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

FACT SHEET
(June 2004)

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

NPDES NO: VT0100226
FILE NO: 04-03
PERMIT NO: 3-1245
PROJECT ID NO: EJ95-0271

NAME AND ADDRESS OF APPLICANT:

City of Burlington
PO Box 878
Burlington, VT 05402

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Burlington North Wastewater Treatment Facility
North Avenue
Burlington, Vermont

RECEIVING WATER: Winooski 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 March 24, 2004 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 issue a discharge permit. The facility is engaged in the treatment of municipal wastewater. The discharge is from the outfall of the City of Burlington North Wastewater Treatment Facility to the Winooski 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 of 20
Monitoring Requirements:	Pages 3 through 7 of 20

IV. Permit Basis and Explanation of Effluent Limitation Derivation

The City of Burlington operates the Burlington North Wastewater Treatment Facility which is an activated sludge system with chlorine disinfection. It was originally constructed in 1958 as a primary facility. In 1973 it was upgraded to secondary treatment. Phosphorus removal was added in 1993. Sludge is processed by anaerobic digestion. A 20-year evaluation was completed on the facility in 2001.

Flow - The effluent flow limitation remains at 2.0 MGD, annual average, representing the facility's design flow. The facility maintains a continuous discharge.

Total Suspended Solids (TSS) - The effluent limitations for total suspended solids 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, TSS limitation. This is the Department standard applied to all such discharges pursuant to 13.4c. 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 (500 lbs/day, monthly average and 751 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. The TSS weekly monitoring requirement is 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 (500 lbs/day, monthly average and 751 lbs/day, weekly average) are derived by multiplying the concentration limits by the permitted flow. The BOD weekly monitoring requirement is unchanged from the previous permit.

Ultimate Oxygen Demand (UOD) and Total Kjeldahl Nitrogen (TKN) – A UOD limit of 1400 lbs, maximum day, is included in the permit. The lower Winooski River has been designated by the Agency as a water quality limited segment for dissolved oxygen (D.O.). A

wasteload allocation order was finalized September 15, 1988 with the allocations effective for the period of June 1 through October 31 annually. This order states that the allocation, defined in terms of maximum daily load of UOD for the North facility is 1400 lbs/day. Since receiving waters are the most sensitive to oxygen depleting wastes during periods of high water temperature and low flow, the UOD limitation is in effect from June 1 - October 31 of each year. The UOD limitation ensures compliance with the dissolved oxygen criteria during this time period as specified in the Vermont Water Quality Standards, effective July 2, 2000. During the other months of the year, the BOD limitation is adequate to ensure compliance with the dissolved oxygen criteria.

Weekly (summer) monitoring for TKN is required in order to calculate the UOD. The UOD limit and TKN monitoring requirement are unchanged from the previous permit.

pH – As requested by the permittee, the pH limitation is proposed to remain at 6.0 - 8.5 Standard Units. Although Section 3-01 B.9. in the Vermont Water Quality Standards, effective July 2, 2000 specifies a limitation of 6.5 –8.5 Standard Units, a mixing zone has been established under Section 2-04. The mixing zone is necessary in order to prevent the addition of more chemicals to the effluent. Given the instream dilution, the discharge will easily meet the water quality standard at the edge of the mixing zone. 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 - The concentration limitation of 0.8 mg/l, monthly average, remains unchanged from the previous permit. The concentration limit is based on requirements in Title 10, Chapter 47 §1266a. Winter (November through May) monitoring is proposed to be changed from once monthly to once weekly consistent with similarly sized facilities. Summer monitoring is unchanged at weekly.

In addition, The "Lake Champlain Phosphorus Total Maximum Daily Load" established a phosphorus mass loading allocation for the North WWTF utilizing an effluent concentration of 0.6 mg/l at the design flow of the facility (2.0 gpd). That allocation (1.657 metric tons per year or 3653 pounds per year) is being incorporated into this permit. This annual pounds limit replaces the 13.3 lbs/day, monthly average, effluent limitation specified in the previous permit.

The annual total pounds is the sum of the twelve monthly totals, which are calculated by multiplying the total monthly flow (MG) x the monthly average (mg/l) 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.

***E. coli* Bacteria** - The *E. coli* limitation is 77/100 ml as specified in Section 3-04 B.3., Vermont Water Quality Standards, effective July 2, 2000. Winter monitoring is proposed to

be changed from weekly to once monthly, consistent with similarly sized facilities. Summer weekly monitoring remains the same as in the previous permit.

Total Residual Chlorine (TRC) - The TRC limit of 1.4 mg/l, instantaneous maximum, remains the same as in the previous permit. This limitation ensures 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.

Total Copper, Total Zinc – In order to gather data on the discharge of copper and zinc into the lower Winooski River, a "monitor only" requirement has been included in the draft permit. Sampling for total copper and total zinc is required quarterly, consistent with other facilities in the lower Winooski River.

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. Whole Effluent Toxicity testing is being required in accordance with the 1994 Vermont Toxic Discharge Control Strategy. In addition, Part 122.21 requires all publicly owned treatment works (POTW) with flows greater than or equal to one mgd to complete a minimum of four WET tests. WET testing was conducted by the City in January and August 2000; also, toxicity scans were completed in November 2000, October 2003, and January 2004. Those results indicated that this discharge did not have an instream toxic impact. Confirmation that those findings are still valid is required by the Vermont Toxic Discharge Control Strategy at permit renewal. The proposed permit includes (Part I.B.) two one-species acute WET tests and two one-species acute/chronic tests (the August 2000 chronic results for the fathead minnow were inconsistent) during the term of the permit to ensure compliance with Part 122.21, 122.44(d)(1), and the Toxic Discharge Control Strategy.

If the results of these tests 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 monitoring data for those parameters identified in Condition I.F.3. of the permit.

Samples must be collected once annually during various seasons (ie. include a sample from each of the four quarters at some point during the permit period) and the results submitted by December 31 of each year.

Septage Capacity – Special Condition I.A.7. addresses septage capacity. The North 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 facility must receive, treat and dispose of septage in a quantity equivalent to the ratio of 4000 gallons per day of septage for each 1 million gpd of facility hydraulic capacity. Thus the facility must reserve 8,000 gpd and its equivalent BOD organic capacity for septage receiving.

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 two miles in the Winooski River.

Combined Sewer Overflows (CSO) – A plan to eliminate (based on the Agency's CSO Control Policy) the one CSO identified in the collection system (Gazo/Ethan Allen Parkway) was required under a consent order issued to the City. The CSO work was completed in 1990 and an effectiveness study was completed in 1992. That study, completed by the City, recommended the addition of one course of bricks to the manhole weir in order to increase flow capture. The proposed permit includes a requirement (Special Condition I.F.) to monitor the overflow to determine compliance with the Agency's CSO Policy until November 30, 2007. A report detailing the results of the monitoring and the effectiveness of the improvements to the manhole is due December 31, 2007. The use of BMPs and a public notification requirement are also included in the permit. EPA's Nine Minimum Controls are addressed through the use of the BMPs and public notification.

Electric Power Failure - Within 30 days of the effective date of the permit, the permittee must submit to the Department, 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 plus disinfection.

V. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from June 28 through July 28, 2004 during which time interested persons may submit their written views on the draft permit. All written comments received by 4:30 PM on July 28, 2004 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.

No comments were received during the public notice period.

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