

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

FACT SHEET

December 2005

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

FILE NO.: 04-14

PROJECT ID NO.: EJ95-0299

PERMIT NO.: 3-1284

NPDES NO.: VT0100358

NAME AND ADDRESS OF APPLICANT:

City of South Burlington
575 Dorset Street
South Burlington, VT 05403

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

South Burlington "Bartlett Bay" Wastewater Treatment Facility
Bartlett Bay Road
South Burlington, Vermont

RECEIVING WATER AND CLASSIFICATION: Lake Champlain: 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 of 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 has applied to the Vermont Department of Environmental Conservation for renewal of a permit to discharge into the designated receiving water. The facility is engaged in the treatment of domestic and industrial wastewater from the City of South Burlington. The discharge is from the South Burlington "Bartlett Bay" wastewater treatment facility outfall to Lake Champlain.

II. Description of Discharge

This permit authorizes the discharge of 1.25 MGD of treated municipal wastewater. The treatment system is considered advanced treatment of wastewater and consists of the following processes: rotary screening, extended aeration for secondary treatment and nitrification, chemical precipitation for phosphorus removal, a cloth disc filter for effluent polishing, and ultraviolet light disinfection.

A quantitative description of the discharge in terms of significant effluent parameters is presented in section IV. below.

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 6, 8, and 9

IV. Permit Basis and Explanation of Effluent Limitation Derivation

History & Summary

On June 29, 2005 the City submitted an application for renewal of their discharge permit for the Bartlett Bay WWTF. Having completed its review of the application, the Department has made a determination to renew the discharge permit for the wastewater treatment facility's discharge. Following is a discussion of the specific factors considered in the renewal of this permit.

The WWTF provides wastewater treatment capacity for residential, commercial, and industrial properties within its sewer service area in the City of South Burlington.

Effluent Limitations

Flow

This permit includes a flow limitation of 1.25 MGD, annual average, based on the design capacity of the facility. This is unchanged from the previous permit. Flow monitoring is required daily. This facility maintains a constant discharge.

Phosphorus

This draft discharge permit for the Bartlett Bay WWTF contains a phosphorus effluent concentration limit of 0.8 mg/l, monthly average, and a mass effluent limit of 1935 total pounds, annual limitation. The concentration effluent limitation is based on the requirements of 10 V.S.A. 1266a and is unchanged from the previous permit. The mass annual effluent limitation is based on the Lake Champlain Phosphorus TMDL, effective November 4, 2002. The TMDL allocated 0.878 metric tons per year or 1935 pounds per year to the Bartlett Bay WWTF and this allocation is being incorporated into the draft permit. This annual pounds limit replaces the 5.3 lbs/day, monthly average, effluent limitation specified in the previous permit.

The annual total pounds is the total 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.

This permit requires weekly monitoring of effluent composite samples for total phosphorus. This requirement is unchanged from the previous permit.

Biochemical Oxygen Demand (BOD₅) and Total Suspended Solids (TSS)

The BOD and TSS mass limitations are 175 lbs/day, monthly average, and 263 lbs/day, weekly average, and are unchanged from the previous permit. These mass limitations are based on concentration limitations and the originally permitted flow from the WWTF of 0.7 MGD and the provisions of 10 V.S.A. 1252.h. The BOD and TSS effluent concentration limits are 30 mg/l, monthly average, and 45 mg/l, weekly average. These limitations are set in accordance with the limitations specified for secondary treatment in 40 CFR Part 133.102. The permit requires the permittee to meet the BOD and TSS concentration limitations or the BOD and TSS mass

limitations whichever is more restrictive.

In addition, the permit contains a 50 mg/l, maximum day, BOD and TSS limitation. This is a limitation which the Agency implements 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. These limitations are unchanged from the previous permit.

The sampling frequency for BOD and TSS is once per week and is unchanged from the previous permit.

Escherichia coli bacteria

The *E. coli* limitation is 77/100ml, instantaneous maximum and is based on Section 3-04.B.3 of the Vermont Water Quality Standards effective July 2, 2000. This limitation is unchanged from the previous permit. Sampling is required once per week and is unchanged from the previous permit.

Settleable Solids

The Settleable Solids limitation is 1.0 ml/l, instantaneous maximum and is established in support of the narrative standard in Section 3-01.B.5 of the Vermont Water Quality Standards effective July 2, 2000. This limitation is unchanged from the previous permit. Sampling is required once per day and is unchanged from the previous permit.

Waste Management Zone

The previous permit established a waste management zone beginning at the outfall of the Bartlett Bay WWTF and extending for a 200 foot radius in Lake Champlain. The draft permit will maintain this waste management zone.

Additional Conditions

The following conditions are in the previous permit and also have been included in the draft permit.

Condition I.A.7. Requires the permittee to clean the quartz sleeves of the UV light disinfection system as necessary to maintain effective disinfection and replace the UV Light disinfection system lamps as necessary to maintain compliance with the *E. coli* bacteria limitation.

Condition I.A.8. Describes the notification process and sampling requirements that the permittee must implement if a disinfection system failure occurs.

Toxicity Testing and Additional Pollutant Testing

Previous Whole Effluent Toxicity (WET) tests conducted on this discharge, have indicated that this discharge does not have a reasonable potential to cause an instream toxic impact.

However to ensure compliance with 40 CFR 122.21.j, at the time of permit renewal, a requirement (Condition I.E) to conduct WET testing has been included in the draft permit. This Condition requires two species acute WET test to be done in 2007, and 2009. The species to be tested are fathead minnow and daphnia and the time of year the test will be conducted will alternate between winter and late summer to ensure representative sampling is done.

In addition, per the requirements of 40 CFR 122.21.j, annual monitoring for temperature,

Dissolved Oxygen, Oil & Grease, Nitrate/Nitrite, Total Dissolved Solids, Ammonia and Total Kjeldahl Nitrogen, has been included in the draft permit.

VI. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from November 21, 2005 through December 20, 2005 during which time interested persons may submit their written views on the draft permit. All written comments 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 draft 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 previous 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 this fact sheet may also be viewed on the Wastewater Management Division's web site at www.anr.state.vt.us/dec/ww/wwmd.cfm.