pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal & Transfer**	Application No.	**PA0044466 A-2**
Facility Type	**Non-Municipal**	APS ID	**1110160**
Major / Minor	**Minor**	Authorization ID	**1478140**

Applicant and Facility Information

Applicant Name	**Lake Bryn Mawr Operating Co., LLC**	Facility Name	**Lake Bryn Mawr Camp Inc.**
Applicant Address	593 Bryn Mawr Road	Facility Address	593 Bryn Mawr Road
	Honesdale, PA 18431-7884		Honesdale, PA 18431-7884
Applicant Contact	Dan Kagan, Owner/Director	Facility Contact	David Rivenburg, Operations Manager
Applicant Phone	(570) 253-2488	Facility Phone	(570) 335-2507
Client ID	384755	Site ID	450272
Ch 94 Load Status	Not Overloaded	Municipality	Oregon Township
Connection Status	-	County	Wayne
Date Application Received	Renewal Application Received - November 12, 2021 Transfer Application Received - February 26, 2024	EPA Waived?	Yes
Date Application Accepted	March 27, 2024	If No, Reason	-
Purpose of Application	Renewal of NPDES permit for discharge of treated sewage.		

Summary of Review

The applicant is requesting the renewal of an NPDES permit to discharge up to 0.012 MGD of treated sewage into an Unnamed tributary to Big Brook, an Exceptional Value, Migratory Fish (EV, MF) receiving stream in State Water Plan Basin 1-B (Middle Lehigh River). The EV delineation is a basin delineation. As per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than its designated use. This stream segment is not designated as a naturally reproducing trout stream as per PA Fish & Boat Commission. This discharge is not expected to affect public water supplies.

Limitations for pH, $CBOD_5$, and Total Suspended Solids (TSS) are technology-based and carried over from the previous permit.

Limitations for Dissolved Oxygen (DO) and Fecal Coliform are water quality-based and carried over from the previous permit.

WQM modeling recommended slightly stricter summertime limitations for Ammonia-Nitrogen (1.77 mg/L monthly average, 3.54 mg/L IMAX). Wintertime monitoring/reporting for Ammonia-Nitrogen has also been updated to three times the new summertime limitations (5.31 mg/L monthly average, 10.62 mg/L IMAX). eDMR data from May 2023 to April 2024 (seen on pages 4-5 of this Fact Sheet) indicate that the facility could immediately meet the stricter limitations for Ammonia-Nitrogen. Therefore, the new limitations will become effective at the permit effective date of the final permit.

The facility utilizes Ultraviolet (UV) disinfection as the primary disinfection method. In the event the facility uses chlorine for cleaning purposes or as a back-up disinfection option, Total Residual Chlorine (TRC) should be sampled "daily when discharging" (see requirements under Part C.I.E). The Total Residual Chlorine (TRC) Calculation Spreadsheet recommends

Approve	Deny	Signatures	Date
X		/s/ Allison S. Zukosky / Project Manager	July 24, 2024
X		/s/ Amy M. Bellanca, P.E. / Acting Engineer Manager	8-2-24

Summary of Review

stricter limitations than the previous permit (0.034 mg/L monthly average, 0.111 mg/L IMAX). A GG code was input by the permittee for TRC in their eDMRs for the past year. The submitted effluent testing information for TRC in the NPDES Renewal Application indicates they would not be able to meet the existing or proposed TRC limitations. To allow a buffer period to ensure the permittee can meet these new limitations if TRC were to be used as a backup disinfection, the updated TRC limitations will come into effect one year after the permit effective date. The limitations for from the previously issued permit will be in effect the first year of the permit.

Sewage discharges now require monitoring and reporting for E. Coli. A monitoring frequency of 1/month for design flows >= 1 MGD, 1/quarter for design flows >= 0.05 and < 1 MGD, 1/year for design flows of 0.002 – 0.05 MGD will be utilized.

The latest DRBC Docket No. D-2017-011-02 for this facility requires the addition of monitoring/reporting for 85% minimum $CBOD_5$ Percent Removal at the same monitoring frequency as $CBOD_5$, a monthly $CBOD_5$ monitoring requirement for the Raw Sewage Influent, and quarterly monitoring/ reporting for Total Dissolved Solids. The Docket also requires the annual monitoring/reporting of Total Nitrogen, Total Phosphorous, Total Kjeldahl Nitrogen, and Nitrate-Nitrite as N be increased to monthly.

For this permit renewal, all monitoring frequencies for parameters with limitations are consistent with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (document no. 362-0400-001).

The previous permit utilized stream gage 01429500 (Dyberry Creek near Honesdale, PA) as a reference gage to develop a Low Flow Yield (LFY) of 0.0510 cfs/mi^2 and Q_{7-10} of 0.00334 cfs, which were used to model the discharge. Updated Stream Gage Data for this same gage was obtained from USGS StreamStats. The updated data was used to calculate the LFY and Q_{7-10}. This resulted in a slightly smaller LFY of 0.044 cfs/mi^2 and Q_{7-10} of 0.0032 cfs. These updated values were used to model the discharge. RMI values were obtained using the Department's eMapPA, drainage areas were delineated using USGS's StreamStats interactive map, and elevations were obtained using the elevation profile tool on StreamStats.

The existing permit expired on July 31, 2022 and the application for renewal was received on time.

A transfer application was received on February 26, 2024. The permit is being transferred from Lake Bryn Mawr Camp, Inc. (EIN 23-2950513, Client ID # 249454) to Lake Bryn Mawr Operating Co., LLC (EIN 93-3923966, Client ID # 384755).

An "A-2" notation has been added after the NPDES permit to represent the number of transfers since the original permit was issued.

WQM Permit 6470403 will be transferred concurrently with the final NPDES Permit.

A Water Management System Inspection query indicated that on June 22, 2020 a Routine/Partial Inspection was performed.

There are currently no open violations for either client that warrant withholding issuance of this permit.

Sludge use and disposal description and location(s): As per the permittee's Sewage Sludge and Biosolids Supplemental Report forms, sludge is hauled to the Sile Bay in Canaan Township, PA by Koberlein Environmental Services.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.012
Latitude	41º 38' 49.09"	Longitude	-75º 15' 3.39"
Quad Name	Aldenville	Quad Code	0543
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Big Brook	Stream Code	5993
NHD Com ID	25920648	RMI	0.67
Drainage Area	0.0731 mi^2	Yield (cfs/mi^2)	0.044
Q_{7-10} Flow (cfs)	0.0032	Q_{7-10} Basis	USGS Stream Gage 01429500
Elevation (ft)	1,397.15	Slope (ft/ft)	-
Watershed No.	1-B	Chapter 93 Class.	EV (Basin designation)
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	-		
Source(s) of Impairment	-		
TMDL Status	-	Name	-
Nearest Downstream Public Water Supply Intake	Easton Area Water System		
PWS Waters	Delaware River	Flow at Intake (cfs)	-
PWS RMI	110.4	Distance from Outfall (mi)	~ 126

Treatment Facility Summary

Treatment Facility Name: Lake Bryn Mawr Camp

WQM Permit No.	Issuance Date	Scope
6470403 T-2	TBD	Transfer
6470403 T-1	5/21/1975	Transfer
6470403	11/25/1970	WWTP

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Waste Stabilization Lagoon	Sodium Hypochlorite	0.012

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.012	25.2	Not Overloaded	-	-

Compliance History

DMR Data for Outfall 001 (from May 1, 2023 to April 30, 2024)

Parameter	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23
Flow (MGD) Average Monthly	0.00937						0.0105	0.0109	0.0109	0.0109	0.0044	0.00555
Flow (MGD) Daily Maximum	0.0109						0.0109	0.0109	0.0109	0.0109	0.0109	0.0109
pH (S.U.) Minimum	7.8						7.75	7.37	7.39	7.57	7.75	7.85
pH (S.U.) Maximum	8.4						8.47	8.35	8.0	8.61	8.29	8.33
DO (mg/L) Minimum	9.5						8.84	7.19	7.82	7.24	7.91	8.87
TRC (mg/L) Average Monthly	GG						GG	GG	GG	GG	GG	GG
TRC (mg/L) Instantaneous Maximum	GG						GG	GG	GG	GG	GG	GG
CBOD5 (mg/L) Average Monthly	4.0						< 3.0	3.0	< 3.0	< 3.0	< 3.0	< 4.0
TSS (mg/L) Average Monthly	9.0						< 5.0	7.0	< 5.0	< 5.0	< 5.0	< 4.0
Fecal Coliform (No./100 ml) Geometric Mean	< 2.0						< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	2.0						< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Nitrate-Nitrite (mg/L) Average Monthly					< 4.11							
Total Nitrogen (mg/L) Average Monthly					5.89							
Ammonia (mg/L) Average Monthly	< 1.00						< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Ammonia (mg/L) Instantaneous Maximum	< 1.00						< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
TKN (mg/L) Average Monthly					1.78							

Total Phosphorus (mg/L) Average Monthly					1.7							

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.012
Latitude 41º 38' 50.00" **Longitude** -75º 15' 4.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25.0	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	50.0	IMAX	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30.0	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	60.0	IMAX	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
E. Coli	Report	IMAX	-	92a.61

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Total Residual Chlorine	0.035	Average Monthly	TRC Calculation Spreadsheet
	0.115	IMAX	
Dissolved Oxygen	6.0	Minimum	Previous Permit
Ammonia-Nitrogen May 1 - Oct 31	1.77	Average Monthly	WQM 7.0
	3.54	IMAX	
Ammonia-Nitrogen Nov 1 - Apr 30	5.31	Average Monthly	
	10.62	IMAX	
Fecal Coliform (No./100 ml)	200	Geo Mean	Previous Permit
	1,000	IMAX	
$CBOD_5$ Raw Sewage Influent	Report	Average Monthly	DRBC Docket
CBOD5 Minimum % Removal (%)	Report	Average Monthly	
Total Dissolved Solids	Report	Average Quarterly	
Total Kjeldahl Nitrogen	Report	Average Monthly	
Total Phosphorus	Report	Average Monthly	
Nitrate-Nitrite as N	Report	Average Monthly	
Total Nitrogen	Report	Average Monthly	

Anti-Backsliding

No limitations were made less stringent.

Modeling with USGS Stream Gage 01429500 – Dyberry Creek near Honesdale, PA:

Name	Value
USGS Station Number	01429500
Station Name	Dyberry Creek near Honesdale, Pa.
Station Type	Gaging Station, continuous record
Latitude	41.60731
Longitude	-75.26712
NWIS Latitude	41.6072181
NWIS Longitude	-75.26710469
Is regulated?	true
Agency	United States Geological Survey
NWIS Discharge Period of Record	09/30/1943 - 06/02/2024

Characteristic Name	Value	Units
Drainage Area	64.6	square miles

Statistic Name	Value	Units	Preferred?	Years of Record
1 Day 10 Year Low Flow	2.38	cubic feet per second	✓	60
7 Day 2 Year Low Flow	6.24	cubic feet per second	✓	60
7 Day 10 Year Low Flow	2.87	cubic feet per second	✓	60

$$\boldsymbol{LFY} = \frac{Q_{7-10}}{Stream\ Gage\ Drainage\ Area} \times \frac{2.87\ cfs}{64.6\ mi^2} = \mathbf{0.044}$$

$$\boldsymbol{Stream\ Flow} = Outfall\ 001\ Drainage\ Area \times LFY = 0.0731\ mi^2 \times 0.044 = \mathbf{0.0032\ cfs}$$

Modeling Using USGS StreamStats:

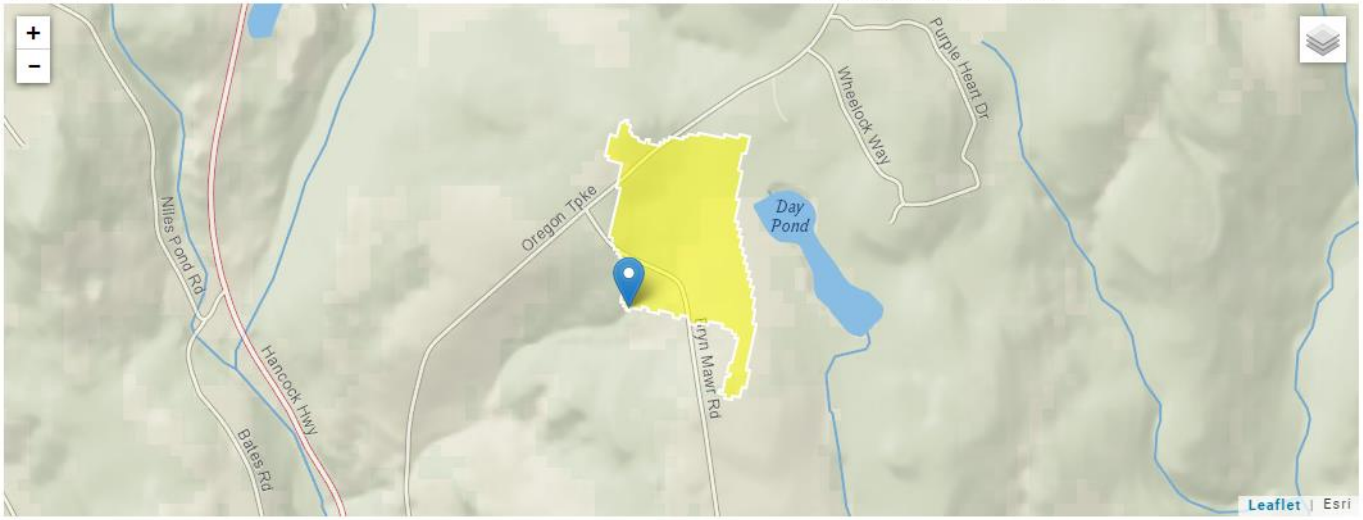
At Outfall 001 on Unnamed Tributary to Big Brook:

RMI	Elevation (ft)	Drainage Area (mi^2)	Q_{7-10} Flow (cfs)
0.67	1,397.15	0.0731	0.000422

$$Low\ Flow\ Yield\ using\ StreamStats = \frac{0.000422\ ft^3/sec}{0.0731\ mi^2} = \mathbf{0.0058}\ \frac{\boldsymbol{ft^3/sec}}{\boldsymbol{mi^2}}$$

StreamStats Report

Region ID:	PA
Workspace ID:	PA20240604121812091000
Clicked Point (Latitude, Longitude):	41.64705, -75.25092
Time:	2024-06-04 08:18:32 -0400



Parameter Code	Parameter Name	Value	Units
DRNAREA	Drainage Area	0.0731	square miles

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

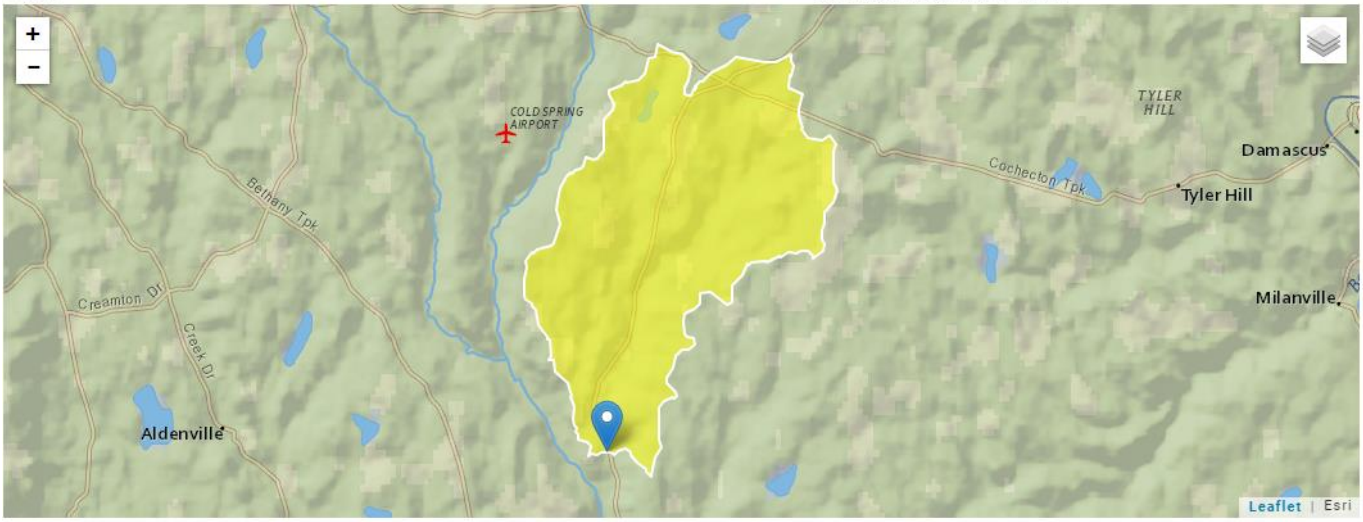
Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00222	ft^3/s
30 Day 2 Year Low Flow	0.00381	ft^3/s
7 Day 10 Year Low Flow	0.000422	ft^3/s

At confluence with Big Brook (5992):

RMI	Elevation (ft)	Drainage Area (mi^2)
0.00 0.75 (on Big Brook)	1,051.59	13.6

StreamStats Report

Region ID:	PA
Workspace ID:	PA20240604122353810000
Clicked Point (Latitude, Longitude):	41.64183, -75.26103
Time:	2024-06-04 08:24:14 -0400



Parameter Code	Parameter Name	Value	Units
DRNAREA	Drainage Area	13.6	square miles

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
01B	5993	Trib 05993 to Big Brook

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
0.670	Lake Bryn Mawr	PA0044466 A-1	0.012	CBOD5	25		
				NH3-N	1.77	3.54	
				Dissolved Oxygen			5

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.0032	= Q stream (cfs)	0.5	= CV Daily
0.012	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 0.074	1.3.2.iii	WLA cfc = 0.065
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.028	5.1d	LTA_cfc = 0.038

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.034	AFC
		INST MAX LIMIT (mg/l) = 0.111	

WLA afc	(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...
	...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...
	...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)

WQM 7.0.pdf

DRBC Docket 2017-011-2.pdf