AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WASTEWATER MANAGEMENT DIVISION
103 SOUTH MAIN STREET
WATERBURY, VERMONT 05671-0405

FACT SHEET
(August 2005)

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

NPDES NO: VT0100684
FILE NO: 04-10
PERMIT NO: 3-1203
PROJECT ID NO: EJ95-0290

NAME AND ADDRESS OF APPLICANT:

Town of Milton
43 Bombardier Road
Milton, VT 05468

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Milton Wastewater Treatment Facility
143 Lamoille Terrace
Milton, Vermont

RECEIVING WATER: Lamoille River

CLASSIFICATION: Class B with a waste management zone. Class B waters are suitable for bathing and recreation, irrigation and agricultural uses; good fish habitat; good aesthetic value; 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 above named applicant applied on June 24, 2005 to the Vermont Department of Environmental Conservation for renewal of the permit to discharge into the designated receiving water. At this time the Department 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 Town of Milton Wastewater Treatment Facility to the Lamoille 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:	Pages 2 and 3 of 20
Monitoring Requirements:	Pages 5 through 8 of 20
Implementation Schedule:	Page 5 of 20

IV. Permit Basis and Explanation of Effluent Limitation Derivation

The Town of Milton operates the Milton Wastewater Treatment Facility which is currently an aerated lagoon system. The facility discharges secondary treated, chlorinated wastewater to the Lamoille River. The Town is currently undergoing construction to replace the existing aeration lagoon with sequential batch reactor (SBR) technology and ultraviolet light disinfection. The facility upgrade is expected to be completed in 2006.

Flow - The effluent flow limitation remains at 0.275 MGD, annual average, representing the facility's design flow. The facility maintains a continuous discharge. Following the facility upgrade the flow will increase to 1.0 MGD, annual average. These limits are unchanged from the previous permit.

Biochemical Oxygen Demand (BOD_5) - The effluent limitations for biochemical oxygen demand remain unchanged from the previous 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, BOD limitation. This is the Department 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 are currently 56.3 lbs/day, monthly average and 84.4 lbs/day, weekly average and are 250 lbs/day, monthly average and 375 lbs/day, weekly average following the facility upgrade. The BOD monthly monitoring requirement (prior to the upgrade) is unchanged from the previous permit. Following the upgrade, weekly monitoring is required consistent with similarly sized facilities.

Total Suspended Solids (TSS) - The effluent limitations for total suspended solids remain unchanged from the previous permit. The monthly and weekly average (45 mg/l)

reflect the minimum level of effluent quality specified for secondary treatment in 40 CFR Part 133.105. In addition, the permit contains a 50 mg/l, maximum day, TSS limitation. This is the Department 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 are currently 84.4 lbs/day, monthly and weekly average and are 250 lbs/day, monthly average and 375 lbs/day, weekly average following the facility upgrade. The TSS monthly monitoring requirement (prior to the upgrade) is unchanged from the previous permit. Following the upgrade, weekly monitoring is required consistent with similarly sized facilities.

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, effective July 2, 2000. Monitoring remains at daily.

Settleable Solids - The limitation of 1.0 ml/l instantaneous maximum and daily monitoring remain unchanged from the previous permit. This numeric limit was established in support of the narrative standard in Section 3-01 B.5. of the Vermont Water Quality Standards, effective July 2, 2000.

Total Phosphorus – Because aerated lagoons with design flows of at least 0.20 MGD are no longer exempt from the requirements in Title 10, Chapter 47 §1266a, a phosphorus effluent limit of 0.8 mg/l, monthly average is included in the proposed permit. The Department recognizes that the Town will need time to install phosphorus removal equipment and has included an implementation schedule in the permit (Part I.B.). The Town has until December 31, 2006, or until the facility upgrade is complete, whichever occurs first, to comply with the 0.8 mg/l, monthly average limit.

In addition, The 2002 "Lake Champlain Phosphorus Total Maximum Daily Load" established a phosphorus mass loading allocation for the Milton WWTF utilizing an effluent concentration of 0.6 mg/l at the design flow of the facility (1.0 MGD). That allocation (0.829 metric tons per year or 1827 pounds per year) is being incorporated into this permit. Based on the facility's 2003 and 2004 self-monitoring data, because the current flow from the facility is so low (relative to the 1.0 MGD upgrade design flow), the Town should have no trouble meeting the TMDL limit even without additional phosphorus removal equipment. As a result, the limit will be in effect upon the effective date of this permit.

The annual total pounds is the sum of the twelve monthly totals, which are calculated by multiplying the total monthly flow x the monthly average phosphorus concentration x 8.34. The annual total must be submitted with the December monthly monitoring report and the running total pounds for each calendar year shall be included with each month's self-monitoring report.

Until the facility upgrade is complete, monitoring is proposed to remain at monthly. Following the facility upgrade, monitoring is proposed to be weekly consistent with similarly sized facilities.

***E. coli* Bacteria** – Until the facility upgrade is complete, the *E. coli* limitation is 77/100 ml as specified in Section 3-04 B.3., Vermont Water Quality Standards, effective July 2, 2000.

Following the facility upgrade, the method of disinfection will change from chlorine to UV light disinfection. A mixing zone of 200 feet downstream from the discharge point has been established for *E. coli* (see Special Condition A.3). A limit of up to 385 colonies/100 ml may be allowed at the point of discharge provided that the water quality standard of 77 colonies/100ml (instantaneous maximum) is met at the end of the mixing zone. Section 2-04 of the Vermont Water Quality Standards allows creation of a mixing zone provided that it does not exceed 200 feet from the point of discharge and that it meets effluent limitations at the end of the zone. The mixing zone must 1) not create a public health hazard, 2) not constitute a barrier to the passage of fish or result in an undue adverse effect on fish, aquatic biota or wildlife, and 3) not interfere with any existing use of the river. It was necessary to create a mixing zone in order to allow UV light disinfection to be utilized at this treatment facility. The major manufacturers of UV light equipment attested to the fact that the kill from UV light disinfection would not be consistently able to meet the *E. coli* standard of 77 colonies/100 ml regardless of the size of the installation due to the anticipated TSS concentration of the final effluent. The Department agreed that from a public health perspective there was less risk involved with approving UV light disinfection and establishing a mixing zone than in requiring chlorination/dechlorination with the associated toxicity risk to aquatic biota. The Department has determined that there is sufficient dilution (a 5:1 dilution ratio was modeled) in the receiving water at the point of discharge, therefore the 77 colonies/100 ml *E. coli* water quality standard will be consistently met at the end of the mixing zone.

The monitoring requirement is monthly until the upgrade is complete and weekly thereafter. This weekly monitoring requirement is consistent with other facilities utilizing UV light disinfection and is needed to provide a sufficient level of monitoring to substantiate that the UV light disinfection system is operating effectively. Special Condition A.9. addresses maintenance requirements of the UV light disinfection system.

Total Residual Chlorine (TRC) - The TRC limit of 1.0 mg/l, weekly average, and 2.0, instantaneous maximum is 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 July 2, 2000 for the protection of aquatic biota. Daily monitoring is required until the UV light disinfection system is on-line.

Total Kjeldahl Nitrogen and Ultimate Oxygen Demand (UOD) - Based on assimilative capacity modeling done on the Lamoille River, the Department determined the assimilative capacity of the Lamoille River in the water quality limited reach below the outfall of the Milton facility. The limitation of 350 lbs/day, maximum day, applies to both the existing and upgraded facilities.

UOD is dependent on the quantity of flow, Biochemical Oxygen Demand (BOD_5) and Total Kjeldahl Nitrogen (TKN), as specified in the following equation:

UOD (lbs/day) = Flow (MGD) x 8.34 [(BOD_5 (mg/l) x 1.43) + (TKN (mg/l) x 4.57)]

The limitation is in effect from June 1 through October 15 of each year. TKN monitoring is required weekly but only during the period in which the UOD limit is in effect.

Whole Effluent Toxicity (WET) Testing - 40 CFR Part 122.44(d)(1) requires the Department to assess whether the discharge causes, has the reasonable potential to cause, or contribute to an excursion above any narrative or numeric water quality criteria. In addition, Part 122.21 requires all publicly owned treatment works (POTW) with flows greater than or equal to 1.0 MGD to complete a minimum of four WET tests. WET testing was conducted by the Town in August 2003. In addition, a toxicity scan was completed in December 2002. Those results indicated that this discharge did not have an instream toxic impact. The proposed permit includes (Part I.C.) four one-species acute WET tests during the term of the permit to ensure compliance with Part 122.21, 122.44(d)(1).

If the results of this test indicate a reasonable potential to cause an instream toxic impact, the Department may require additional testing, establish a WET limit, or require a Toxicity Reduction Evaluation.

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

Samples must be collected once annually during various seasons (i.e. include each of the four quarters during the permit period) and the results submitted by December 31 of each year.

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 proposed permit retains the existing waste management zone (WMZ) that extends downstream from the outfall for approximately one mile in the Lamoille River.

Electric Power Failure - Within 30 days of the effective date of the permit, the permittee must submit to the Department, both *updated documentation for the existing facility and documentation for the upgraded facility* addressing how the discharge will be handled in the event of an electric power outage. The effluent must receive a minimum of primary treatment plus disinfection for the existing facility and a minimum of secondary treatment plus disinfection for the upgraded facility. (The documentation for the existing facility should update the plan received by the Department in 2000.)

Other Special Conditions - The upgraded facility will be considered complete when the Town notifies the Department, by means of an engineer's certification, that the upgraded facility is operational and the Department issues a written acknowledgment of its operational status (Special Condition A.3.).

Special Condition A.10. addresses septage capacity. Milton's proposed facility must conform to the provisions of 10 V.S.A. §1626a, awards for wastewater treatment plants with a capacity of 250,000 gallons or more per day. The proposed plant capacity must be sufficient to receive, treat and dispose of septage in a quantity equivalent to the ratio of 4,000 gpd of septage for each 1 MGD of facility hydraulic capacity. Thus the facility must reserve 4,000 gpd and its equivalent BOD organic capacity for septage receiving. According to the Basis for Final Design, the facility is designed to handle 5,000 gpd.

V. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from August 1 through August 31, 2005 during which time interested persons may submit their written views on the draft permit. All written comments received by 4:30 PM on August 31, 2005 will be retained by the Department and considered in the formulation of the final determination to issue, deny or modify the draft permit. The period of comment may be extended at the discretion of the Department.

Written comments should be sent to:

Vermont Agency of Natural Resources
Department of Environmental Conservation
Wastewater Management Division - Sewing Building
103 South Main Street
Waterbury, VT 05671-0405

Comments may also be faxed to: 802-241-2596.

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

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

The complete application, draft permit, and other information are on file and may be inspected at the VTDEC, Wastewater Management Division, Waterbury Office. Copies will be made at a cost based on the current Secretary of State Official Fee Schedule for Copying Public Records from 8:00 AM to 4:30 PM, Monday through Friday. The draft permit and fact sheet may also be viewed on the Division's website at www.anr.state.vt.us/dec/ww/wwmd.cfm.

During the public comment period comments were received by the Town of Milton and are addressed in the cover letter to the permit.

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USGS **Milton, Vermont, United States** 25 Apr 1999

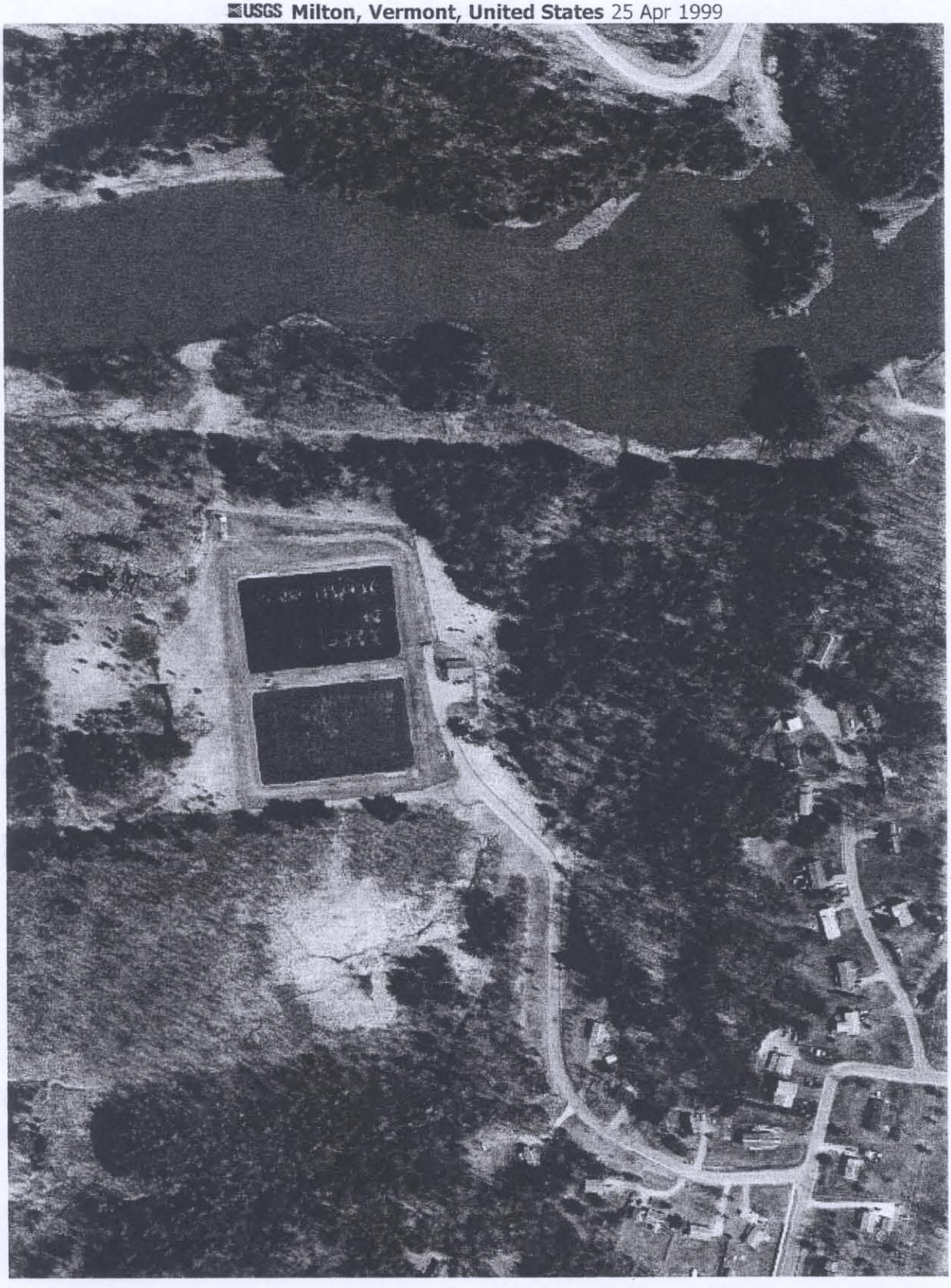

Image courtesy of the U.S. Geological Survey