined stormwater and wastewater exceeds the capacity of the existing collection system and results in a CSO to Stevens Brook. There is currently one overflow point within the City's combined sewer system at Lower Weldon Street (see Attachment B of Discharge Permit No. 3-1279). In response to compliance schedules issued by the Department, the City has completed several construction projects designed to eliminate CSO events. This has included significant sewer separation projects during the 1990s and more recently in 2008 (See also discussion of CSOs below).

The St. Albans City WWTF also receives discharges from three facilities that have been issued pretreatment discharge permits:

- St. Albans Cooperative Creamery, Permit No: 3-1274, process wastewater
- Ben & Jerry's Homemade, Permit No: 3-1371, process wastewater discharge
- Malone 75 Swanton Road Properties LLC (formerly Energizer Battery Manufacturing Company), Permit No: 3-1488, organic solvent contaminated groundwater

Past WWTF upgrades have included new sludge dewatering equipment, renovations of the trickling filter (including changing the media from stone to plastic honeycombs) and rotating biological contactors (RBCs), and replacement of a boiler for the anaerobic digester.

The City is currently planning an extensive refurbishment of the WWTF (See "City of St Albans, Vermont Wastewater Treatment Facility Refurbishment, Basis of Final Design, May 2014/Dec 2014", by Aldrich + Elliot) with an anticipated start in the fall of 2017 and completion in the summer of 2019. The plan for refurbishment includes upgrading several components of the WWTF, as well as the installation of new tertiary phosphorus treatment technology for meeting new phosphorus WLA limits established in the EPA's "Phosphorus TMDLS for Vermont Segments of Lake Champlain" (June 2016).

The proposed draft permit incorporates the newest language and requirements to support the State of Vermont's compliance with the Lake Champlain 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 **4.0 MGD**. Continuous flow monitoring is required under this permit.

B. Conventional Pollutants

BOD_5, TSS, and TKN have two sets of limits corresponding to seasonal periods: *October 1 through May 31* and *June 1 through September 30,* the latter season having effluent concentration limits based on maintaining water quality standards in the receiving water rather than the minimum level of effluent quality specified for secondary treatment in 40 C.F.R. § 133.102.

1) Biochemical Oxygen Demand (BOD_5)

The effluent limitations and weekly monitoring requirement for BOD_5 remain unchanged from the previous permit.

For the Period of October 1 through May 31*:* 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, which is the Agency standard applied to all such discharges pursuant to Section 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 (**1001 lbs/day**, monthly average and **1501 lbs/day**, weekly average) are calculated using the concentration limits outlined above.

***For the Period of June 1 through September 30**:* The monthly average (**10 mg/L**) effluent concentration limit is set to maintain the VWQS in the receiving water and is more restrictive than the limitation specified for secondary treatment in 40 C.F.R. § 133.102.

2) Total Suspended Solids (TSS)

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

***For the Period of October 1 through May 31**:* 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, which is the Agency standard applied to all such discharges pursuant to Section 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. The mass limit **(334 lbs/day**, monthly average) is calculated using the concentration limits outlined above.

***For the Period of June 1 through September 30**:* The monthly average (**10 mg/L**) effluent concentration limit is set to maintain the VWQS in the receiving water and is more restrictive than the limitation specified for secondary treatment in 40 C.F.R. § 133.102.

3) Escherichia coli

The E. *coli* limitation is **77/100ml**, instantaneous maximum, based upon the limitation in the current permit and the anti-backsliding provisions of Section 402(o) of the CWA. A weekly monitoring requirement remains unchanged from the current permit.

4) pH

The pH limitation remains at **6.5 - 8.5 Standard Units** as specified in Section 29A-303(6) in the VWQS. Monitoring remains at daily.

C. Non-Conventional and Toxic Pollutants

1. Total Phosphorus (TP)

Background: Excess phosphorus entering Lake Champlain from a variety of sources has impaired the water quality of the Lake. The Lake Champlain Total Maximum Daily Load (LC TMDL) places a cap on the maximum amount of phosphorus from point and non-point sources that is allowed to flow into the Lake while still meeting Vermont's water quality standards. The EPA developed phosphorus TMDLs for the 12 Vermont segments of Lake Champlain in collaboration with the Vermont Agency of Natural Resources, Department of Environmental Conservation, and the Vermont Agency of Agriculture, Food and Markets, and released the document titled "Phosphorus TMDLs for Vermont Segments of Lake Champlain" (June 2016). The LC TMDL places a cap on the

maximum amount of phosphorus from point and non-point sources that is allowed to flow into the Lake while still meeting Vermont's water quality standards. The 2016 LC TMDL specifies allowable phosphorus loads, or WLAs, expressed as metric tons per year (mt/yr), for each of the 59 WWTFs that discharge to the Lake's watershed. Discharge (NPDES) permits will be issued by the Secretary in accordance with the permit issuance schedule in the Lake Champlain TMDL Phase 1 Implementation Plan (Chapter 3, page 46). The Secretary will follow this schedule unless special circumstances are raised by the facility that warrant the issuance of the permit sooner (e.g., planned facility upgrades), and the Program has sufficient staff capacity to handle the request.

Reductions in WLAs are targeted only to WWTFs in those lake segment watersheds where the currently permitted wastewater load represents a significant (defined as being 10% or greater) portion of the TP load to that segment from all sources (Main Lake, Shelburne Bay, Burlington Bay, St. Albans Bay) or where wastewater upgrades would meaningfully reduce the phosphorus reduction burden placed on non-wastewater (non-point) sources (Missisquoi Bay). Therefore, WWTFs discharging to the Port Henry, Otter Creek, Mallets Bay, Northeast Arm, Isle LaMotte, and the South Lake A/B lake segments were not assigned a new WLA. The EPA also determined that WWTFs with a design flow of < 0.1 MGD would be given the same allocations as in the 2002 TMDL due their minor contribution of phosphorus loading.

The LC TMDL establishes a new, annual WLA for WWTFs with a design flow capacity of above 0.1 MGD that discharge to the Main Lake, Shelburne Bay, Burlington Bay, St. Albans Bay, and Missisquoi Bay lake segments. Specifically, WWTFs with a design flow capacity of 0.1 to 0.2 MGD were assigned a WLA based on a 0.8 mg/L effluent phosphorus concentration at permitted flow while WWTFs with design capacity of > 0.2 MGD were assigned a WLA based on a 0.2 mg/L effluent phosphorus concentration at permitted flow.

In the LC TMDL, the EPA acknowledged and supported the Secretary's commitment to employ flexible approaches to implementing the WWTF WLAs including "providing a period of time for optimization to be pursued and the corresponding load reduction results to be realized, and then commencement of the process to upgrade phosphorus treatment facilities will be required when actual phosphorus loads reach 80% of the LC TMDL limits." The Wastewater Management Program maintains a tracking system for phosphorus loading from Vermont WWTFs so facilities approaching or over the 80% threshold can be identified. The 80% phosphorus load threshold is calculated by comparing the individual WWTF phosphorus WLA established in the LC TMDL to the actual phosphorus discharge load from the WWTF over the last 12 months:

WWTF Annual TP Load / LC TMDL WLA x 100

There are currently WWTFs in the Lake Champlain watershed with existing discharge loads of phosphorus already at, or above, 80% of allowable loads. To ensure facilities are operating as efficiently as possible, all reissued wastewater discharge (NPDES) permits for these facilities will specify a period of 12 months for optimization to be pursued and the corresponding load reduction results to be realized, prior to evaluating where a facility ranks relative to the 80% trigger. Discharge permits will specify that after the optimization

period, when an existing facility reaches 80% of its WLA for phosphorus (evaluated as a rolling, 12-month load), the Permittee will have to develop and submit a projection of whether the facility will exceed its WLA during the permit term and if it is projected to do so, then the facility will be required to develop a Phosphorus Elimination/Reduction Plan (PERP) that will ensure the facility continues to comply with its WLA.

Effluent TP limits in permits are expressed as total annual mass loads and for facilities that currently have existing monthly effluent concentration limits for TP in their NPDES permit, as monthly effluent concentration limits.

Total Phosphorus Limit in Draft Permit: The previous discharge permit included a mass-based, effluent limit of 6,089 pounds (lbs.) of TP per year. This annual mass limitation was based on an allocation of 2.762 metric tons (mt) established in the 2002 Lake Champlain Phosphorus TMDL. The previous permit also contained an effluent TP concentration limit of 0.5 mg/L, monthly average, consistent with the annual load limit.

The proposed draft permit contains a TP effluent limit based on the 2016 LC TMDL, which established a new, mass-based, annual WLA for the St. Albans City WWTP at **1.105 mt,** or **2,436 lbs.** of TP. The previous effluent TP concentration limit of **0.5 mg/L**, monthly average, will be maintained in the draft permit.

This new, annual WLA represents a 60% reduction (-1.657 mt or -3,653 lbs.) from the previous limit and is equivalent to setting the effluent TP limit at 0.2 mg/L at the design capacity of the WWTF (4.0 MGD). To convert units of the WLA from metric tons to pounds for the annual, mass-based TP permit limit, the following equation was used and the resulting WLA rounded down to the nearest pound:

1.105 mt x 2204.62 lb/mt = 2436 lbs.

The Secretary is adopting the WLA from the LC TMDL as the water quality-based effluent limitation for this permit without additional analysis because this WLA was set by the EPA less than a year ago as the limit necessary to ensure Lake Champlain is brought into compliance with the VWQS, and undertaking further analysis to determine if more stringent effluent limitations are needed would be meaningless at this time since the State has just started to implement the Vermont Lake Champlain Phosphorus TMDL Phase 1 Implementation Plan. *See In re Montpelier WWTF Discharge Permit*, 2009 WL 4396740, 6 (Vt. Envtl. Ct. June 30, 2009).

The LC TMDL includes a WLA for WWTFs expressed as total annual mass loads; the LC TMDL does not include monthly average concentration effluent limits for WWTFs. State law (10 V.S.A. § 1266a) requires that, "No person directly discharging into the drainage basins of Lake Champlain or Lake Memphremagog shall discharge any waste that contains a phosphorus concentration in excess of 0.8 milligrams per liter on a monthly average basis." Therefore, in addition to the annual mass load effluent limitation required by the TMDL, the permit must also include a monthly average concentration limit for phosphorus. While the WLA in the TMDL was calculated based on a TP effluent concentration of 0.2 mg/L, the permit does not include 0.2 mg/L as the concentration effluent limitation because a Permittee may not need to achieve 0.2 mg/L to ensure

compliance with the WLA established in the TMDL. Rather, the permit includes a monthly average concentration limit for phosphorus of 0.5 mg/L to ensure compliance with state law and to recognize seasonal variations in the facility's discharge. It is important to note that because the annual mass load and average monthly concentration limits are not mathematically consistent in the permit, meeting a 0.5 mg/L concentration limit at design flows will not result in meeting the annual mass limit.

The Permittee must comply with both limitations and, as required by the permit, must operate the facility to meet the more restrictive limitation, which may vary depending upon discharge flows at the facility. If the facility is operating at design flows, the annual mass load limitation will be the more restrictive limitation. However, if the facility is operating at low flows, the monthly average concentration limit may be the more restrictive limitation.

Additionally, while the concentration effluent limitation must be included in the permit, it is not the means of ensuring the facility complies with its WLA. Rather, the monitoring and reporting requirements under the permit, including the Phosphorus Optimization Plan reporting requirements, and the Phosphorus Elimination/Reduction Plan requirements shall ensure the facility complies with its WLA.

The requirement for weekly sampling for TP is unchanged from the previous permit.

Condition I.H requires the submission of monitoring reports to the Secretary specific to tracking TP in the discharge. Monthly reporting of total monthly pounds, running total annual pounds, and a comparison (%) of running total annual pounds to the annual permit limitation shall be submitted monthly via electronic discharge monitoring report. A report that documents the annual TP discharged from the facility, summarizes phosphorus removal optimization and efficiencies, and tracks trends relative to the previous year shall be attached to the December WR-43 form. The annual and monthly TP loads discharged from the facility shall also be reported electronically, as available, along with other required parameters.

Phosphorus Limit Compliance Schedule: Under Section 13.4(d) of the VWPCPR, the Secretary may set schedules in permits to achieve compliance, within the shortest reasonable period of time, with applicable effluent standards and limitations, water quality standards, and other legally applicable requirements. When compliance will require more than nine months, the schedule of compliance shall include interim requirements, spaced no more than nine months apart, such as submission of reports of progress towards completion of the tasks necessary to achieve compliance.

The Secretary is including a compliance schedule in this permit because the Secretary has determined that the Permittee is unable to immediately comply with the TP limit upon the effective date of the permit given its current facility and treatment processes. There is a need for modification of the WWTF and its operations in order to meet the new TP limit. The Permittee is currently in the design phase to update the WWTF to meet the new TP limit and is in the process of obtaining needed funds to do this upgrade. Given this needed facility upgrade, and based on an estimated schedule for completion of tertiary phosphorus treatment upgrade by December 31, 2019, the Secretary has crafted the

compliance schedule (see Conditions I.B.1) of the new permit to require compliance at the earliest time possible. The compliance schedule does not extend past the expiration date of the permit.

Under the schedule, the facility shall comply with interim TP limits (Condition I.B.1.b) from the previous discharge permit (**6,089 lbs**., annually; **0.5 mg/L**, monthly average) until completion of the upgrade or by December 31, 2019, whichever occurs first, at which point, new TP annual mass limits (**2,436 lbs.**, annually; **0.5 mg/L**, monthly average) will be enforced. These limits are outlined in Conditions I.A.1-2 of the proposed draft permit.

Phosphorus Optimization and Elimination/Reduction Plans: To ensure the facility is operating as efficiently as possible for purposes of phosphorus removal, Condition I.B.2 of the permit also requires that within 120 days of completion of tertiary phosphorus treatment upgrades, or December 31, 2019, whichever occurs first, the Permittee shall develop or update (as appropriate), and submit to the Secretary, a Phosphorus Optimization Plan (POP) to increase the WWTF's phosphorus removal efficiency by implementing optimization techniques that achieve phosphorus reductions using primarily existing facilities and equipment. The techniques to be evaluated may include operational process changes to enhance biological and/or chemical phosphorous removal, incorporation of anaerobic/anoxic zones, septage receiving policies and procedures, and side stream management.

The Permittee shall have 12 months from completion of tertiary phosphorus treatment upgrades, or December 31, 2019, whichever occurs first, to optimize removal of phosphorus. If, after the 12-month optimization period, the WWTF's actual TP loads reach or exceed 80% of the TMDL WLA for the WWTF, based on the WWTF's 12-month running annual load calculated using the Running Total Annual Pounds Calculation (Condition I.B.4 of the permit) the Permittee shall, within 90 days of reaching or exceeding 80% of the LC TMDL WLA for the WWTF, develop and submit to the Secretary a projection based on the WWTF's current operations and expected future loadings of whether it will exceed its WLA during the permit term.

If the facility is not projected to exceed its WLA within the permit term, the WWTF shall reassess when it is projected to reach its WLA prior to permit renewal and submit that information with its next permit application. If the facility is projected to exceed its WLA during the permit term, the Permittee shall submit a Phosphorus Elimination/Reduction Plan (PERP) within 6 months to the Secretary to ensure the WWTF continues to comply with its WLA. The PERP shall be treated as an application to amend the permit, and therefore, shall be subject to all public notice, hearing, and comment provisions, in place at the time the plan is submitted, that are applicable to permit amendments. The WWTF shall revise the PERP, if required by the Secretary. Upon Secretary approval of the PERP, the PERP shall become an enforceable condition of the permit.

2. <u>Total Nitrogen (TN)</u>

To gather data on the amount of NOx and Total Nitrogen (TN) in this discharge and its potential impact on the receiving water, a **monthly "monitor only"** requirement for NOx and TN has been included in the draft permit. TN is a calculated value based on the sum of

TKN and NOx Nitrogen, and, shall be reported as **pounds**, calculated as:

TN (lb) = average TN (mg/L) x Total Daily Flow (MGal) x 8.34 lbs./gal

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 limit P and monitor bioavailable N (including nitrate, ammonium, and certain dissolved organic nitrogen compounds).

Facilities with design flow greater than 1.0 MGD will complete monthly monitoring unless more frequent sampling is already required by the permit.

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

3. Total Kjeldahl Nitrogen (TKN)

The effluent limitations for TKN during June through September remain unchanged from the current permit, however, additional TKN monitoring is now included for October through May.

For the Period of October 1 through May 31*:* To gather data on the amount of TKN in this discharge and its potential impact on the receiving water, a **monthly, "monitor only"** requirement for TKN has been included in the draft permit for the period of October through May.

For the Period of June 1 through September 30*:* The monthly average (**10 mg/L**) effluent concentration limits are set to maintain the water quality standards in the receiving water and are more restrictive than the limitation specified for secondary treatment in 40 C.F.R. § 133.102. The TKN weekly monitoring requirement for June through September is unchanged from the draft permit.

4. Nitrate/Nitrite (NOx)

To gather data on the amount of NOx in this discharge and its potential impact on the receiving water, a new, "monitor only" requirement for NOx has been included in the draft permit. Monthly monitoring is required.

5. Ammonia-Nitrogen

To continue gathering data on the amount of Ammonia-N in this discharge and its potential impact on the receiving water, a "monitor only" requirement for TN is retained in the draft permit. Monthly monitoring is required.

6. Settleable Solids

The settleable solids limitation of **1.0 ml/L** instantaneous maximum and daily monitoring remain unchanged from the draft permit. This numeric limit was established in support of the narrative standard in Section 29A-303(2) of the VWQS. A daily monitoring requirement remains unchanged from the previous permit.

7. Total Residual Chlorine (TRC)

The Total Residual Chlorine (TRC) limitation is 0.02 mg/1, instantaneous maximum. This limitation is changed from the previous permit. Based on the Agency's Chlorine Policy, a limit of 0.02 mg/L will ensure that the instream water quality criteria for chlorine of 0.019 mg/L, (acute) and 0.011 mg/L (chronic) of the Vermont Water Quality Standards is met.

The amended permit specifies a compliance level of 0.05 mg/L for TRC. A compliance level is specified because the limitations for TRC are below the minimum level (ML) for analysis of TRC using Method 4500-Cl G, N, N-diethyl-p-phenylenediamine (DPD) colorimetric, of 0.05 mg/L. This approach is consistent with EPA's Technical Support Document for Water Quality-based Toxics Control (EPA-505-2-90-001, March 1991), page 111, which recommends, "the compliance level be defined in the permit as the minimum level (ML)." See Standard Methods for the Examination of Water and Wastewater for the full text of these test methods.

TRC measurements of 0.05 mg/L and less will be considered in compliance.

TRC monitoring is required once per day, prior to and after dechlorination, and is unchanged from the previous permit. Samples for TRC following dechlorination may be collected at the Kellogg Rd. manhole.

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 1992 Fact Sheet discusses Whole Effluent Testing (WET) results from tests conducted in September 1990 (chronic) and October 1991 (acute) indicating that the discharge did not

cause or contribute to an instream excursion above water quality criteria, or result in toxic associated impact. However, the 1992 NPDES permit did require one, 2-species chronic WET test in the summer of 1994. In addition, the Secretary conducted its own WET tests (chronic) on the discharge as part of the Lake Champlain Management Conference Point Source Toxic Characterization Program.

The 1997 Fact Sheet indicated that WET test (acute/chronic) results from spring /summer 1992 and September 1994 indicated that the discharge had a reasonable potential to cause or contribute to an instream excursion above water quality criteria, or result in a toxic associated impact. Specifically, results of the 1994 chronic WET test showed a No Observed Effect Concentration-Chronic (NOEC-C) at < 6.2 % effluent concentration. Due to the approximately 97% instream waste concentration at 7Q10 flow, the 1997 NPDES permit included a chronic WET limit NOEC-C of 100% and four, 2-species acute/chronic WET tests to be conducted during each of four season during 1998.

The 2002 Fact Sheet states that the WET tests conducted during 1998 indicated that the discharge did not have an instream toxic impact, but that due to the high instream waste concentration, the discharge poses a significant potential to cause an instream toxic impact. The 2002 NPDES permit contained a requirement for annual, acute, two-species WET test during the summer season, with a WET limit of NOEC-A (acute) at 100%.

The 2008 Fact Sheet discusses the difficulty in calculating stream flow dilution due to the influence of Lake Champlain water levels and indicates that WET testing requirements from the 2002 NPDES permit are retained in the 2008 NPDES permit. However, the Fact Sheet also indicates that the Secretary is willing to reopen the WET limitations should the City conduct an effluent dilution study at low lake levels which supports less stringent limitations.

40 C.F.R. § 122.21(j)(5) requires all publicly owned treatment works (POTWs) with flows greater than or equal to 1.0 MGD to complete a minimum of four WET tests in four and a half years. Although WET tests (acute) conducted on this discharge during the term of the current permit have indicated that this discharge did not have a toxic impact, the Secretary's reasonable potential analysis (Attachment A) confirmed a very high instream waste concentration (7Q10 IWC 97%) at the WWTF outfall and recommends that the Permittee conduct WET testing and toxic pollutant scans per the schedule outlined in Condition I.F of the permit.

The draft permit (Condition I.F.1) requires **two-species, acute/chronic WET tests during the permit period with a limit of NOEC-C at 100% effluent,** where NOEC is the concentration of effluent in a sample that causes No Observed Effect (i.e. growth or reduced reproduction) to the test population at chronic exposure interval of observation. The tests must be conducted in **August or September 2019 and 2021 and March or April 2018 and 2020**. If the results of these tests indicate a reasonable potential to cause an instream toxic impact, the Secretary may require additional WET testing or a Toxicity Reduction Evaluation.

40 C.F.R. § 122.21(j)(4) requires all POTWs with flows greater than or equal to 1.0 MGD to complete a minimum of three samples in four and a half years for analysis of the pollutants listed in Table 2 of Appendix J, 40 C.F.R. Part 122 and to submit the results to

the Secretary. The current permit does not require this effluent analysis. Therefore, the draft permit contains a new condition that, 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) 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 to require additional WET testing or a Toxicity Reduction Evaluation be conducted.

9. Annual Constituent Monitoring

For all POTWs with a design flow of greater than 0.1 MGD, 40 C.F.R. § 122.21(j) requires the submittal of effluent monitoring data for those parameters identified in Condition I.G.2 of 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 conducted in the Fall. For subsequent sampling, reference the "Guidance for Annual Constituent Monitoring" document to determine the season in which sample should be collected each year.

D. Special Conditions

1. Storm Bypass Mode Monitoring

Combined storm and wastewater flows that exceed 8.0 MGD cause a portion of the flow to bypass secondary and tertiary treatment. Wastewater that overflows weirs after primary treatment is chlorinated and then combines with fully-treated effluent before discharging via S/N 001. To ensure compliance with effluent limitations and to gather data on the quality of this combined discharge, the permit requires sampling of the combined effluent during a minimum of 12 storm bypass events per year. Samples must be analyzed for the parameters and comply with the limitations specified in Conditions I.A.1-2 of the permit, except Whole Effluent Toxicity. Grab samples must be representative of the combined discharge during a bypass event to the extent practicable and the results must be noted on the monthly DMR and incorporated into the monitoring results.

2. 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 proposed permit retains the existing WMZ that extends downstream from the WWTF outfall for approximately **one mile** in the Lake Champlain-Stevens Brook wetland complex to the Route 36 Bridge.

3. Combined Sewer Overflows (CSOs)

The Permittee owns and operates a combined sewer system which collects both stormwater and sewage and conveys it to the WWTF for treatment.

In the early 1980s, the Permittee separated portions of the sewage collection system to eliminate CSOs. On April 29, 1992, the Agency of Natural Resources issued 1272 Order No. 3-1279 to the Permittee requiring a report to the Secretary identifying all CSOs within the sewage collection system and to assess options for eliminating or treating these overflows. This report identified seven (7) CSO locations within the collection system and WWTF, prompting the Secretary to amend 1272 Order No. 3-1279 to require the Permittee to permanently seal six (6) CSOs by August 31, 1993.

In 2006, the Permittee discovered a cross connection between the sewer and stormwater collection systems, enabling sewage to be discharged into Stevens Brook in violation of 10 V.S.A § 1259, Discharge Permit No. 3-1279, and the VWQS.

On July 7, 2007, the Secretary issued 1272 Order No. 3-1279-A1 to the Permittee requiring the submission of a report to the Secretary identifying any remaining CSOs in their collection system. In response to this Order, the Permittee performed an inspection and mapping project of the sewage collection system and submitted a report ("CSO Report") to the Secretary identifying one active CSO (Lower Weldon Street) in their collection system, a violation of 10 V.S.A. § 1259, Discharge Permit No. 3-1279, and the VWQS.

From 2008 to 2010, the Secretary issued 1272 Orders 3-1279-A2 and A3, with requirements for investigations of contributing factors to and evaluation of strategies aimed at eliminating the one (1) remaining CSO, located at Lower Weldon Street. Since it was confirmed that the discharge from the Lower Weldon Street CSO was in violation of the "State of Vermont, Agency of Natural Resources, Combined Sewer Overflow Policy, June 1990" (CSO Policy), the Secretary required actions be taken to reduce or eliminate this discharge to achieve compliance with the CSO Policy.

On August 31, 2010, the Secretary issued 1272 Order 1279-A4 to the Permittee requiring elimination of roof drains discharging into the Lower Weldon Street CSO.

On April 30, 2012, the Secretary issued 1272 Order No. 3-1279-A5 to the Permittee. In response to this Order, the Permittee is conducting several projects designed to eliminate stormwater impacts on the Lower Weldon Street CSO. Progress on CSO related projects, as of June 2017, is as follow:

(1) The Downtown Streetscape project was completed in 2014 and included separated connections to the new stormwater systems for approximately 15 buildings, totaling 57,500 square feet (sf) of building roof. The City has continued discussions with building owners to promote the disconnection of the roof drains, but this next phase of work is challenging as it involves interior plumbing modifications on private property in older commercial buildings.

(2) The Lake Street streetscape improvements from Main Street to Federal Street were completed in 2016. This roadway construction included a new separate stormwater collection and conveyance system with a temporary outlet to the existing combined sewer system. There is not a suitable outfall location within a reasonable distance where gravity flow can be maintained for the separated pipeline. As the "Federal Street Connector" project proceeds, this new separated stormwater pipeline will continue to be extended for discharge as a stormwater outfall.

(3) Design and permitting on the Federal Street Connector project continues. A portion of Lake Street, in the vicinity of the Federal and Market Street intersections, will be reconstructed in 2017. This project includes utility upgrades and extension of the separate stormwater system on Lake Street with future provisions for separation at Stebbins and Catherine Streets.

(4) Reconstruction of Fairfield Street was completed in 2017. This project included installation of 1,800 feet of new storm drain piping with new manholes and catch basins to remove 10 catch basins and three large drainage areas totaling 16.5 acres from the combined sewer. These new storm drains interconnect and outlet to the separated stormwater systems on Lincoln Avenue and Barlow Streets. Provisions were also provided at Brown Avenue for additional separation. Estimated flows removed from the sewer system for this project are 673,000 gallons for a 3.5 inch, 24-hour storm event.

(5) The design of the drainage improvements for the Murray Drive, Huntington Street, Russell Street, and Edward Street project has been completed to address flooding issues, and the City continues to pursue funding sources. This project will also have the benefit of removing several catch basins from the combined sewer system. The contributing drainage area is estimated at 484,000 sf of which 121,000 sf is impervious. Preliminary estimates indicate that up to 300,000 gallons could be removed for the 2.5 inch, 24-hour design storm.

There is currently one (1) overflow point within the City's combined sewer system at Lower Weldon Street (see Attachment B of the permit). The CSO is located near the intersection of Lower Weldon Street and South Elm Street (44.80881, -73.09359). During large storm events the sanitary sewer collection system becomes surcharged, resulting in a CSO that is conveyed and discharged into Stevens Brook. The discharge from this CSO contains untreated sewage, which is a violation of 10 V.S.A. § 1259, Discharge Permit No. 3-1279, and the VWQS. The recently adopted Combined Sewer Overflow Rule (Environmental Protection Rule, Chapter 34), which became effective in September 2016, 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 K. To ensure the remaining CSO is brought into compliance with the VWQS, the Secretary is issuing 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. 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 a qualified laboratory or as part of an EPA DMR-QA study. Results shall be submitted to the Secretary by December 31, annually.

5. Operation, Management, and Emergency Response Plans

As required by the revisions to 10 V.S.A. § 1278, promulgated in the 2006 legislative session, Condition I.I has been included in the draft permit. This condition requires that the Permittee update and submit the Operation, Management, and Emergency Response Plans for the WWTF, sewage pump/ejector stations, sewer line stream crossings, **and** the collection system to the Secretary by **December 31, 2021.** The Permittee shall implement the plan upon submittal.

6. Engineering Evaluation

A 20-year engineering evaluation was completed for the St. Albans WWTF in 2011 and is therefore not required for submission during the period of the proposed permit.

7. Electric Power Failure Plan

To ensure the facility can continue operations even during the event of power failure, 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.

8. Electronic Reporting

The EPA recently promulgated a final rule to modernize CWA 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 has 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. § 127.

9. Noncompliance Notification

As required by the passage of 10 V.S.A. § 1295, promulgated in the 2016 legislative session, Section II.A.2 has been included in the proposed permit. Section 1295 requires the Permittee to provide public notification of untreated discharges from wastewater facilities. 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.

10. 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 CWA obligations.

11. 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 have a reasonable potential to cause, or contribute to an instream toxic impact or instream excursion above the water quality criteria. Specific effluent limitations noted in the draft permit to address this contribution include reduced TP loads pursuant to the Lake Champlain 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 was from **June 29 through August 9, 2017.** Comments were received and considered in the formulation of the final determination to issue, deny, or modify the draft permit. Those comments and the replies are included below as Attachment B. This current amendment to update the TRC compliance levels is an Administrative Amendment that is not subject to notice requirements.*

ATTACHMENT A

MAPP Reasonable Potential Determination for the St. Albans City Wastewater Treatment Facility

Agency of Natural Resources
Department of Environmental Conservation

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

MEMORANDUM

To: Eamon Twohig, Wastewater Program (WWP)

From: Rick Levey, Monitoring, Assessment and Planning Program (MAPP) Rick Levey 5/12/17

Cc: Pete LaFlamme, Director, (WSMD)
Jessica Bulova, Manager, (WWP)
Neil Kamman, Manager, (MAPP)

Date: May 12, 2017

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

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

Facility:
St. Albans City Wastewater Treatment Facility
Permit No. 3-1279
NPDES No. VT0100323

Hydrology for St. Albans City WWTF used in this evaluation:
Design Flow: 4.0 MGD = 6.18 CFS
7Q10 = 0.11 CFS
LMM = 3.92 CFS
IWC-7Q10 = 0.97 (IWC > 10%)
IWC-LMM= 0.61 (IWC > 10%)

Receiving Water:
Wetlands Contiguous with Lake Champlain, VT
Outfall Location: Lat. 44.82163 Long. -72.13801 (NAD 83)
Facility Location: Lat. 44.82993 Long. -73.08587 (NAD 83)

The Stevens Brook downstream of the St. Albans WWTF is classified as Class B and is designated a Warm Water Fish Habitat. At the point of discharge, the river has a contributing drainage area of 14.2 square miles. The proposed permit retains the existing waste management zone (WMZ) that extends downstream from the WWTF outfall for approximately one (1) mile in the Lake Champlain-Stevens

Brook wetland complex to the Route 36 Bridge. There is one permitted discharge upstream of this discharge, the Northwest Correctional Wastewater Treatment facility.

The receiving water for this discharge is Lake Champlain via contiguous wetland complex at the outlets of the Stevens and Jewett Brooks. Previous NPDES discharge permit issued in 2002 indicated the receiving water as Stevens Brook. However, prior to the permit reissue in 2008, the Agency investigated the exact location on the outfall. Based on site visits and a review of the "Record Plan City of St. Albans Outfall Sewer -Sheet 2 dated April 1984", it was determined that due to the elevation of the outfall, the receiving water for this discharge is a wetland contiguous with Lake Champlain. Specifically, while the pipe outlets in a defined channel, the bottom of the outfall pipe is at 92.4' and is significantly below the lowest recorded lake level, therefore the discharge is constantly under the influence of Lake Champlain.

This is a unique situation, but for the purpose of this Determination, MAPP has conducted dilution calculations using upstream flows from the Steven's Brook calculated for the point of discharge. Insofar as the downstream wetland is not subject to typical stream or lake-based monitoring, the most proximal in-lake monitoring station is used to assess lake-segment receiving water nutrient concentrations.

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 VWQS. For the Stevens Brook segment to which this facility discharges, the database indicates that this segment is impaired by agricultural uses from the mouth to 6.8 miles upstream. Pollutants include nutrients, sediment and E. coli. Phosphorus in this reach contributes to the impairment of St. Albans Bay that is addressed by the 2016 Lake Champlain TMDL. The lower part of Stevens Brook to which the outfall is located is in a heavily managed agricultural landscape, but also receives upstream urban pollutants and flow associated with a stormwater impairment (RM 6.5-9.3), that is addressed by the 2009 Stevens Brook Stormwater TMDL.

The facility under evaluation is subject to a facility-specific wasteload allocation pursuant to the Lake Champlain TMDL not to exceed 1.105 MT/year, a reduction of 1.657 MT/year from prior limitation in the 2002 TMDL to which this facility was permitted previously. Specifically, the St. Albans wastewater treatment facility will be upgraded with new tertiary treatment technology for phosphorus removal during the five-year permit cycle, thus, TP limits from the previous discharge permit (6,089 lbs., annually; 0.5 mg/L, monthly average) will be maintained in this permit until completion of the upgrade or by December 31, 2019, whichever occurs first, at which point, new TP annual mass limits (2,436 lbs., annually; 0.5 mg/L, monthly average) will be enforced. This equates to an effluent concentration limit of 0.2 mg/L pursuant to the TMDL. The Lake Champlain TMDL also contains a reasonable assurance analysis and accountability framework demonstrating that the St. Albans Bay Segment will achieve standards (see Vermont Water Quality Standards, §29A-302(2)(C) following implementation of the TMDL.

Ambient Chemistry Data for the Stevens Brook above the St. Albans City WWTF:
There are ambient chemistry data available well above (~ 3.0 miles) the St. Albans WWTF outfall from VTDEC LaRosa Partnership Program monitoring; most recently from 2005 for total nitrogen (TN), Total Phosphorus (TP) and Nephelometric Turbidity (NTU). There are more recent 2016 chemistry data available above the WWTF from VTDEC Lake Champlain monitoring data (LCM) for TN, TP, Dissolved Phosphorus (DP) and Total Suspended Solids (TSS).

The LaRosa Partnership above (WA-11) chemistry data indicate that TP values ranged from 21– 62 µg/L-TP, with an average concentration of 50 µg/L-TP. The VTDEC Lake Champlain Monitoring (LCM) 2015/16 chemistry data from above the WWTF (STEV 01) indicate that TP values ranged from 33.7 µg/L – 127 µg/L-TP with an average concentration of 69 µg/L-TP, this value is similar to the average TP

observed at WA-11 (above site). The LCM sampling does target high flow events overall, as was reflected in TSS values ranging from 2 – 5.38 mg/L. These chemistry data should be used with caution when evaluating the St. Albans City WWTF discharge to Stevens Brook as they are located about 3.0 miles upstream and are not reflective of low flow conditions. They are presented here to illustrate the water quality of Stevens Brook above the WWTF. Data repesentiveness was assessed by evaluating parameters such as turbidity and TSS, in concert with the USGS gauge station at the STEV 01 location, to help cull out sampling events that represented high flow events.

Figure 1. St. Albans City WWTF Facility and Outfall location and location of NW Correctional Facility WWTF, LaRosa WQ sampling sites and VTDEC sampling sites. Figure taken from the Vermont Integrated Watershed Assessment System on the VTANR Atlas (https://anrweb.vt.gov/DEC/IWIS/).

Biological Assessments:

Biological assessments have not been conducted below the outfall location, however assessments have been conducted by VTDEC approximately 3.0 miles above the WWTF outfall at River Mile (RM) 4.2, most recently in 2011 & 2016 (Table 2). The most recent assessment scored "Fair," and did not meet Water Quality Standards for Warm Water Medium Gradient Stream Type, consistent with the impairment previously described.

Table 2. Results of the Biological Monitoring for Macroinvertebrates on the Stevens Brook, upstream (RM 4.2) of the St. Albans City WWTF discharge.

Macroinvertebrate Site Summary			
Location:	Stevens Brook	**Location ID:**	501788
Town:	St. Albans Town	**Bio Site ID:**	430000000042
Description:	Located adjacent to Jewett Rd, 50m below CC railroad bridge.	**WBID:**	VT05-07
Stream Type:	Warm Water Medium Gradient		

Date	Density	Richness	EPT Richness	PMA-O	B.I.	Oligo.	EPT/EPT + Chiro	PPCS-F	Community Assessment
8/18/1987	460	29.0	13.0	64.0	6.22	1.23	0.93	0.35	Poor
8/12/1988	1876	24.0	11.0	71.7	5.04	1.07	0.88	0.45	Poor
10/27/1988	1735	28.5	11.0	63.6	4.96	2.17	0.95	0.40	Fair
10/17/1989	2300	38.5	13.5	68.2	4.82	4.56	0.94	0.63	Fair
7/31/1990	2026	26.0	9.5	69.3	4.81	1.10	0.77	0.38	Poor
9/5/1991	2548	26.5	10.5	64.9	4.81	0.15	0.85	0.42	Poor
10/18/1993	1198	30.0	11.0	68.7	4.43	0.11	0.93	0.49	Fair
10/20/1998	1592	27.0	10.0	79.6	5.54	0.00	0.93	0.52	Fair
10/6/2004	2732	44.5	15.0	78.4	4.77	0.37	0.83	0.52	G-Fair
10/5/2009	1628	28.0	8.0	46.7	4.63	0.00	0.96	0.43	F-Poor
9/28/2011	1644	29.0	13.0	54.2	4.81	0.11	0.93	0.35	Fair
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 Phosphorus:

Receiving water Phosphorus Concentrations were calculated using the low monthly median flow (LMM) of 3.92 CFS at design flow of 6.18 CFS (4.0 MGD) and using the effluent phosphorus concentration of 0.72 mg/L which is the highest monthly effluent concentration observed in 2016 (0.34 – 0.72 mg/L-TP) from facility monitoring records. The calculated phosphorus concentration at these conditions attributable to discharge was 0.43 mg/L (430 µg/L).

Review of the St. Albans City WWTF flow records indicate that average flow for 2016 was about ½ design flow (2.3 MGD), at this flow rate TP attributable to the discharge would be would be 0.21 mg/L (210 µg/L).

The potential impacts of phosphorus discharges from this facility to the contiguous wetlands to St. Albans Bay have been assessed in relation to the narrative criteria in §29A-302(2)(A) of the 2017 VWQS, which states:

> *In all waters, total phosphorous loadings shall be limited so that they will not contribute to the acceleration of eutrophication or the stimulation of the growth of aquatic biota in a manner that prevents the full support of uses.*

To interpret this standard, MAPP typically relies on a framework which examines TP concentrations in relation 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 of compliance with the narrative standard when specific nutrient response variables; pH, Turbidity, Dissolved Oxygen, and aquatic life use, all display compliance with their respective criteria in the Water Quality Standards.

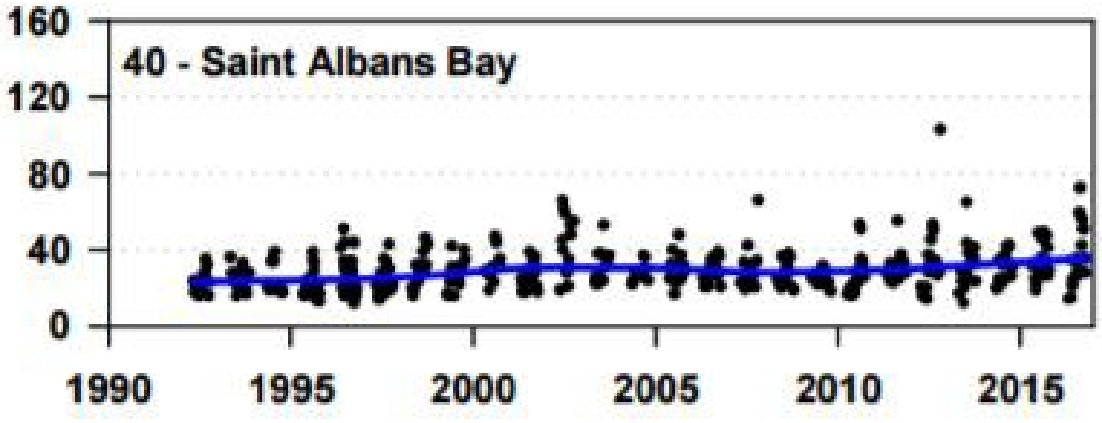
In the absence of downstream water quality nutrient response variables, the framework which MAPP utilizes for determination of compliance with the narrative standard cannot be used, and with respect to phosphorus discharge, this Determination relies instead on calculated instream concentrations.

The total phosphorus concentrations in receiving waters are relatively high, especially during higher flow periods. The mass balance calculations presented above, indicated that increases in phosphorus attributable to the current facility discharges are significant (130 µg/L-TP), about twice as high as instream monitoring results above the WWTF indicate; average TP above is about 60 µg/L-TP.

However, as described above in the "*General Assessment*" section, the St. Albans WWTF will be upgraded with new tertiary treatment technology for phosphorus removal during this permit cycle; no later than December 31, 2019, and the new TP annual mass limit equates to an effluent concentration limit of 0.2 mg/L pursuant to the TMDL.

Lake Champlain Water quality monitoring data are available from the Lake Champlain Long-term Biological and Chemical Monitoring Program, from the St. Albans Bay monitoring station (LCM Sta 40) located approximately 1 mile west by southwest from the mouth of Stevens Brook. Results from this station indicate that arithmetic total phosphorus concentrations in the St. Albans Bay segment for the period 2015-2016 (April-Nov measurements) averaged 34.9 µg/L (Figure 2).

Figure 2. Long-term total phosphorus concentration monitored by the Lake Champlain Long-term Biological and Chemical Monitoring Program. Y-axis shows total phosphorus in ug/L.



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. The 2008 permit required one two-species acute WET test be conducted annually.
Review of the 2016 WET test indicated that there was no toxicity observed. The draft permit contains a WET C-NOEC Discharge Limit of 100%, due to the very high 7Q10-IWC. The use of WET tests outcomes as effluent limitations provides protectiveness to downstream surface waters by ensuring that effluent quality poses no augmented risk due to toxicity. The draft permit requires a two-species acute test be conducted in August or September 2019 and 2021 and during January or February of 2018 and 2020. If the results of this test indicate a reasonable potential to cause an instream toxic impact, the Department may require a Toxicity Reduction Evaluation.

Ammonia Monitoring:
Review of the St. Albans City WWTF effluent ammonia records for 2012 -2016, indicate effluent ammonia concentrations remain low, average concentration for this period was 0.68 mg TAN/L. The St. Albans City uses advanced treatment with sequencing batch reactors for secondary treatment, and nitrification. The nitrification process converts all of the ammonia in wastewater to nitrate using aerobic autotrophic bacteria in the treatment process.

Using the effluent ammonia concentration of 0.68 mg/L TAN, the receiving water concentration (RWC) at 7Q10 instream waste concentration (IWC) of 97% used for implementing the acute criteria would be 0.65 mg TAN/L (7Q10 IWC .97 X 0.68 mg TAN/L). This value is below both the chronic and acute criteria (pH 7.5), illustrating that there is not a reasonable potential for VWQS excursion. MAPP supports the ammonia monitoring be continued to provide additional data for evaluation.

Total Residual Chlorine (TRC) Limit:
The current permit limit of 0.1 mg/L-TRC (Instantaneous Maximum) results in exceedance of VWQS (acute) for TRC at critical 7Q10 flows. MAPP recommends that the current TRC limit be adjusted to meet VWQS acute criteria at 7Q10 flows, consistent with prior history of the permit.

Sediment, Hardness, and Metals:
Instream total suspended solids were calculated using the 7Q10 of 0.11 CFS at design flow of 6.18 CFS (4.0 MGD), assuming the maximum permitted daily concentration of 50 mg/L. The calculated suspended sediment concentration at these conditions was 48.5 mg/l, indicating a moderate increase of instream ambient suspended sediment concentrations in receiving waters.

Appendix J Priority Pollutant scans were conducted most recently in October and December 2006. Priority metals for both sampling dates were all below detection limits. In fact, only Chloroform was above detection (1.8 µg/L) from the December 2006 sampling, and it was significantly below WQS.

Lake Champlain TMDL – St. Albans Bay Segment.
The ultimate receiving water for this facility is the St. Albans Bay Segment, a phosphorus-impaired segment of Lake Champlain subject to the 2016 Lake Champlain TMDLs promulgated by USEPA. That TMDL establishes a wasteload allocation for this facility not to exceed 1.105 MT/year, a reduction of 1.657 MT from the prior limitation in the 2002 TMDL to which this facility was permitted previously. Although the new waste load allocation is based on an effluent TP concentration of 0.2 mg/L, this permit maintains the previous TP effluent limit of 0.8 mg/L, monthly average, which allows for TP discharge concentrations to fluctuate above 0.20 mg/L while holding the annual limit at a mass (total pounds) based on 0.20 mg/L. Effluent limitations in the draft permit reflect the TMDL. The Lake Champlain TMDL

also contains a reasonable assurance analysis and accountability framework demonstrating that the St. Albans Bay Segment will achieve standards following implementation of the TMDL.

Recommended Biological and Water Quality Monitoring:
To better assess compliance with the 2014 nutrient criteria at the next permit issuance, MAPP does support the effluent monitoring required by the permit which includes monthly effluent monitoring for TP and TAN.

Conclusion:
The available data indicate that this discharge does have a reasonable potential to cause, or contribute to an instream toxic impact or instream excursion above the water quality criteria. Specific effluent limits noted in the draft permit and this Reasonable Potential Analysis to address this contribution include reduced total phosphorus loads pursuant to the Lake Champlain TMDL, effluent WET test results as effluent limitations, and effluent monitoring requirements for phosphorus and TAN, among other constituents.

ATTACHMENT B

Response to Comments

Response to Comments

for

NPDES Discharge Permit No. 3-1279

City of St. Albans Wastewater Treatment Facility

The above referenced permit was placed on public notice for comment from a period of June 29 through August 9, 2017. This is a renewal permit.

Comments on the draft permit were received during the public notice period from Dominic Cloud, on behalf of the City of St. Albans. The following are the comments and the Agency of Natural Resources' (Agency) responses to these comments.

COMMENT: See letters dated August 7, 2017 from the Conservation Law Foundation and from the City of St. Albans dated August 9, 2017 (both attached).

RESPONSE (CLF):

I. The law and the facts do not support CLF's comments that the phosphorus water quality-based effluent limitations (WQBELs) are not consistent with the assumptions and requirements of the Lake Champlain Total Maximum Daily Load (LCTMDL) waste load allocations (WLAs) and that to be consistent the Agency must translate the WLAs into more stringent WQBELs in the near term.

A. The phosphorus WQBELs are consistent with the assumptions and requirements of the LCTMDL WLAs and, consistent with applicable law, are more stringent than the WLAs in specific instances.

The phosphorus WQBELs in the permits are "consistent with the assumptions and requirements" of the LCTMDL WLAs. 40 C.F.R. § 122.44(d)(1)(vii)(B). The LCTMDL WLAs are reliant on implementation of nonpoint source load reductions over a period of years. *See* LCTMDL Chapter 7. Therefore, to ensure the State remains on-track to complete nonpoint source load reductions in a timely manner, the LCTMDL document includes an accountability framework with key milestones. *Id*. at p. 54-59. The WLAs in the LCTMDL are based upon the assumption that the State will implement nonpoint source load reductions in adherence with the accountability framework. *See* LCTMDL Chapter 7. If the United State Environmental Protection Agency (EPA) finds that the State has failed to make satisfactory progress under the accountability framework EPA may take various actions; for example, EPA may, "[r]evise the TMDLs to reallocate additional load reductions from nonpoint to point sources, such as wastewater treatment plants." *Id.* at p. 57.

Just over a year has passed since EPA adopted the LCTMDL on June 17, 2016. In the case *In re Montpelier WWTF Discharge Permit*, No. 22-2-08 Vtec, *slip op.* at 6 (Vt. Envtl. Ct. June 30, 2009), the

Court noted that "a mere year and a half after the [2002] Champlain TMDL was issued … it probably would have been meaningless to engage in further analysis as to whether more stringent permit limitations were needed." Nonetheless, as of now, "EPA's overall assessment is that Vermont has made excellent progress in achieving the milestones in the [LCTMDL] Accountability Framework" through December 30, 2016. Letter from Deborah A. Szaro, EPA Acting Regional Administrator, February 15, 2017; LCTMDL at p. 55-57. Therefore, the WQBELs in the permits are consistent with the assumptions and requirements of the LCTMDL WLAs.

Additionally, in *Montpelier WWTF*, the Court did not object to using a WLA as a WQBEL, but rather the Court objected to readopting the same WQBEL when *reissuing* a wastewater treatment facility (WWTF) discharge permit without analyzing whether the assumptions that the WLA was based upon still held true when the original TMDL had been adopted over six and a half years earlier.[1] *Montpelier WWTF* at 10. The Agency would also like to clarify that nowhere in the Court's opinion in the *Montpelier WWTF* case did the Court state that the most significant assumption underlying the WLA assignments was that "point sources could increase without contributing to the ongoing water quality standards violations if and when dramatic nonpoint source reductions offset the point source increase."[2]

CLF cited to several cases to support its comment that "The phrase "consistent with," as it is used in 40 C.F.R. § 122.44(d)(1)(vii)(B), does not mean the WQBEL should be an exact duplicate of the WLA provided in the TMDL." While the Agency agrees WQBELs do not need to be exact copies of a WLA, the cases cited to do not dictate that WQBELs must be more stringent until nonpoint source load reductions are completed. In the case *In re City of Moscow, Idaho*, 10 E.A.D. 135, *slip op.* at 6 (EPA July 27, 2001), EPA had established a WLA under a TMDL for a WWTF based upon a proposed upgrade to the facility that would change its design flow from 3.6 mgd to 4.0 mgd. When the facility reapplied for a discharge permit, the facility had not yet completed the proposed upgrade, so its design flow was still 3.6 mgd. Under 40 C.F.R. § 122.45(b)(1), effluent limitations for WWTFs must be calculated based upon "design flow." Therefore, in order to comply with the requirements of § 122.45(b)(1), EPA established a WQBEL for the facility consistent with, but slightly more stringent than the WLA. *City of Moscow* at 6.

Additionally, in the case *American Farm Bureau Federation v. U.S. EPA*, 984 F.Supp.2d 289, 327-28 (M.D. Penn. 2013), the appellants argued that under the Chesapeake Bay TMDL, EPA created pollutant allocations that were unlawfully binding on the states in that the allocations encroached into the realm of implementation – an area reserved for the states. In defense of the Chesapeake Bay TMDL, the Court held that the Bay TMDL did not create unlawfully binding allocations because "WLAs are not permit limits *per se*; rather they still require translation into permit limits … Accordingly, in some circumstances, a state may write a NPDES permit limit that is different from the WLA, provided that it is consistent with the operative assumptions underlying the WLA." *Id.* (internal citations omitted).

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[1] The Court stated, "40 C.F.R. § 122.44(d)(1)(vii)(B) directs agencies not blindly accept such *past assumptions* [for which WLAs are based upon], but rather analyze them at each permit issuance-or at least at each permit issuance that occurs more than five years after the issuance of the applicable TMDL-to determine whether those assumptions continue to have a basis in reliability." *Id.*

[2] That quote was misattributed to the Court. The quote is actually a sentence from CLF's brief to Supreme Court in its appeal of the *Montpelier WWTF* decision.

Both the foregoing cases provide the permitting authority flexibility to be establish WQBELs more stringent than a WLA, but they do not serve to support the comment that more stringent WQBELS and a demonstration of need and assimilative capacity or "offsets" are required until nonpoint source load reductions are implemented. Furthermore, CLF cites to no cases nor provides any examples where EPA or any states have established more stringent WQBELs and required a demonstration of need and assimilative capacity or "offsets" in the TMDL context.

For the permits for St. Albans Northwest Correctional Facility (Permit 3-1260) and Shelburne #2 Harbor Road (Permit 3-1304), the Agency used just the approach allowed for under *City of Moscow* and *American Farm Bureau*, and established WQBELs different from, but still consistent with the WLAs for the facilities. The immediate receiving waters for both the Northwest Correctional and Shelburne #2 facilities have water quality impairments – Stevens Brook, to which the Northwest Correctional Facility discharges, is impaired for nutrients and other pollutants, and McCabes Brook, to which the Shelburne #2 facility discharges, is also impaired for nutrients; both waters are listed on the 2016 303(d) List of Impaired Surface Waters in Need of TMDL. Because Lake Champlain is not the only impaired water receiving the discharges from these facilities, the Agency established more stringent WQBELs for these facilities to ensure the discharges from these facilities do not cause or contribute to the water quality impairments in Stevens and McCabes Brooks.

B. The Agency need not translate the WLAs into more stringent WQBELs in the near term.

As stated above, CLF cites to no cases nor provides any examples where EPA or any states have established more stringent WQBELs and required a demonstration of need and assimilative capacity or "offsets" in the TMDL context until implementation of nonpoint source load reductions is complete. Additionally, EPA did not provide any comments to the Agency objecting to or taking issue with the WQBELs in these permits.

The TMDL framework does not create a one-for-one "see-saw" approach as described in the comments. A WWTF need not demonstrate one pound of phosphorus has been removed prior to the addition of one pound of phosphorus. Rather the Vermont Lake Champlain Phosphorus TMDL Phase I Implementation Plan (Phase I Plan) and the accountability framework lay out the necessary activities that must be completed as well as a schedule for completing them to achieve the overall reductions required by the LCTMDL. If EPA finds that the State has failed to make satisfactory progress in implementing its commitments under the Implementation Plan and accountability framework, EPA may: (1) reallocate load reductions from nonpoint to point sources, (2) residually designate stormwater discharges not currently regulated under the state NPDES program, and (3) increase enforcement actions. LCTMDL p. 57.

Furthermore, an approach requiring facilities to hold their current loads and demonstrate a need to access more of their WLAs as well as available assimilative capacity would penalize WWTFs that have been optimizing phosphorus reductions (i.e. facilities that have already implemented low/no cost measures to reduce phosphorus and which are using less of their WLAs) and reward facilities that have yet to undertake such optimization (i.e. facilities that have not implemented low/no cost measures to reduce phosphorus and which are currently using more of their WLAs).

C. Establishing WQBELs for WWTFs based on actual production, rather than their design flows, would violate federal regulations, which the State must comply with when establishing effluent limitations.

CLF's comments that the draft permits "must hold phosphorus discharge levels at current amounts," does not comply with the federal requirement to establish effluent limitations for WWTFs based on design flows, rather than actual production. Under 40 C.F.R. § 122.45(b)(1), which governs establishment of production-based limits, it requires "[i]n the case of POTWs [also referred to as WWTFs], effluent limitations, standards, or prohibitions shall be calculated based on *design flow*." Design flow is not defined, but based upon the context[3] and its plain meaning, it means "the wastewater flow rate the plant was "built to handle."" *In re: Town of Concord Department of Public Works*, NPDES Appeal No. 13-08, *slip op.* at 19 (E.A.B. August 28, 2014); *City of Moscow* at 6. CLF, in its brief to the First Circuit Court of Appeals in the case *Upper Blackstone Water Pollution Abatement District v. U.S. EPA,*[4] also recognized that POTW effluent limits must be calculated based on design flow, rather than actual production. Were the Agency to establish WQBELs based on a WWTF's actual production, rather than its design flow, as proposed by CLF, the permits would not be in compliance with 40 C.F.R. § 122.45(b).

D. Requiring WWTFs to reduce loads to a level consistent with the limit-of-technology and requiring offsets flies in the face of the entire LCTMDL framework.

In its comments, CLF suggested that "a combination of reducing WWTF load to a level consistent with limit-of-technology and requiring offsets of phosphorus discharges could be a solution to permitting WWTFs in the interim period before reductions in nonpoint source discharges take place." This comment flies in the fact of the entire LCTMDL framework by requiring "limit-of-technology" upgrades upfront.

Under the LCTMDL, EPA established larger WLAs for point sources based on the reasonable assurances provided by the State in the Phase I Plan to implement extensive nonpoint source load reductions. This tradeoff is a more economical way to achieve the same pollutant reductions since many activities and practices to address nonpoint source discharges are far cheaper and provide more "bang for the buck" than costly WWTF upgrades, which may only provide relatively minor benefits when looking at the phosphorus discharges from the various sectors overall – base load 2001-2010: agriculture (261 metric tons, 41%), stream banks (130 metric tons, 21%) developed lands (114 metric tons, 18%), silviculture (101 metric tons, 16%), and WWTFs (25 metric tons, 4%).

Were the Agency to require all WWTFs to upgrade upfront to the limit-of-technology prior to implementation of nonpoint source load reductions, as suggested in the comments, that would negate the entire purpose of proposing larger nonpoint source load reductions in exchange for larger WLAs. Rather, as stated in the LCTMDL, if EPA finds that Vermont has failed to make satisfactory progress, EPA may for example, "reduce the wasteload allocations for facilities in South Lake B, Main Lake, Shelburne Bay,

[3] The subdivision immediately below requires that for all other facilities requiring production-based limits, limitations shall be based upon "a reasonable measure of *actual production* of the facility." 40 C.F.R. § 122.45(b)(2)(i) (emphasis added).
[4] filed September 8, 2011 (page 27).

Burlington Bay, St. Albans Bay, and Missisquoi Bay segments to loads equivalent to the *limit of phosphorus removal technology*." LCTMDL p. 57 (emphasis added).

II. The law and the facts do not support CLF's comments that the permits fail to assure attainment of water quality standards in the receiving waters.

A. The permits assure attainment of water quality standards in the receiving waters.

The permits include more stringent limitations necessary to meet water quality standards as required by CWA § 301(b)(1)(C) (33 U.S.C. § 1311(b)(1)(C)). The permits don't just include technology-based effluent limitations (TBELs), but rather they all include WQBELs for phosphorus, as required by 40 C.F.R. § 122.44(d)(1), to control the discharges "reasonable potential to cause, or contribute to an excursion above any State water quality standard," and which are consistent with the WLAs established by EPA in the LCTMDL, as required by 40 C.F.R. § 122.44(d)(1)(vii)(B). For many of the facilities, these limits are much lower than the phosphorus WQBELs in their previous permits and will require significant facility upgrades.

The Agency agrees with the U.S. Supreme Court case, *Arkansas v. Oklahoma*, 503 U.S. 91, 106 (1992), cited by CLF, in which the Supreme Court stated that "§ 301(b)(1)(C) expressly identifies the achievement of state water quality standards as one of the Act's central objectives," and the Agency also notes that the Supreme Court made a significant holding in the case. In *Arkansas v. Oklahoma*, the state of Arkansas appealed a Court of Appeals decision that "construed the Clean Water Act to prohibit any discharge of effluent that would reach waters already in violation of existing water quality standards." *Arkansas* at 107. The Supreme Court reversed the lower court's finding stating:

> Although the Act contains several provisions directing compliance with state water quality standards, see, *e.g.*, § 1311(b)(1)(C), the parties have pointed to nothing that mandates a complete ban on discharges into a waterway that is in violation of those standards. The statute does, however, contain provisions designed to remedy existing water quality violations and to allocate the burden of reducing undesirable discharges between existing sources and new sources. See, *e.g.*, § 1313(d). Thus, rather than establishing the categorical ban announced by the Court of Appeals—which might frustrate the construction of new plants that would improve existing conditions—the Clean Water Act vests in the EPA and the States broad authority to develop *long-range, area-wide* programs to alleviate and eliminate existing pollution. See, *e.g.*, § 1288(b)(2).

Id. at 108 (emphasis added). Thus, the Supreme Court has recognized that EPA and the states are given broad authorities under the CWA to ensure compliance with water quality standards, which may be achieved through use of "long-range, area-wide programs" like the LCTMDL and Phase I Plan.

RESPONSE TO CITY OF ST. ALBANS:

COMMENT: The Fact Sheet and Reasonable Potential Analysis conclude that the previous permit's TRC effluent limitation of 0.1 mg/l, sampled at the WWTF "pump house" or at the Kellogg Road manhole, results in an instream TRC criteria violation of the Vermont Water Quality Standards in the receiving water. The draft permit proposes to reduce the TRC effluent limitation, applied at either the pump house or the Kellogg Road manhole sampling location, to 0.02 mg/l to ensure compliance with the Vermont Water Quality Standards in Lake Champlain. However, a review of these documents notes that the Agency's analysis failed to consider several factors previously used to establish the 0.1 mg/l limit. When those factors are included in the analysis of TRC, it indicates that the 0.1 mg/l TRC effluent limitation can be maintained without violating the Vermont Water Quality Standards. Specifically:

1. During normal operations at the WWTF (when flows are less than 8.0 mgd), the treated effluent is chlorinated before the filters and then dechlorinated with sodium bisulfite after the filters. The treated and dechlorinated effluent is sampled for TRC at the pump house at the beginning of the outfall pipe. During the short time of travel from the dechlorination injection point to the sampling location in the pump house, the effluent TRC concentration is reduced from approximately 1 to 3 mg/l (depending on WWTF operations) to 0.1 mg/l or less. The treated effluent then travels through approximately 2.6 miles (over 13,000 feet) of outfall pipe to Lake Champlain and the dechlorination process will continue as the effluent flows down the outfall pipe. Therefore, due to the extended dechlorination reaction time provided by the significant additional time of travel in the outfall pipe, a TRC concentration of 0.1 mg/l at the WWTF pump house will be completely neutralized before the treated effluent physically enters the lake due to the additional contact time inside the outfall pipe allowing for complete dechlorination to occur.

2. During times when influent flows exceed 8.0 mgd and a portion of the influent flow bypasses the biological and secondary treatment process, the secondary effluent is chlorinated after the filter and the "bypass effluent" is chlorinated immediately after overflowing the primary clarifiers. These chlorinated flows then combine (blended) and are dechlorinated at the Brigham Road manhole. The effluent is then sampled for TRC at the Kellogg Road manhole. Between the dechlorinating inject point in the Brigham Road manhole and the TRC sampling point at the Kellogg Road manhole, the TRC in the effluent is reduced to 0.1 mg/l or less. After the Kellogg Road manhole, the effluent travels approximately another 0.8 miles (over 4,000 feet) inside the outfall pipe before it physically enters waters of the State. The dechlorination process will continue to occur as the effluent flows down the outfall pipe. Therefore when the dechlorination reaction rate and the additional time of travel in the outfall pipe is

considered, a residual TRC concentration of 0.1 mg/l at that Kellogg Road manhole, will be completely neutralized before the treated effluent enters the lake due to the additional contact time provided inside the outfall pipe allowing for complete dechlorination to occur.

3. Due to the elevation of the outfall (approximately 92.4') at the point of discharge, the flat slope and location (in a wetland) of approximately the final 600 feet of outfall pipe, and the lake level, this segment of the outfall pipe is constantly surcharged by Lake Champlain. Therefore, the treated effluent comingles with the receiving water inside the outfall pipe for a significant distance before it can enter Lake Champlain. Thus, if for some unforeseen reason there were any minute traces of TRC remaining in the effluent it would be completely neutralized inside the outfall pipe due to the reaction with the natural constituents (organic matter, metals, minerals, etc.) in the wetland/lake water before the treated effluent leaves the outfall pipe and physically enters the lake.

Consequently when these factors are considered (time for additional dechlorination to occur after the TRC samples are collected due to the lengthy time of travel in the outfall pipe and the constant significant surcharging of the outfall pipe), an effluent TRC limitation of 0.1 mg/l applied at the WWTF pump house or the Kellogg Road manhole will not result in a TRC violation of the Vermont Water Quality Standards in the receiving water at the point of discharge. Therefore, the 0.1 mg/l TRC effluent limitation, applied at the WWTF pump house or Kellogg Road manhole, should be reinstated in the permit and the Fact Sheet and Reasonable Potential Analysis revised accordingly to reflect these factors.

There are also significant concerns regarding the ability of the analytical method (Method 4500 CL-E and G) cited in the Condition I.A.13 of the draft permit to reliably produce accurate results when trying to detect extremely low concentrations of TRC in treated wastewater effluent. It is common knowledge in the wastewater field (and supported by a national wastewater laboratory expert formerly employed by ANR) that these analytical methods are extremely susceptible to interference from other parameters in treated wastewater such as natural occurring metals and other compounds (ie manganese and nitrate). Consequently this method, when attempting to detect chlorine concentrations at or near the minimum of level of detection (less than 0.05 mg/l) often produces inaccurate results. The Agency itself, is familiar with this issue due to its oversight of other permitted discharges, such as the Champlain Water District and the Brattleboro Water Treatment Facility, which have commonly experienced significant interference issues and inaccurate TRC results when using these methods to detect TRC of less than 0.05 mg/l. Mandating the use of these analytical methods, which have well known flaws and may not consistently produce reliable monitoring data when used to analyze for chlorine concentrations at the minimal level of detection (0.02 mg/l) is not in the best interest of the regulated community, ANR, or citizens

of the State. A more realist and practical level of detection for TRC is 0.05 mg/l.

Based on the current configuration and sampling points, the facility currently exceeds the proposed limit of 0.02 mg/l on approximately 20% of the sampling days in a typical month. More sodium bisulfite can be added and will increase operating costs, however, consistent compliance will be difficult for a lower instantaneous maximum limit. Unlike other facilities, St. Albans doesn't have the option of converting the disinfection system to other types, such as, ultraviolet disinfection that could meet this lower limit on a consistent basis. Since this facility bypasses flows which will be higher in total suspended solids and the hydraulic profile is very flat, addition of ultraviolet disinfection is not an option. If the lower limit of 0.2 mg/l can not be modified, could this be specified as a seasonal limit and/or an average with a higher instantaneous maximum to provide the operations with some flexibility?

RESPONSE: *It has been assumed that due to the distance traveled the TRC at current limit (0.1 mg/L) would be completely "neutralized." While this may be true, in the absence of any data, we cannot set a water quality based effluent limit (WQBEL) or provide assurance that the limit will not be exceeded.*

The Agency agrees that the bottom of the outfall pipe is significantly below the lowest recorded lake level and that the discharge is constantly under the influence of Lake Champlain. To help alleviate the stringent limit(s) the City could move forward with low lake level dilution studies to determine if greater dilution is available than the current IWC's being used.

The Agency understands that a detection limit of 0.02 mg/L may have interference from other parameters within the wastewater. The permit limit is set to meet the Vermont Water Quality Standards and protect the aquatic biota within the receiving waters. Method 4500 CL-G (EPA Method 330.5) states that the detection limit is 0.01 mg/L, which is lower than the 0.02 mg/L needed for compliance.

COMMENT: Condition I.A.10 mandates that when the secondary treatment capacity of the WWTF (8.0 MGD) is exceeded the discharge of the by-pass overflow water must not violate water quality standards and comply with the effluent limits in Condition I.A.1-2 of the draft permit. The draft permit does not contain a Condition I.A.1-2. Presuming that is reference to Condition I.A.2, this requirement is a substantial change from previous permits, does not appear to have a valid basis, and will not be able to be consistently met.

Specifically Condition I.A.2 contains "tertiary" treatment effluent limitations (ie 10 mg/l BOD, TSS and TKN). Considering that the by-pass overflow water is only receiving primary treatment and disinfection it will not be possible for this "partially treated by-pass water" to comply with the requirement to meet tertiary effluent limits. Also mandating that this internal waste stream comply with these limits before it combines (blends) with the fully treated secondary effluent at the WWTF has no basis and is not representative the facility's operation or the actual effluent discharged to the lake.

The partially treated by-pass water combines with the fully treated wastewater from the secondary treatment and tertiary process immediately after it is chlorinated at the WWTF and the combined effluent flows for about 2.6 miles in the outfall pipe before entering the lake. Therefore previous permits required that the combined partially treated by-pass water and secondary treated wastewater meet "secondary" effluent limitations (ie. 30 mg/l BOD and TSS - see Condition I.A.1) prior to discharge since that wastewater is representative of the actual effluent entering the lake.

Since the secondary treatment capacity of the WWTF is typically exceeded (and combined partially treated by-pass overflows only occur) during large wet weather events, low flow conditions will not be occurring in the receiving water and consequently meeting "secondary treatment" limits will maintain water quality standards in the receiving water during those events.

Therefore this Condition of the draft permit should be revised to require that "during influent flows greater than 8.0 mgd that result in a by-pass of the secondary treatment process, the discharge of the combined partially treated by-pass water and secondary treated wastewater shall not cause a violation of water quality standards in the receiving water and shall comply with the effluent limitations in Condition I.A.1 ("Secondary Limitations") above".

RESPONSE: *The Agency agrees with the comment to have the facility comply with effluent limits outlined in Condition I.A.1 during bypass events and has made the necessary changes to the permit.*

COMMENT: The Annual Total Phosphorus effluent limitation that is in effect until completion of the phosphorus removal system upgrade must be incorporated into Condition I.A.1 and Condition I.A.2 "Effluent Limitations" on page 2 and 3 of the draft permit. This "interim limitation" is not referenced until the last sentence of Condition I.B.2.b on Page 6 of the draft permit. Considering that this limitation will be in effect for many months and is significantly different from the Total Phosphorus effluent limitation presented in Condition I.A.1 or I.A.2, the requirements of this "interim limitation" clearly must be referenced in this Condition.

Language must be added to Condition I.B.2 which requires the Agency to review and approve the POP before it is implemented to ensure that this Plan meets the Agency's requirements. Specifically, the draft permit does not require the Agency to review and approve the POP before it is implemented but authorizes the Agency to require modifications of the Plan at a later date. It is not prudent to invest the users' money to prepare and implement a POP if the Agency cannot make a positive finding that this Plan meets their

requirements before its implementation. Having to revise the POP at a future date after it has been prepared and implemented, will cost additional monies in engineering services, will require the Permittee to revisit and significantly modify operations at the WWTF, and will delay the optimization of the WWTF to reduce phosphorus. Requiring review and approval of the POP by the Agency before its implementation will avoid these problems.

RESPONSE: *Section I.B.2.b: The permit has been modified to state that "The Secretary shall review the POP. The Permittee shall commence implementation of the POP 60 days after submittal to the Secretary, unless the Secretary rejects the POP prior to that date for failure to meet the requirements of subsection (a) of this section".*

COMMENT: The City continues to move forward with the WWTF refurbishment project which includes the phosphorus improvements. The bond vote has passed, funding is in place, and the design and permitting are being completed. As this is a joint funded project, the Facilities Engineering Division is actively involved in the review of the plans and specifications. The City has a current plan for complying with the WLA, so are Conditions I.B.1 a) i. through iv. necessary? Also the City would like to request an extension of 6 months for the December 31, 2019 deadline. Construction is planned to begin by the spring of 2018 and may take up to 2 years to complete, so the City is requesting this deadline be defined as July 1, 2020. Changing of this deadline is also requested under Condition 1.B.2 and 1.B.3 also.

RESPONSE: *Due to the upgrades to the facility, the Agency agrees to extend the deadline to July 1, 2020 and has made the necessary changes to the permit. The Agency has eliminated condition iii. as it has been noted that funding is in place.*

COMMENT: Condition I.G.2. contains a requirement to conduct Total Dissolved Solids sampling once per day. Total Dissolved Solids is not listed in the Effluent Limitations in Condition I.A.1 and is not a typical effluent parameter in municipal WWTF Discharge Permits. The City requests that the Agency clarify this sampling requirement. There are several sampling locations for various parameters during normal and "by-pass" operations referenced in small italic print at the bottom of the "Sampling Table" on Page 11 of the draft permit. To avoid confusion and clearly identify these sampling locations and the times they are to be used, these requirements should be presented in a much more readable and concise format.

RESPONSE: *Facilities that discharge greater than or equal to 0.1 MGD must sample and analyze Total Dissolved Solids. The Agency has revised the Total Dissolved Solids daily sampling requirement to an annual sampling requirement.*

COMMENT: Condition I.F.1.b requires a WET test a two species 48-hour acute and 96-hour chronic WET test be conducted March or April 2018 and 2020. The ability of WET tests done during this time period to produce reliable data is highly questionable. Specifically as part of

the WET test procedure, dilution water, replenishment water, and the control water for the WET test are collected from the receiving water. Since high flows in Stevens Brook and spring thaw conditions are occurring in the wetland complex that receives the discharge in March and April, the quality of the dilution, replenishment, and control water will be significantly degraded due to high runoff conditions in the watershed. This can easily compromise the accuracy of the WET test, causing an inconclusive test results due to effects not attributed to the WWTF's effluent. Then additional WET tests will need to be conducted in an attempt to obtain valid test results which would be very costly. Conducting these WET tests in January or February when runoff conditions are minimal would avoid this issue.

RESPONSE: *The months when WET testing will be conducted have been changed to reflect the comment request of January and February 2018 and 2020 sampling.*

COMMENT: Condition I.G.4 does not contain a requirement to sample, analyze, or report Influent Total Phosphorus. Without Influent Total Phosphorus data, it does not seem feasible for the Agency to assess the efficiency of the POP required by Condition I.B.2. or the PERP required by Condition I.B.3. This issue must be addressed and information provided in the Fact Sheet regarding the process the Agency will use to assess phosphorus removal and treatment efficiently without Influent Total Phosphorus data.

RESPONSE: *The Agency will be using current and historical effluent data to evaluate the efficiency of the POP. If the facility chooses to sample the influent for process control that is their choice, it is not required by the permit.*

COMMENT: Condition I.I.1 - An Operation Management and Emergency Response Plan for the wastewater treatment facility, pump stations, and stream crossings was approved by the Agency on August 13, 2008. This approved Plan must be referenced in the Permit per the requirements of 10 V.S.A. 1278. With respect to submitting and immediately implementing an amendment of this Plan by December 31, 2021, the City fully intends to submit an amended version of this Plan by that date, however 10 V.S.A. 1278.d.3, requires approval by the Agency prior to implementing the inspection portion of the amended Plan. Therefore this Condition must reworded with language such as "this amended Plan shall be immediately implemented upon approval of the Agency" to comply with the statute.

Condition I.I.2 - The City submitted an Operation Management and Emergency Response Plan for the sewage collection system to the Agency on July 6, 2010. To date the City has never received any comments on this Plan or approval of the Plan from the Agency. Therefore, the City requests that Agency expedite completion of its review and approval of this pending Plan, require implementation of the Plan upon approval by the Agency (see 10 V.S.A. 1278.d.3), and remove the requirement in this Condition to amend this Plan by December 31, 2021, since its

initial approval will occur during the term of this Permit.

RESPONSE: *Condition I.I.1 has been revised to include Agency approval prior to implementation of the Operation Management and Emergency Response Plan.*

COMMENT: Condition J. states that "an alternative source of power for the operation of the WWTF or demonstration of capacity to store wastewater" is required during a power outage. This has been the requirement for pump stations but is it now being extended to WWTF's? In the past, the requirement for the WWTF's is that primary treatment and disinfection must be maintained during a power outage as a minimum. If this is a change, it will impact many WWTF's that are unable to comply with this new requirement and will require significant electrical upgrades to provide a larger on-site generator to operate the entire facility.

RESPONSE: Language in the facility's previous permit states that an alternative source of power of the WWTF is applicable to wastewater treatment facilities (including pump stations). Since the facility provides tertiary treatment, the Permittee is not required to meet effluent limitations outlined in I.A.2 during power outages.