

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation
1 National Life Drive, Main 2
Montpelier, VT 05620-3521

INDIRECT DISCHARGE PERMIT
FACT SHEET

December 2017

PERMIT NO.: ID-9-0208
 PERMITTEE: Town of Bristol
 NATURE OF WASTE: Treated Domestic Sewage
 DISPOSAL METHOD: Leachfields
 DISPOSAL LOCATION: Latitude N 44° 07' 54.4" and Longitude W 73° 04' 38"
 RECEIVING WATERS: New Haven River
 DRAINAGE BASIN: Otter Creek

Aquatic Permitting Criteria

Based on water quality monitoring data for the period September 2012 – June 2017, the following table demonstrates that the indirect discharge of treated domestic sewage from the Town of Bristol municipal disposal system meets the aquatic permitting criteria of the Indirect Discharge Rules in the New Haven River:

Parameter	Discharge Conc. (a)	Upstream Conc. (b)	Calculated Downstream Conc. (c)	Downstream Conc. (d)	IDR Limits
TDP	0.070 mg/L	0.009 mg/L	0.009 mg/L	0.007 mg/L	0.010 mg/L (e)
NO3	3.3 mg/L	0.21 mg/L	0.21 mg/L	0.19 mg/L	2.0 mg/L
pH	6.5 S.U.	7.1 S.U.	-	7.1 S.U.	6.9 – 8.05 (f)

Notes:

All total dissolved phosphorus (TDP) and Nitrate (NO3) values based on normal distribution of raw or transformed data.

- (a) 5% Exceedance Value based on 20 groundwater sampling results from monitoring wells downgradient of leachfields. Mean value used for pH.
- (b) 95% Confidence Value based on 10 upstream sampling results from the New Haven River. Mean value used for pH.
- (c) Based on discharge of 20,000 gpd and estimated low median monthly flow of 8,918,600 gpd in the New Haven River.
- (d) 95% Confidence Value based on 10 downstream sampling results from the New Haven River. Mean value used for pH.
- (e) Reflects 0.001 mg/L allowed increase above background concentration.
- (f) Based on background pH range.

Proposed Action

The Department of Environmental Conservation intends to issue an indirect discharge permit renewal to the permittee. The following changes have been made to the draft permit:

- Condition D2(C) (Implementation Schedule) has been changed to August 1st of each year to give the permittee more time to address annual inspection recommendations.
- Condition E2(A) (Effluent Monitoring) has been revised to require monitoring of Total Kjeldahl Nitrogen (TKN) instead of ammonia (recent analyses have done TKN instead of ammonia), total phosphorus instead of total dissolved phosphorus, and nitrate instead of nitrite.
- Condition E2(B) (Sewage Volume) has been created to specify the recording and submittal of the sewage flows on a monthly basis. This has always been required, but was not specified in the previous permit.
- Condition E3(B) (Groundwater Level and Observation Well Monitoring) has been removed from the permit because of the significant depths to groundwater and that the observation well measurements are already addressed in Condition D2(A).
- Condition E4 (Receiving Stream Monitoring) has been changed so that sampling of the New Haven River is no longer required. The flow of the river is large enough that, even at low median monthly flow, a mathematical increase of 0.001 mg/L cannot occur even when using the groundwater 5% exceedance values for total dissolved phosphorus and nitrate in the mass balance equation, even if the background concentration of these parameters is below detection limits in the river. Since groundwater concentrations have generally remained consistent since monitoring began in 1997, it is assumed that compliance with the Aquatic Permitting Criteria will continue to be met. Should the concentrations of total dissolved phosphorus or nitrate significantly increase in groundwater in the future, the Secretary can require the Town of Bristol to recommence sampling of the river, as stated in the revised condition.

No other significant changes to permit conditions have been made.

Tentative determinations regarding conditions to be included in the pending Vermont Indirect Discharge Permit have been made by the Vermont Agency of Natural Resources, Department of Environmental Conservation. The conditions imposed will assure that the Vermont Water Quality Standards and applicable provisions of 10 V.S.A. Chapter 47 will be met.