

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
(August 2016)

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

PERMIT NO: 3-1297
PIN: NS96-0031
NPDES NO: VT0100013

NAME AND ADDRESS OF APPLICANT:

Village of Bellows Falls
P.O. Box 370
Bellows Falls, VT 05101

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Bellows Falls Wastewater Treatment Facility
80 Mill Street
Rockingham, VT

RECEIVING WATER: Connecticut 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 February 25, 2008. 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 Village of Bellows Falls' Wastewater Treatment Facility to the Connecticut 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 draft permit, the monitoring requirements, and any implementation schedule (if required), may be found on the following pages of the draft permit:

Effluent Limitations:	Page 2
Monitoring Requirements:	Pages 6 & 7

IV. Receiving Water

The receiving water for this discharge is the Connecticut River, a designated Cold Water Fish Habitat. At the point of discharge, the river has a contributing drainage area of 5,493 square miles. The summer 7Q10 flow of the river is estimated to be 1,109.6 cubic feet per second (CFS) and the summer Low Median Monthly flow is estimated to be 3,029.9 CFS. The instream waste concentration at the summer 7Q10 flow is 0.002 (0.2%) and the instream waste concentration at the summer Low Median Monthly flow is 0.001 (0.1%).

V. Facility History and Background

The Village of Bellows Falls owns and operates the Bellows Falls Wastewater Treatment Facility. The facility receives and treats wastewater from the Village, as well as the Town of Rockingham, the Town of Westminster, and the Town of Walpole, NH.

The facility consists of the headworks, two primary settling tanks, three trains of Rotating Biological Contactors (RBCs), two secondary clarifiers and a chlorine disinfection tank. There are two anaerobic digesters and one sludge holding tank on site along with a belt filter press. Approximately 50 loads of dewatered sludge are trucked to Claremont NH annually.

During the spring/summer of 2012, the headworks building and related equipment were upgraded, and the RBCs were replaced. The next phase of upgrades (planned for 2017) will address, as needed, the clarifiers, anaerobic digesters, backup generator, and the overall condition of concrete throughout the facility.

VI. Permit Basis and Explanation of Effluent Limitation Derivation

Flow – The draft permit maintains the annual average flow limitation of 1.4 MGD, 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 draft 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 (350 lbs/day, monthly average and 525 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. The BOD₅ weekly 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 draft permit contains a 50 mg/L, maximum day, TSS limitation. This is the Agency standard applied to all such discharges pursuant to 13.4 c. of the 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 (350 lbs/day, monthly average and 525 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. The TSS weekly monitoring requirement is unchanged from the current permit.

Total Phosphorus (TP) – In light of the adoption of numeric water quality criteria for phosphorus in the revised Vermont Water Quality Standards (effective October 30, 2014), the Agency is including requirements in discharge permits to monitor for discharges of TP. For future permit reissuance, the criteria will be used to determine the potential of discharges to cause or contribute to eutrophication and/or to adversely impact the aquatic biota downstream of the discharge. The Permittee shall monitor the discharge for TP once per week to be consistent with WWTF of similar size in Vermont.

Total Nitrogen (TN) – On November 10, 2011, a letter from the EPA (Region I) to the Agency 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 draft permit requires the Permittee have a qualified consultant develop and submit a Nitrogen Removal Optimization Plan. The plan shall be provided to the Agency before implementation. Because the Bellows Falls facility is in the middle of a two-year construction period to refurbish the facility, the deadline for the plan has been set for December 31, 2017; this deadline will allow the plan to be developed once the majority of the new equipment has been installed, and the implementation to occur after the construction has been complete. 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. Weekly 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. The draft permit retains the monitoring requirements of weekly April through October, and monthly November through March.

Total Residual Chlorine – The Total Residual Chlorine limit of 1.0 mg/L, weekly average, and 2.0 mg/L, instantaneous maximum, are based on meeting the instream water quality acute and chronic chlorine criteria (0.019 mg/L and 0.011 mg/L respectively) in the Vermont Water Quality Standards, effective February 9, 2006, for the protection of aquatic biota. Daily monitoring is unchanged from the current permit.

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

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

Toxicity Testing – 40 CFR Part 122.44(d)(1) and 122.21(j) require 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. Per these federal requirements, the Permittee shall conduct WET testing and toxic pollutant analyses according to the schedule outlined in Section I.F of the draft permit.

If the results of these tests 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.

Monitoring and Reporting – For all facilities with a design flow of greater than 0.1 MGD, 40 CFR § 122.21(j) requires the submittal of effluent monitoring data for those parameters identified in Section I.G.3 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.

The draft permit requires the Permittee to submit all monitoring data using an Agency-approved DMR form (WR-43). The Permittee shall submit all monitoring data using an electronic reporting system designated by the Agency once directed to do so by the Agency.

Operation, Management, and Emergency Response Plans – 10 V.S.A. Section 1278 requires the Permittee to prepare and implement an Operation, Management and Emergency Response Plan for the wastewater treatment facility, sewage pump/ejector stations, stream crossings, and collection systems. An Operation, Management and Emergency Response Plan for the facility, pump stations and stream crossings was received by the Agency on May 27, 2008. By December 31, 2016, the Permittee shall update and resubmit for review the plan for the facility, pump stations and stream crossings; the update shall also should address the collection system. The Permittee shall implement the plan on approval. Through the term of this permit, the Permittee shall revise as necessary these plans to reflect any changes to the equipment or operation of the facility.

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 UV disinfection systems, not less than secondary treatment) plus disinfection.

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.

VII. Procedures for Formulation of Final Determinations

*The public comment period for receiving comments on the draft permit was from **August 22 through September 22, 2016**. The Agency received no comments from the public concerning the draft permit.*