

Application Type Renewal  
Facility Type Municipal  
Major / Minor Minor

**NPDES PERMIT FACT SHEET  
INDIVIDUAL SEWAGE**

Application No. PA0209384  
APS ID 1014510  
Authorization ID 1310839

**Applicant and Facility Information**

Applicant Name	<u>Lawrence Township Municipal Authority</u>	Facility Name	<u>Lawrence Township Municipal Authority Wastewater Treatment Plant</u>
Applicant Address	<u>173 School Road</u> <u>Tioga, PA 16946-8402</u>	Facility Address	<u>173 School Road</u> <u>Tioga, PA 16946-8402</u>
Applicant Contact	<u>Nathan Rundell</u>	Facility Contact	<u>Nathan Rundell</u>
Applicant Phone	<u>(570) 502-0845</u>	Facility Phone	<u>(570) 502-0845</u>
Client ID	<u>91556</u>	Site ID	<u>464425</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Lawrence Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Tioga</u>
Date Application Received	<u>April 7, 2020</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>April 20, 2020</u>	If No, Reason	<u></u>
Purpose of Application	<u>Renewal of an existing NPDES permit for the discharge of treated sewage.</u>		

**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		Derek S. Garner Derek S. Garner / Project Manager	April 30, 2020
X		Nicholas W. Hartranft Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	April 30, 2020

**Discharge, Receiving Waters and Water Supply Information**

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>0.13</u>
Latitude	<u>41° 57' 21.34"</u>	Longitude	<u>-77° 6' 56.16"</u>
Quad Name	<u>Jackson Summit</u>	Quad Code	<u>0329</u>
Wastewater Description: <u>Sewage Effluent</u>			

Receiving Waters	<u>Tioga River</u>	Stream Code	<u>30990</u>
NHD Com ID	<u>133069764</u>	RMI	<u>16.51</u>
Drainage Area	<u>442.06</u>	Yield (cfs/mi <sup>2</sup> )	<u>0.068</u>
Q <sub>7-10</sub> Flow (cfs)	<u>30.3</u>	Q <sub>7-10</sub> Basis	<u>Streamgage No. 01518700</u>
Elevation (ft)	<u>1000</u>	Slope (ft/ft)	<u>n/a</u>
Watershed No.	<u>4-A</u>	Chapter 93 Class.	<u>WWF</u>
Existing Use	<u>n/a</u>	Existing Use Qualifier	<u>n/a</u>
Exceptions to Use	<u>n/a</u>	Exceptions to Criteria	<u>n/a</u>
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>Mercury</u>		
Source(s) of Impairment	<u>Unknown</u>		
TMDL Status	<u>n/a</u>	Name	<u>n/a</u>

Nearest Downstream Public Water Supply Intake	<u>PA-NY Border</u>		
PWS Waters	<u>Tioga River</u>	Flow at Intake (cfs)	<u>32</u>
PWS RMI	<u>0.00</u>	Distance from Outfall (mi)	<u>16.51</u>

**Treatment Facility Summary**

The Lawrence Township Municipal Authority Wastewater Treatment Plant is an extended aeration treatment plant with an average annual design flow of 0.13 MGD, hydraulic capacity of 0.17 MGD, and an organic capacity of 470 lbs BOD/day. Treatment at the facility consists of:

- Grit removal
- Two (2) aeration tanks
- Two (2) secondary clarifiers
- One (1) chlorine contact tank
  - Sodium hypochlorite
- Two (2) aerobic digesters
- One (1) plate frame press
  - Dewatered sludge is hauled to a landfill

After disinfection the effluent is discharged to the Tioga River via Outfall 001.

There are no proposed upgrades to the existing facility within the next five years.

**Compliance History**

The following effluent violations occurred during the existing permit's term:

Monitoring Period Begin Date	Monitoring Period End Date	Parameter	Sample Value	Violation Condition	Permit Value	Units	SBC
1/1/2016	1/31/2016	Fecal Coliform	14800	>	10000	CFU/100 ml	IMAX
6/1/2016	6/30/2016	Fecal Coliform	1203	>	1000	CFU/100 ml	IMAX
8/1/2016	8/31/2016	Fecal Coliform	> 2420	>	1000	CFU/100 ml	IMAX
8/1/2016	8/31/2016	Fecal Coliform	598	>	200	CFU/100 ml	Geo Mean
9/1/2016	9/30/2016	Fecal Coliform	> 2420	>	1000	CFU/100 ml	IMAX
5/1/2017	5/31/2017	Fecal Coliform	381	>	200	CFU/100 ml	Geo Mean
5/1/2017	5/31/2017	Fecal Coliform	2420	>	1000	CFU/100 ml	IMAX
7/1/2017	7/31/2017	Fecal Coliform	1203	>	1000	CFU/100 ml	IMAX
7/1/2018	7/31/2018	Fecal Coliform	1414	>	1000	CFU/100 ml	IMAX
8/1/2018	8/31/2018	Fecal Coliform	1553	>	1000	CFU/100 ml	IMAX
9/1/2019	9/30/2019	Fecal Coliform	1732	>	1000	CFU/100 ml	IMAX

The table above indicates the facility has had trouble consistently meeting fecal coliform effluent limitations; particularly during warm months. However, it does appear that the facility has been trending towards compliance, with fewer violations occurring every subsequent year; five in 2016, three in 2017, two in 2018, one in 2019, and none up to this date in 2020. Since the data indicates the facility is trending towards complete compliance, the above violations should not impact the permit's renewal.

The facility was last inspected by DEP on January 9, 2019. The inspection report indicates all treatment units were online and that no impact was observed at Outfall 001.

**Development of Effluent Limitations**

<b>Outfall No.</b> <u>001</u>	<b>Design Flow (MGD)</b> <u>0.13</u>
<b>Latitude</b> <u>41° 57' 21.30"</u>	<b>Longitude</b> <u>-77° 6' 55.20"</u>
<b>Wastewater Description:</b> <u>Sewage Effluent</u>	

**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 <sub>5</sub>	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” (attached) was conducted in PENTOXSD v2.0d and WQM 7.0 v1.0b. Since the existing permit contained monitoring requirements for total copper, DEP was able to calculate an average monthly effluent concentration and associated coefficient of variation using the TOXCONC spreadsheet. The calculated average monthly effluent limit was entered into the Toxics Screening Analysis spreadsheet, along with sample results for other toxic parameters included with the application. Copper and lead were both identified as candidates for PENTOXSD modeling since the input concentrations were greater than their associated Chapter 93 criterion. The candidates for modeling were entered into PENTOXSD and the subsequent model output was then entered back into the Toxics Screening Analysis spreadsheet; which recommended monitoring requirements for total copper and no requirements for total lead. The permittee has been monitoring for total copper throughout the existing permit’s term, with the purpose of collecting more data to better characterize the effluent. DEP believes that total copper in the effluent has been adequately characterized and that continued monitoring for total copper would not result in any meaningful gains. Sample results indicate the discharge will not exceed Chapter 93 total copper criterion. Accordingly, DEP has proposed to remove total copper requirements from the permit.

The WQM 7.0 v1.0b results indicate the existing requirements for CBOD<sub>5</sub>, ammonia-n, and dissolved oxygen are appropriate.

A total residual chlorine analysis (attached) indicates the existing limits are appropriate.

**Best Professional Judgment (BPJ) Limitations**

DEP recommends that dissolved oxygen and ammonia-n monitoring requirements remain in the permit. DEP also recommends that the permittee continues influent monitoring for BOD<sub>5</sub> and TSS to help with Chapter 94 reporting requirements.

**Chesapeake Bay**

The permittee has already completed five years of nutrient monitoring. The results were summarized in the previous permit renewal’s fact sheet.

**Anti-Backsliding**

No effluent limits are proposed to be made less stringent.

**Existing Effluent Limitations and Monitoring Requirements**

The existing effluent limitations and monitoring requirements are as follows:

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	Report	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	27	43 Wkly Avg	XXX	25	40	50	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Total Suspended Solids	32	48 Wkly Avg	XXX	30	45	60	1/week	8-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Ammonia-Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite

Compliance Sampling Location: Outfall 001

**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)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	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	Report Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	27	43	XXX	25.0	40.0	50	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	32	48	XXX	30.0	45.0	60	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Ammonia	Report	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite

Compliance Sampling Location: Outfall 001

ATTACHMENTS



DFLOW



Q710 Calcs



TOX CONC



Toxics Screening  
Analysis



PENTOXSD



PENTOXSD



PENTOXSD



PENTOXSD



WQM



WQM



WQM



WQM



WQM



WQM



TRC Analysis