

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

INDIRECT DISCHARGE PERMIT
FACT SHEET

May, 2017

PERMIT NO.: ID-9-0005
APPLICANT: Magic Wastewater Association, Inc.
LOCATION: 289 Magic Mountain Access Road, Londonderry, Vermont
NATURE OF WASTE: Treated domestic sewage
DISPOSAL METHOD: Sprayfield
DISPOSAL LOCATION: USGS Londonderry 15' quadrangle map at Latitude N 43° 13' and Longitude W 72° 47'.

COMPLIANCE WITH INFLUENT and EFFLUENT LIMITS

For the period January 1, 2012 – December 31, 2016 the following limits were exceeded for influent flow and the spray effluent discharged to the existing sprayfield:

Parameter	Permit Limits	Number of Exceedances	Number Samples/ Days
Influent Flow	34,055 gallons per day	3	1,827
Discharge Flow	194,250 gallons/7 consecutive days ¹	1	126
BOD5	30 mg/L	3	49
TSS	30 mg/L	0	47
E. coli	77 col/100 mL	2	47
Chlorine Residual	4 mg/L total or 1 mg/L free (min.)	0	126

Notes:

- Based on an effluent disposal rate of 2" per 7 consecutive days. Number of exceedances does not include 16 days slightly above the 2" per 7-day limit. On one occasion, the permittee applied effluent at a rate greater than 3" (291,375 gallons) per 7 consecutive days allowed if BOD and TSS are less than 15 mg/L.

BOD5 = Biochemical Oxygen Demand (5-day)

TSS = Total Suspended Solids

COMPLIANCE WITH AQUATIC PERMITTING CRITERIA

Based on monitoring data for the period January 1, 2012 – December 31, 2016, the following table summarizes compliance with the aquatic permitting criteria of the Indirect Discharge Rules for Thompsonburg Brook:

Parameter	Discharge Conc. (a)	Upstream Conc. (b)	Calculated Downstream Conc. (c)	Downstream Conc. (d)	IDR Limits
TDP	0.017 mg/l	0.014 mg/l	0.014 mg/l	0.015 mg/l	0.015 mg/l (e)
NO3	0.8 mg/l	0.18 mg/l	0.20 mg/l	0.26 mg/l	2.0 mg/l
pH	4.99 S.U.	6.29 S.U.	-	6.51 S.U.	5.73-7.28 S.U. (f)

Notes:

All Total Dissolved Phosphorous (TDP) and Nitrate Nitrogen (NO3) values based on normal distribution of data or best fit.

- (a) Mean value based on 60 groundwater sampling results from monitoring wells downgradient of the sprayfield.
- (b) 95% Confidence Value based on 20 stream samples collected upstream of the sprayfield. Mean value used for pH.
- (c) Based on permitted discharge limit of 27,750 gallons per day and a low median monthly flow rate of 685,440 gallons per day in Thompsonburg Brook.
- (d) 95% Confidence Value based on 20 stream samples collected downstream of the sprayfield. Mean value used for pH. Downstream TDP result from June 10, 2014 omitted from calculations due to questionable result.
- (e) Reflects 0.001 mg/L allowed increase above background concentration
- (f) Based on background pH range.

PROPOSED ACTION

The Department intends to issue an indirect discharge permit renewal to the Magic Wastewater Association. As demonstrated above, the permittee is in compliance with the Aquatic Permitting Criteria of the Indirect Discharge Rules.

The permittee has requested some changes to the permit renewal, as follows:

Request #1: Reduce stream sampling from quarterly to semi-annually. Response: The Agency is not in favor of this request. All of the other indirect discharge spray disposal systems with similar discharge volumes as the permittee's are required to sample and

analyze the receiving stream on a quarterly basis. In addition, the permittee is required to demonstrate compliance with the Aquatic Permitting Criteria of the Indirect Discharge Rules, a demonstration which relies on the evaluation of surface water data. Based on the evaluation above, the receiving stream is at the limit for total dissolved phosphorus. Therefore, this change has not been made to the permit.

Request #2: Remove requirement to analyze stream samples for e-coli. Response: The Agency agrees that e-coli can be eliminated from the surface water sampling program since the permittee is required to meet effluent e-coli standards. This change has been made to the permit.

Request #3: Remove requirement that groundwater levels be measured within 24 hours after spraying when more than 2" are applied. Response: Based on the monthly reports submitted over the last 5 years, there was only one instance when the permittee sprayed significantly more than 2" per any 7-day period and therefore was required to measure groundwater levels before and after spraying. In any event, the permit has been revised to only require groundwater level measurements after spraying when more than 2" of effluent is sprayed in any one day. The after spraying measurements are necessary to determine compliance with the one foot separation requirement.

In addition to the changes noted above, other changes have been made to the permit, as follows:

1. The permit no longer requires effluent samples to be analyzed for nitrite because nitrite is typically not detected.
2. Condition C2 has been revised to match the requirements in the current Indirect Discharge Rules for the trigger to construct the second storage lagoon.
3. Condition D7 has been expanded to include the requirements of Act 86 relating to public notification for discharges of untreated sewage that reach waters of the State.
4. Condition D9 has been added to the permit which requires the submittal of a monthly report. The permittee has been submitting monthly reports to the Agency for years, so this is not a new requirement.

No other significant changes have been made to the permit.

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.