pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Amendment, Major**	Application No.	**PA0114049 A-1**
Facility Type	**Municipal**	APS ID	**1043229**
Major / Minor	**Minor**	Authorization ID	**1361652**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Lewis Township Municipal Authority**	Facility Name	**Lewis Township STP**
Applicant Address	PO Box 51	Facility Address	1599 Millmont Road
	Millmont, PA 17845-0051		Millmont, PA 17845
Applicant Contact	Donald Shively	Facility Contact	
Applicant Phone	(570) 922-4102	Facility Phone	
Client ID	44027	Site ID	1186
Ch 94 Load Status	Not Overloaded	Municipality	Lewis Township
Connection Status	No Limitations	County	Union
Date Application Received	June 29, 2021	EPA Waived?	Yes
Date Application Accepted	July 14, 2021	If No, Reason	
Purpose of Application	Amendment for increase in design flow.		

Summary of Review

The above applicant has submitted an NPDES amendment application for an increase in design flow from 0.0335 MGD to 0.044 MGD at their existing facility. The respective permit was renewed on April 8, 2020 and expires on April 30, 2025. In addition to increasing the permitted annual design flow, the applicant will be submitting a Water Quality Management amendment application for a major modification to their sewage treatment plant. In summary, the existing Sequencing Batch Reactor (SBR) plant that utilizes wetlands as part of the treatment train will be replaced by a Virginia Initiative Plant (VIP) activated sludge process with UV and chlorine disinfection, for redundancy. A full description of the design of the upgraded treatment plant will be covered in the Internal Review and Recommendations (IRR) for the WQM permit.

Unless otherwise noted, all applicable Department Standard Operating Procedures (SOPs) were followed during the review of this application.

Sludge use and disposal description and location(s): Kelly Township Municipal Authority Wastewater Treatment Plant (WWTP) located in Lewisburg, PA.

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.

Approve	Deny	Signatures	Date
X		*Chad A. Fabian* Chad A. Fabian / Project Manager	August 30, 2021
X		*Nicholas W. Hartranft, P.E.* Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	August 31, 2021

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.044
Latitude	40º 52' 43.33"	Longitude	-77º 8' 12.94"
Quad Name	Hartleton	Quad Code	1128
Wastewater Description:	Sewage Effluent		
Receiving Waters	Cold Run	Stream Code	18147
NHD Com ID	54963135	RMI	0.17
Drainage Area	2 mi^2	Yield (cfs/mi^2)	0.11
Q_{7-10} Flow (cfs)	0.233	Q_{7-10} Basis	Previous permit/watershed comparison
Elevation (ft)	560	Slope (ft/ft)	n/a
Watershed No.	6-A	Chapter 93 Class.	WWF
Existing Use	TSF, MF	Existing Use Qualifier	n/a
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	n/a		
TMDL Status	n/a	Name	n/a
Nearest Downstream Public Water Supply Intake	Approximately 65 miles downstream on the Susquehanna River		

Changes Since Last Permit Issuance: None

Compliance History	
Summary of DMRs:	A review of the eDMRs show that no exceedances have occurred in the past year.
Summary of Inspections:	The most recent inspection by the Department occurred on 8/16/2021. No violations were found during the inspection, nor was any impact observed at the discharge point.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .0335
Latitude 40º 52' 53.30" **Longitude** -77º 8' 16.20"
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	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

A “Reasonable Potential Analysis” was not performed since the facility does not have any industrial users nor does it accept any hauled in wastes. Therefore, the application does not require any toxics to be sampled in the permit renewal application since they are not expected to be present in the discharge.

The Department’s WQM7.0 model allows the Department to evaluate point source discharges of dissolved oxygen (DO), carbonaceous BOD ($CBOD_5$), and ammonia-nitrogen (NH_3-N) into free-flowing streams and rivers. To accomplish this, the model simulates two basic processes: the mixing and degradation of NH_3-N in the stream and the mixing and consumption of DO in the stream due to the degradation of $CBOD_5$ and NH_3-N. Modeling was conducted using the proposed increase in design flow (0.044 MGD). The modeling results (see attached) did not result in any change to the existing effluent limitations.

A new TRC spreadsheet model can be found attached. The model shows that no water quality based TRC limitations are required. Since the permittee will have the ability to use both chlorine and UV when the plant is upgraded, both parameters will be in the permit.

Best Professional Judgment (BPJ) Limitations

None

Anti-Backsliding

There is no proposed relaxation of any existing effluent limitation in this draft amendment.

Chesapeake Bay Requirements

According to the Department’s Supplement to the Phase 3 Chesapeake Bay Watershed Implementation Plan (WIP), the facility is classified as a Phase 5 bay discharger (>0.002 MGD and <0.2 MGD).

Per page 19 of the Chesapeake Bay Phase 3 WIP, since the facility is proposing to expand flow from 0.0335 MGD to 0.044 MGD, cap loads will now be applied. Per the WIP, if Phase 5 facilities choose to expand, the renewed or amended permits will contain Cap Loads based on the lesser of a) existing TN/TP concentrations at current design average annual flow or b) 7,306 lbs/yr TN and 974 lbs/yr TP.

Since the proposed upgraded facility is not yet constructed, there are no sampling results for TN and TP at this time. Therefore, per the WIP, default values of 25 mg/l for TN and 4 mg/l will be used to calculate the above scenario (a). The following is a table comparing each scenario:

Parameter	Option A	Option B
Total Nitrogen	3,348 lbs/year	7,306 lbs/year
Total Phosphorus	535 lbs/year	974 lbs/year

Per the above calculations, the proposed effluent limitations for TN and TP will be consistent with Option A above. The WIP states that nutrient monitoring for expanded Phase 5 facilities should be no less than 1/month. Therefore, the proposed monitoring frequency for TN and TP will be 1/month.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2)	Required
	Average Monthly	Daily Maximum	Average Monthly	Average Monthly	Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
Ultraviolet (UV) % transmittance	XXX	XXX	XXX	Report (Monthly Minimum)	Report (Daily)	XXX	1/day	Metered
CBOD5	XXX	XXX	25	40 Wkly Avg	XXX	50	2/month	Grab
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	Grab
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	Grab
TSS	XXX	XXX	30	45 Wkly Avg	XXX	60	2/month	Grab
Fecal Coliform (No./100 ml) Nov 1 - Apr 30	XXX	XXX	XXX	2000	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Oct 31	XXX	XXX	XXX	200	XXX	1000	2/month	Grab
Ammonia Oct 1 - Apr 30	XXX	XXX	XXX	18	XXX	XXX	2/month	Grab
Ammonia May 1 - Sep 30	XXX	XXX	XXX	6	12 Wkly Avg	18	2/month	Grab

Compliance Sampling Location: 001

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date

Parameter	Effluent Limitations					Monitoring Requirements	
	Mass Units (lbs)		Concentrations (mg/L)			Minimum Measurement Frequency	Required Sample Type
	Monthly	Annual	Minimum	Monthly Average	Maximum		
Ammonia---N	Report	Report		Report		1/month	Grab
Kjeldahl---N	Report			Report		1/month	Grab
Nitrate-Nitrite as N	Report			Report		1/month	Grab
Total Nitrogen	Report	Report		Report		1/month	Grab
Total Phosphorus	Report	Report		Report		1/month	Grab
Net Total Nitrogen	Report	3,348				1/month	Calculation
Net Total Phosphorus	Report	535				1/month	Calculation

Compliance Sampling Location: 001

It is recommended the permit amendment be drafted as detailed above. As discussed, the only change to existing effluent limitations will be monitor and report for UV and the addition of cap loads for TN and TP.