

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

FACT SHEET
(JULY 2016)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

PERMIT NO: 3-1156
PIN: NS78-0009
NPDES NO: VT0100846

NAME AND ADDRESS OF APPLICANT:

Town of Bridgewater
7335 US Route 4
Bridgewater, VT 05034

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Bridgewater Wastewater Treatment Facility
#52 US Route 4
Bridgewater, Vermont

RECEIVING WATER: Ottauquechee River

CLASSIFICATION: Class B with a waste management zone. Class B waters are suitable for swimming and other forms of water-based recreation, and irrigation of crops and other agricultural uses without treatment; good aesthetic value; aquatic biota and wildlife sustained by high quality aquatic habitat; suitable for boating, fishing, and other recreational uses; acceptable for public water supply with filtration and disinfection. A waste management zone 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.

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

The Vermont Agency of Natural Resources (Agency) received a renewal application for the permit to discharge into the designated receiving water from the above-named applicant on September 13, 2013. At this time the Agency has made a tentative decision to reissue the discharge permit. The facility is engaged in the treatment of municipal wastewater. The discharge is from the outfall of the Bridgewater Wastewater Treatment Facility to the Ottauquechee River.

II. Description of Discharge

A quantitative description of the discharge in terms of significant effluent parameters is based on state and federal laws and regulations, the discharge permit application, and the recent self-monitoring data.

III. Limitations and Conditions

The effluent limitations of the permit, the monitoring requirements, and any implementation schedule (if required), may be found on the following pages of the permit:

Effluent Limitations: Page 2
Monitoring Requirements: Pages 5, 6 and 7

IV. Receiving Water

The receiving water for this discharge is the Ottauquechee River, a designated Cold Water Fish Habitat. At the point of discharge, the river has a contributing drainage area of 102 square miles. The summer 7Q10 flow of the river is 9.24 cubic feet per second (CFS) and the summer Low Median Monthly flow is 34.18 CFS. The instream waste concentration at the summer 7Q10 flow is 0.007 and the instream waste concentration at the summer Low Median Monthly flow is 0.002.

V. Permit Basis and Explanation of Effluent Limitation Derivation

History and Summary:

The Town of Bridgewater owns and operates the Bridgewater Wastewater Treatment Facility which was constructed in 1978. Raw wastewater enters equalization tanks for primary settling before entering an RBC unit, followed by secondary clarification and chlorine disinfection before being discharged to the Ottauquechee River. The clarifier returns the sludge to a sludge holding tank.

Flow - The effluent flow limitation remains at 0.043 MGD, annual average, based on the facility's design flow. The facility maintains a continuous discharge.

Biochemical Oxygen Demand (BOD₅) – The effluent limitations for BOD₅ remain unchanged from the current permit. The monthly average (30 mg/L) and weekly average (45 mg/L) reflect the minimum level of effluent quality specified for secondary treatment in 40 CFR Part 133.102. In addition, the permit contains a 50 mg/L, maximum day, BOD₅ limitation. This is the Agency standard applied to all such discharges pursuant to 13.4 c. of the Vermont Water Pollution Control Permit Regulations. The Agency 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 (11 lbs/day, monthly average and 16 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. The BOD₅ monthly monitoring requirement is unchanged from the current permit.

Total Suspended Solids (TSS) - The effluent limitations for TSS remain unchanged from the current permit. The monthly average (30 mg/L) and weekly average (45 mg/L) reflect the

minimum level of effluent quality specified for secondary treatment in 40 CFR Part 133.102. In addition, the permit contains a 50 mg/L, maximum day, TSS limitation. This is the Agency standard applied to all such discharges pursuant to 13.4 c. of the Vermont Water Pollution Control Permit Regulations. The Agency 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 (11 lbs/day, monthly and 16 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. The TSS monthly monitoring requirements are unchanged from the current permit.

Total Phosphorus (TP) – Numeric water quality criteria for phosphorus were adopted in the revised Vermont Water Quality Standards (effective October 30, 2014); in future permit reissuance, the criteria will be used to determine the potential of discharges to cause or contribute to eutrophication and/or to adversely impact the aquatic biota downstream of the discharge. The Agency is including *monitory only* requirements in discharge permits for discharges of TP. The Permittee shall monitor the discharge for TP once per month to be consistent with wastewater treatment facilities of similar size in Vermont.

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

Section I.B in this permit requires the Permittee have a qualified consultant develop and submit a Nitrogen Removal Optimization Plan by December 31, 2016. The plan shall be provided to the Agency before implementation. Additionally, an annual report will be due to the Agency documenting the pounds of TN discharged as well as removal optimization and efficiencies; the first annual report shall be submitted by January 15, 2018, as an attachment to the December 2017 DMR WR-43 report. Finally, this Condition contains as clause that allows the Agency to reopen the permit to include a wasteload allocation for this facility based on the LIS TMDL.

TN is a calculated value based on Total Kjeldahl Nitrogen (TKN) and Nitrate/Nitrite (NO_x) Nitrogen. Monthly monitoring will be required for TKN and NO_x. The sum of TKN and NO_x shall be used to derive TN.

Settleable Solids - The limitation of 1.0 mL/L instantaneous maximum and daily monitoring remain unchanged from the current permit. This numeric limit was established in support of the narrative standard in Section 3-01 B.5 of the Vermont Water Quality Standards.

Escherichia coli - The *E. coli* limitation is 77 colonies/100 mL as specified in Section 3-04 B.3, Vermont Water Quality Standards. Monthly monitoring remains the same as in the current permit.

Total Residual Chlorine – The Total Residual Chlorine limits of 1.0 mg/l, weekly average, and 2.0 mg/l, instantaneous maximum, are set in accordance with the Agency's Chlorine Policy for the protection of aquatic biota. Monitoring requirement remains daily.

pH - The pH limitation remains at 6.5 - 8.5 Standard Units as specified in Section 3-01 B.9 in the Vermont Water Quality Standards. Monitoring remains at daily.

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

The draft permit retains the existing waste management zone that extends downstream from the outfall for approximately 1 mile in the Ottauquechee River.

Whole Effluent Toxicity (WET) 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 draft permit includes a requirement to conduct a two-species WET test in August of September of 2018. If the results of this test indicate a reasonable potential to cause an instream toxic impact, the Agency may require additional WET testing, establish a WET limit, or require a Toxicity Reduction Evaluation.

Operation, Management, and Emergency Response Plans - As required by the revisions to 10 V.S.A. Section 1278, promulgated in the 2006 legislative session, Section I.H has been included in the draft permit. This condition requires that the Permittee implement the Operation, Management and Emergency Response Plan for the wastewater treatment facility, sewage pump/ejector stations, and stream crossings as approved by the Agency on January 14, 2009, and for the wastewater collection system as approved by the Agency on August 5, 2010.

Engineering Evaluation – An updated engineering evaluation condition is included in this permit. This condition requires the Permittee to conduct an in-depth inspection and report of the treatment facility to identify and repair equipment, processes, and other possible deficiencies which may adversely affect effluent quality or proper operation.

Electric Power Failure - Within 30 days of the effective date of the permit, the Permittee must submit to the Agency updated documentation addressing how the discharge will be handled in the event of an electric power outage. The effluent must receive a minimum of primary treatment (or in the case of ultraviolet light disinfection systems, not less than secondary treatment) plus disinfection and dechlorination.

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. This condition 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 Agency specified information regarding the discharge within 12 hours of discovery.

VI. Procedures for Formulation of Final Determinations

*The public comment period for receiving comments on the draft permit was from **August 1 through September 1, 2016.** The Agency received no comments from the public concerning the draft permit.*