

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

FACT SHEET  
(MAY 2016)

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

**PERMIT NO:** 3-1409  
**PIN:** BR76-0002  
**NPDES NO:** VT0001210

**NAME AND ADDRESS OF APPLICANT:**

Smugglers' Notch Management Co. Ltd  
4323 VT Route 108 South  
Jeffersonville, VT 05464

**NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:**

Smugglers' Notch Water Treatment Facility  
VT Route 108  
Jeffersonville, Vermont

**RECEIVING WATER:** Unnamed tributary of the Brewster River

**CLASSIFICATION:** Class B. 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.

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 July 3, 2014. The facility is engaged in the treatment of surface water via coagulation, sand filtration and chlorination to provide potable drinking water; the filter backwash generated from this treatment process is discharged to a sedimentation basin and then conveyed to an outfall S/N 001 to an unnamed tributary of the Brewster River. At this time the Agency has made a tentative decision to reissue the discharge permit.

## II. Description of Discharge

This permit authorizes the discharge of filter backwash effluent produced during the treatment of raw surface water via coagulation, filtration and chlorination. 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:   Page 2

## IV. Permit Basis and Explanation of Effluent Limitation Derivation

**History and Summary:** The Smugglers' Notch Management Co., Ltd. owns and operates the Smugglers' Notch Water Treatment Facility. The original facility was constructed in the 1970s and the water treatment system's rapid sand pressure filters were installed in 1980 to process surface water to potable drinking water for the Smugglers' Notch Resort area.

**Potable Water Flow:** Raw water is drawn from an on-stream impoundment (Morse Reservoir) and travels via gravity to the water treatment building. The treatment method includes flocculation, coagulation, and rapid sand filtration treatment for inorganics and particulate removal via three (3) mixed media filters. After filtration, the water passes through a meter for flow monitoring, pH is adjusted with sodium hydroxide (soda ash), sodium hypochlorite is added continuously for disinfection and the water is then pumped to covered storage reservoirs for ultimate distribution throughout the resort.

**Filter Backwash Effluent:** Potable water is used to backwash the filters on an as needed basis. The filter backwash effluent passes through a meter for flow measurement and is then conveyed by pipe outside the building to a drywell, and then through a ditch to a lined, gravel sedimentation basin. After passing through the sedimentation basin, a system of underdrains conveys the water through a culvert and ditch to a pond located near the main entrance. Water from this pond flows to an outfall (S/N 001) to an unnamed tributary of the Brewster River.

A grab sample of the discharge from the sedimentation basin is collected monthly and analyzed for pH, turbidity, chlorine (free) and temperature.

The sedimentation basin is inspected routinely, at least once per month during grab sampling, for accumulation of solids and for flow-through. Accumulated sediments are removed biennially in accordance with the permit and moved to a storage area for drying.

**Floor Drains:** The floor drains, sink and emergency eyewash station inside the water treatment building discharge to the sedimentation basin. Sodium hypochlorite and sodium hydroxide chemicals are stored with secondary containment.

**Discharge Flow – S/N 001:** The discharge only occurs when the filters are backwashed, as needed. Average daily flows during filter backwash are typically around 4000 gallons. The effluent flow limitation for S/N 001 has been lowered to 14,000 gallons per day, monthly average, from the previous limit of 0.360 million gallons per day (MGD). This flow limitation reduction is based on current and historic flow volumes.

Discharges are seasonal with the approximate flow proportions as follows: Dec-Mar = 22%, Apr-May = 9%, Jun-Aug = 44%, Sep-Nov = 25%. The use of the surface water source may be stopped during periods of time when the turbidity of surface water source unusually high. If no discharge occurs on a given day or month, no monitoring is required for that time period. However, completion and submission of a Discharge Monitoring Report Form (WR-43) is still required.

**Turbidity** – The turbidity discharge limitation of 10 NTU and monthly monitoring requirement remain unchanged from the current permit. If a turbidity sample exceeds the limit, then the permittee shall immediately collect another sample of the discharge at the discharge culvert just before the S/N 001 point of discharge and analyze for turbidity. If that second sample is in compliance with the permit limit, the discharge shall be deemed to comply with the effluent limitation.

**Total Residual Chlorine** – The total residual chlorine (TRC) discharge limit of 0.020 mg/L and monthly monitoring requirement remain unchanged from the current permit. If a TRC sample exceeds the limit, then the permittee shall immediately collect another sample of the discharge at the discharge culvert just before First Pond (the S/N 001 point of discharge) and analyze for TRC. If that second sample is in compliance with the limit, the discharge shall be deemed to comply with the effluent limitations.

**pH** – The pH limitation remains 6.5-8.5 Standard Units as specified in Section 3-01.B.9 in the Vermont Water Quality Standards. Monitoring for pH at S/N 001 is required monthly.

#### V. Procedures for Formulation of Final Determinations

*The public comment period for receiving comments on this draft permit ran from **April 25 through May 24, 2016**. No comments were received concerning the draft permit*