

Application Type Renewal  
 Facility Type Municipal  
 Major / Minor Minor

**NPDES PERMIT FACT SHEET  
INDIVIDUAL SEWAGE**

Application No. PA0020711  
 APS ID 917242  
 Authorization ID 1424961

**Applicant and Facility Information**

Applicant Name	<u>Topton Borough Berks County</u>	Facility Name	<u>Topton Borough STP</u>
Applicant Address	<u>205 S Callowhill Street</u> <u>Topton, PA 19562-1750</u>	Facility Address	<u>96 Pump Lane</u> <u>Mertztown, PA 19539</u>
Applicant Contact	<u>Stacy Milo</u>	Facility Contact	<u>Alex Lord</u>
Applicant Phone	<u>(610) 682-2541</u>	Facility Phone	<u>(610) 682-7875</u>
Client ID	<u>87307</u>	Site ID	<u>451752</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Topton Borough</u>
Connection Status	<u>No Exceptions Allowed</u>	County	<u>Berks</u>
Date Application Received	<u>January 27, 2023</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>February 21, 2023</u>	If No, Reason	<u></u>
Purpose of Application	<u>This is an application for NPDES renewal.</u>		

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	April 27, 2024
x		Daniel W. Martin, P.E. / Environmental Engineer Manager Maria D. Bebenek for	May 2, 2024
x		Maria D. Bebenek, P.E. / Environmental Program Manager Maria D. Bebenek	May 2, 2024

### Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Topton Borough located at 96 Pump Lane, Mertztown, PA 19539 in Berks County, municipality of Topton Borough. The existing permit became effective on August 1, 2018 and expired on July 31, 2023. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on January 27, 2023.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's receiving waters attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 0.30 MGD treatment facility. The applicant does not anticipate any proposed upgrades to the treatment facility in the next five years. The NPDES application has been processed as a Minor Sewage Facility (Level 2) due to the type of sewage and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Berks County and Longswamp Township, and the Borough of Topton and the notice was received by the parties on December 19, 2022, January 12, 2023, and December 19, 2022. A planning approval letter was not necessary as the facility is neither new or expanding.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be Toad Creek. The sequence of receiving streams that the Toad Creek discharges into are the Little Lehigh River, the Lehigh River, the Delaware Canal, and the Delaware River which eventually drains into the Delaware Bay. The receiving water has protected water usage for high quality - cold water fishes (HQ-CWF) and migratory fishes (MF). No Class A Wild Trout fisheries are impacted by this discharge. The presence of high quality and/or exceptional value surface waters triggers the need for an additional evaluation of anti-degradation requirements.

The Toad Creek is a Category 4c and 5 stream listed in the 2024 Integrated List of All Waters (formerly 303d Listed Streams). For Category 4c, the stream is impaired for aquatic life (a) due flow regime modification from to urban runoff/storm sewers; (b) due to habitat alterations from agriculture. For Category 5, this stream is an impaired stream for aquatic life (a) due to municipal point source dischargers; (b) due to organic enrichment from agriculture; (c) due to siltation from urban runoff/storm sewers; and (d) due to siltation from agriculture. The stream is also impaired for recreational uses due to pathogens from an unknown source. The receiving waters is not subject to a total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **Due to the EPA Triennial Review, monitoring shall be required for E. Coli.**
- **Phosphorus limit has been placed back into the permit.**
- **Copper limit was reduced from 0.025 mg/l to 0.022 mg/l as an average monthly**
- **Included DRBC Permit limits appearing in the docket as Effluent Table C-2.**

Sludge use and disposal description and location(s): Biosolids/sewage sludge disposed at Topton Wastewater, Borough of Topton, Berks County on reed beds; Biosolids/sewage sludge disposed at Lehigh County Pretreatment

The proposed permit will expire five (5) years from the effective date.

Based on the review in this report, it is recommended that the permit be drafted. 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.

**Summary of Review**

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file review, contact the SCRO File Review Coordinator at 717.705.4700.

## **1.0 Applicant**

### **1.1 General Information**

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

Facility Name: Borough of Topton

NPDES Permit # PA0020711

Physical Address: 96 Pump Lane  
Mertztown, PA 19539

Mailing Address: 205 S Callowhill Street  
Topton, PA 19562

Contact: Stacy Milo  
Borough Manager  
smilo@toptonborough.com

Consultant: Gina Bongiovanni  
Staff Engineer  
Barry Isett and Associates  
(610) 723-7702  
[gbongiovanni@barryisett.com](mailto:gbongiovanni@barryisett.com)

### **1.2 Permit History**

Permit submittal included the following information.

- NPDES Application
- Effluent Sample Data

## **2.0 Treatment Facility Summary**

### **2.1.1 Site location**

The physical address for the facility is 96 Pump Lane, Mertztown, PA 19539. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

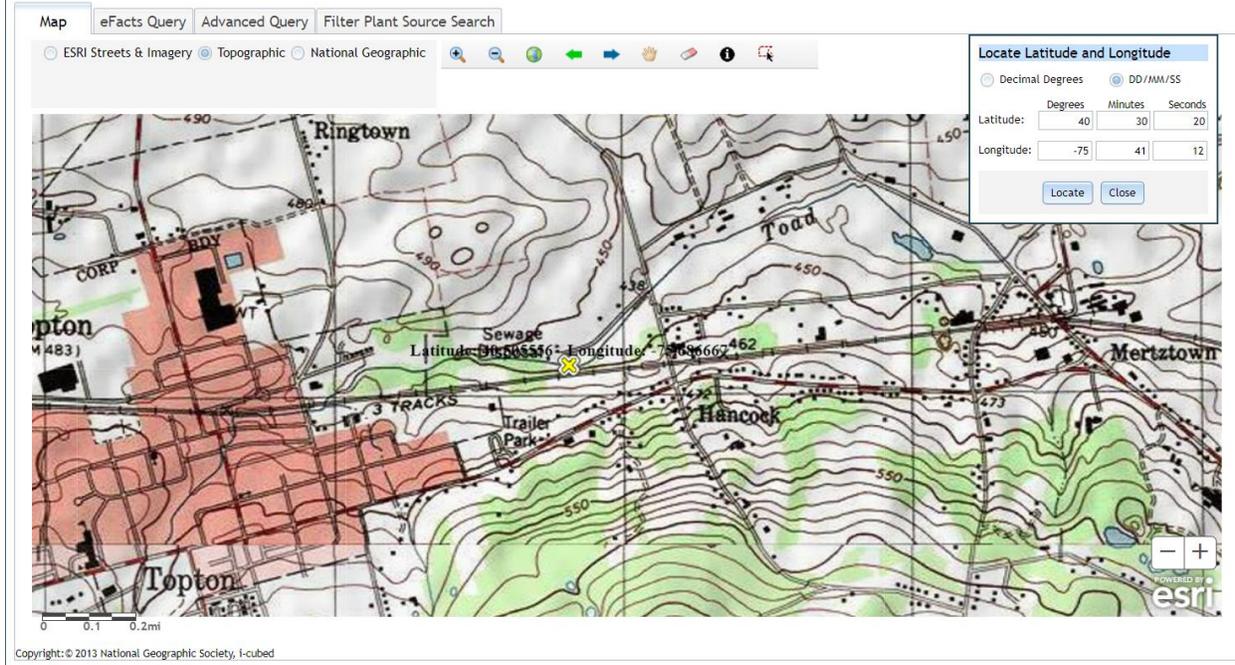
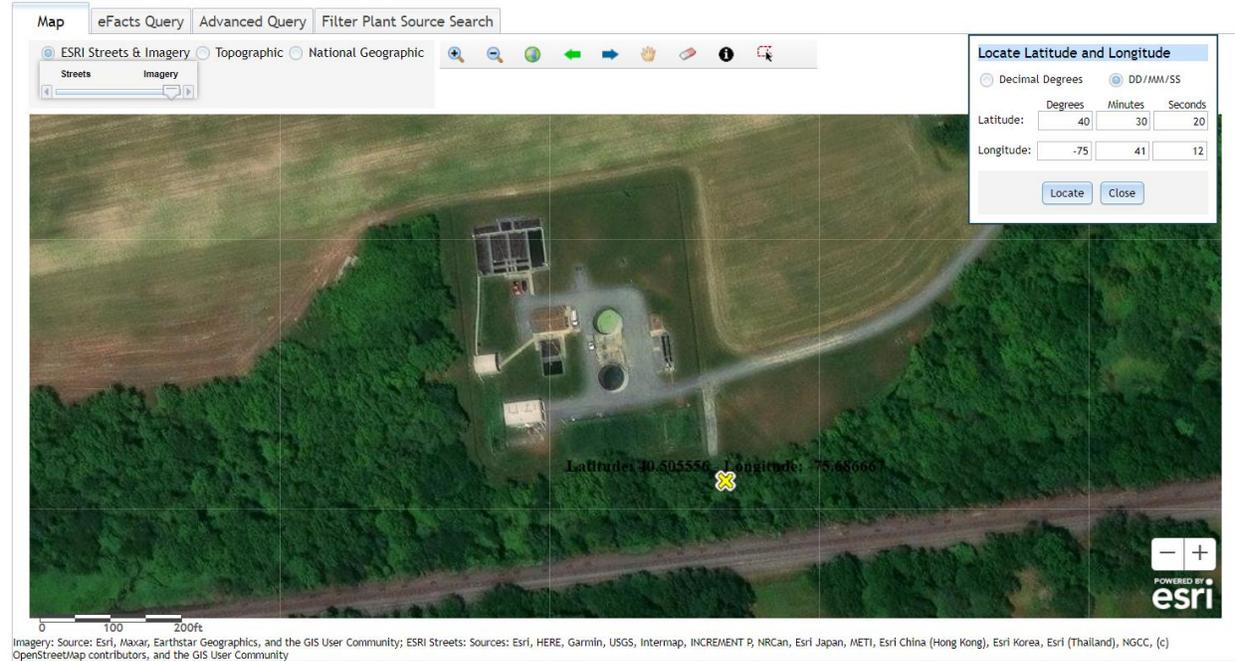


Figure 2: Aerial Photograph of the subject facility



**2.1.2 Sources of Wastewater/Stormwater**

The facility receives seventy percent (70%) of their wastewater from the Borough of Topton and thirty percent (30%) of their wastewater from Longswamp Township.

The table below summarizes the industrial/commercial wastewater contributions to the treatment plant. The facility reported that they do not have an EPA – approved pretreatment program.

Industrial / Commercial Contributions				
Business Name	Type of Business	Significant Industrial User	Non-Significant Categorical Industrial User	Average Wastewater Flow (MGD)
Topton Home	Personal Care Facility	X		0.047
East Penn Manufacturing	Warehousing		X	0.0004
Electro Space	Manufacturing		X	0.0008

The facility did not receive hauled-in wastes in the last three years and does not anticipate receiving hauled-in wastes in the next five years.

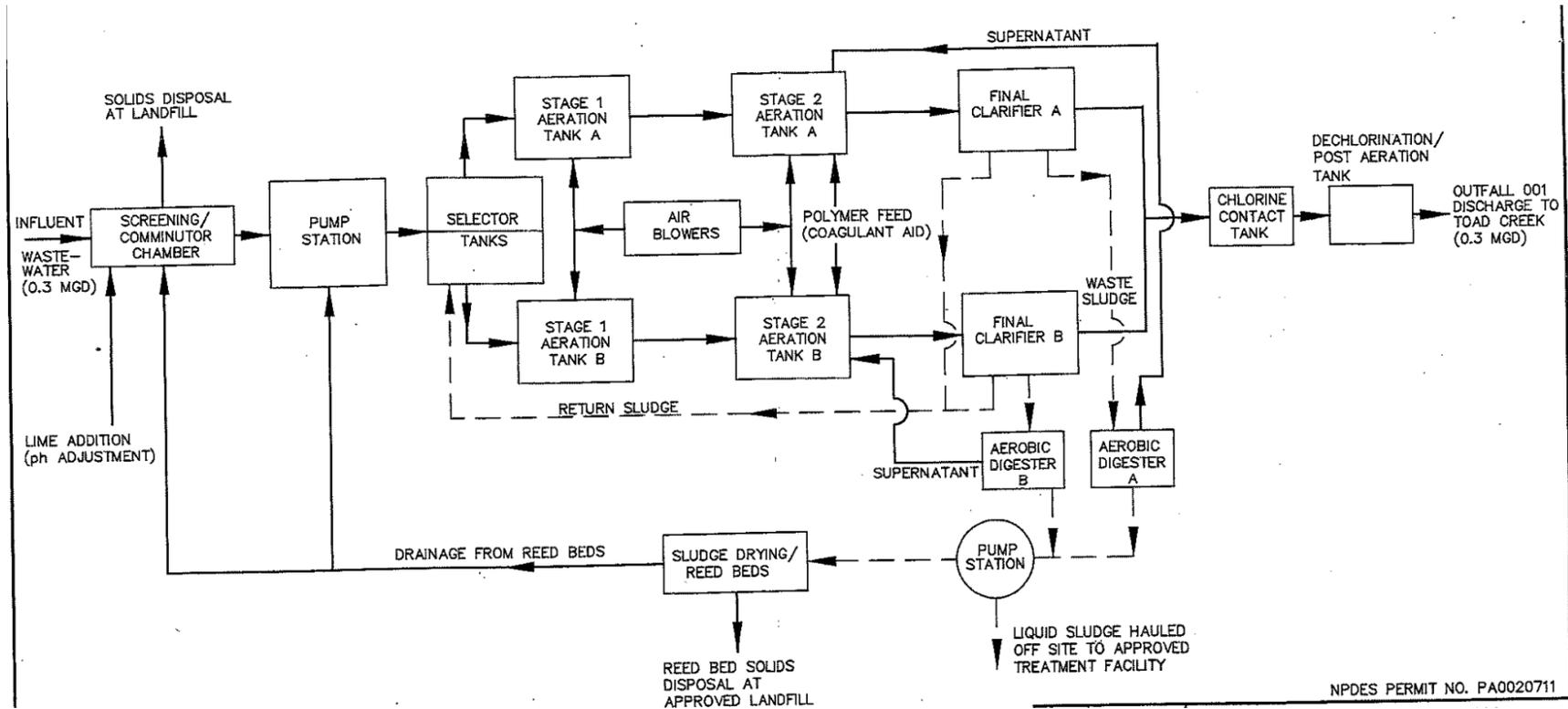
**2.2 Description of Wastewater Treatment Process**

The subject facility is a 0.30 MGD design flow facility. The subject facility treats wastewater using an equalization basin, a selector tank, a 1<sup>st</sup> stage aeration tank, a 2<sup>nd</sup> stage aeration tank, a clarifier, a chlorine contact tank, and a post aeration/dechlorination tank prior to discharge through the outfall. The facility is being evaluated for flow, pH, dissolved oxygen, TRC, CBOD5, TSS, dissolved solids, fecal coliform, nitrogen species, and copper. The existing permits limits for the facility is summarized in Section 2.4.

The treatment process is summarized in the table.

Treatment Facility Summary				
<b>Treatment Facility Name:</b> Topton Borough STP				
<b>WQM Permit No.</b>	<b>Issuance Date</b>			
0600402	08/14/2014			
<b>Waste Type</b>	<b>Degree of Treatment</b>	<b>Process Type</b>	<b>Disinfection</b>	<b>Avg Annual Flow (MGD)</b>
Sewage	Secondary	Extended Aeration	Gas Chlorine	0.3
<b>Hydraulic Capacity (MGD)</b>	<b>Organic Capacity (lbs/day)</b>	<b>Load Status</b>	<b>Biosolids Treatment</b>	<b>Biosolids Use/Disposal</b>
0.3	750	Not Overloaded		

A process flow diagram for the facility is shown. (Courtesy of Great Valley Consultants 4/11/2011)



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**2.3 Facility Outfall Information**

The facility has the following outfall information for wastewater.

<b>Outfall No.</b>	<u>001</u>	<b>Design Flow (MGD)</b>	<u>.3</u>
<b>Latitude</b>	<u>40° 30' 20.28"</u>	<b>Longitude</b>	<u>-75° 41' 10.97"</u>
<b>Wastewater Description:</b>	<u>Sewage Effluent</u>		

The subject facility outfall is within the vicinity of another sewage/wastewater outfall. The downstream outfall is the Atlas Minerals and Chemicals Inc. (PA0012998) which is about 1.28 miles from the subject facility. The facility is an industrial waste facility that discharges process water, non-contact cooling water, and stormwater. The NPDES does not require monitoring for CBOD and ammonia-nitrogen for their process water.

**2.3.1 Operational Considerations- Chemical Additives**

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- Mastercat 422 for phosphorus and copper removal
- Mastercat 4230 for phosphorus and copper removal
- Polymer for polishing

**2.4 Existing NPDES Permits Limits**

The existing NPDES permit limits are summarized in the table.

**PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS**

I. A. For Outfall 001, Latitude 40° 30' 20.28", Longitude 75° 41' 10.97", River Mile Index 3.7, Stream Code 03624

Receiving Waters: Toad Creek

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **August 1, 2018** through **July 31, 2023**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> 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	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.05	XXX	0.16	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) Nov 1 - Apr 30	50	75	XXX	20.0	30.0	40	1/week	24-Hr Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) May 1 - Oct 31	25	37	XXX	10.0	15.0	20	1/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids	75	113	XXX	30.0	45.0	60	1/week	24-Hr Composite

Outfall001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Dissolved Solids	XXX	Report Daily Max	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Total Nitrogen	XXX	Report Daily Max	XXX	XXX	Report Daily Max	XXX	1/quarter	Calculation
Ammonia-Nitrogen Nov 1 - Apr 30	7.5	XXX	XXX	3.0	XXX	4.5	1/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	2.5	XXX	XXX	1.0	XXX	1.5	1/week	24-Hr Composite
Nitrate as N	XXX	Report Daily Max	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Copper, Total	0.062	0.097 Daily Max	XXX	0.025	0.039 Daily Max	XXX	1/week	24-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

### **3.0 Facility NPDES Compliance History**

#### **3.1 Summary of Inspections**

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspection.

08/10/2018:

- An incident inspection was conducted. During the storm event on 8/3-8/4/2018, the area received 3.61" of rain (Spatz Station). The plant received heavy flow which filled up the wet well, the EQ, and the empty digester. To avoid backing up sewage to residents' basements, a 6" portable pump was used to transfer sewage from the wet well to the surface of the ground. A second bypass event occurred during the 8/13/2018 storm event when 2.63" of rain (Spatz Station) fell. A 6" portable pump was used to transfer sewage from the wet well to the surface of the ground.

10/11/2018:

- DEP recommend the facility develop a wet weather SOP and to collect composite samples during heavy rain events. The facility should submit a copy of wet weather SOP to the DEP.
- For TRC, the facility was using a lower detection limit of .05 mg/L from the Hach Pocket Colorimeter 2 readings. The facility was advised to utilize the less than (" $<$ ") sign as appropriate for recording readings.

02/18/2020:

- Application of sludge to 5 reed beds is rotated and hauled approximately every two weeks. Filtrate from reed beds decants to the wet well. Reeds are harvested yearly. Piping was added to the reed beds to allow for a more even application.

#### **3.2 Summary of DMR Data**

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility below the design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 0.263 MGD in December 2023. The design capacity of the treatment system is 0.3 MGD.

The off-site laboratory used for the analysis of the parameters was M.J. Reider Associates, Inc. located at 107 Angelica St., Reading, PA 19611.

**NPDES Permit Fact Sheet  
Topton Borough STP**

**NPDES Permit No. PA0020711**

**DMR Data for Outfall 001 (from March 1, 2023 to February 29, 2024)**

<b>Parameter</b>	<b>FEB-24</b>	<b>JAN-24</b>	<b>DEC-23</b>	<b>NOV-23</b>	<b>OCT-23</b>	<b>SEP-23</b>	<b>AUG-23</b>	<b>JUL-23</b>	<b>JUN-23</b>	<b>MAY-23</b>	<b>APR-23</b>	<b>MAR-23</b>
Flow (MGD) Average Monthly	0.166	0.248	0.263	0.140	0.135	0.182	0.156	0.180	0.129	0.140	0.128	0.153
Flow (MGD) Daily Maximum	0.341	0.711	0.821	0.312	0.250	0.540	0.252	0.521	0.210	0.422	0.177	0.407
pH (S.U.) Daily Minimum	6.8	6.8	6.7	6.8	6.8	6.9	6.8	6.8	6.5	6.5	6.4	6.5
pH (S.U.) Daily Maximum	7.2	7.4	7.4	7.5	7.4	7.4	7.4	7.2	7.1	7.1	6.9	7.0
DO (mg/L) Daily Minimum	8.8	8.6	8.3	8.5	7.6	6.8	7.3	5.7	6.4	7.2	6.7	6.8
TRC (mg/L) Average Monthly	< 0.02	< 0.02	< 0.03	< 0.02	< 0.03	< 0.02	< 0.02	< 0.02	< 0.03	< 0.04	< 0.02	< 0.02
TRC (mg/L) Instantaneous Maximum	0.02	0.04	0.11	0.04	0.04	0.05	0.04	0.04	0.04	0.16	0.03	0.04
CBOD5 (lbs/day) Average Monthly	6	7	21	5	< 3	5	< 3	< 9	5	6	4	2
CBOD5 (lbs/day) Weekly Average	7	16	43	6	4	8	< 4	20	9	15	5	5
CBOD5 (mg/L) Average Monthly	4.0	4.0	5.0	4.0	< 3.0	2.0	< 2.0	< 5.0	4.0	3.0	3.0	2.0
CBOD5 (mg/L) Weekly Average	5.0	6.0	6.0	5.0	4.0	2.0	< 2.0	7.0	5.0	4.0	4.0	3.0
BOD5 (lbs/day) Raw Sewage Influent   Average Monthly	485	466	487	392	361	387	474	372	393	348	333	405
BOD5 (mg/L) Raw Sewage Influent   Average Monthly	363	196	226	325	314	218	363	271	327	299	288	317
TSS (lbs/day) Average Monthly	8	20	61	9	9	20	12	15	15	< 13	12	13
TSS (lbs/day) Raw Sewage Influent   Average Monthly	370	321	325	343	351	410	457	304	358	319	321	337

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TSS (lbs/day) Weekly Average	9	39	123	13	13	41	25	36	21	42	17	18
TSS (mg/L) Average Monthly	5.0	11.0	14.0	7.0	8.0	8.0	7.0	7.0	10.0	< 7.0	10.0	10.0
TSS (mg/L) Raw Sewage Influent  Average Monthly	280	201	144	291	305	227	347	225	304	269	275	265
TSS (mg/L) Weekly Average	6.0	15.0	18.0	9.0	10.0	14.0	12.0	12.0	14.0	12.0	14.0	12.0
Total Dissolved Solids (lbs/day) Daily Maximum			564			559			536			692
Total Dissolved Solids (mg/L) Daily Maximum			431			456			431			456
Fecal Coliform (No./100 ml) Geometric Mean	< 3	< 4	< 3	16	< 12	52	40	55	< 3	< 3	< 3	< 4
Fecal Coliform (No./100 ml) Instantaneous Maximum	7	7	7	48	163	78	98	109	7	11	3	5
Total Nitrogen (lbs/day) Daily Maximum			< 40			< 41			< 68			< 28.38
Total Nitrogen (mg/L) Daily Maximum			< 37.04			< 33.38			< 38.82			< 27.45
Ammonia (lbs/day) Average Monthly	0.1	0.1	0.08	< 0.1	0.1	0.1	< 0.05	0.4	0.02	< 0.07	0.3	0.2
Ammonia (mg/L) Average Monthly	0.08	0.06	0.03	< 0.09	0.09	0.06	< 0.04	0.25	0.10	< 0.05	0.22	0.16
Nitrate (lbs/day) Daily Maximum			38			37			66			26.58
Nitrate (mg/L) Daily Maximum			35.2			29.9			36.9			25.7
Total Copper (lbs/day) Average Monthly	0.020	0.020	0.050	0.020	0.020	0.030	0.020	0.040	0.040	0.030	0.020	0.020
Total Copper (lbs/day) Daily Maximum	0.030	0.030	0.100	0.030	0.030	0.050	0.030	0.070	0.050	0.050	0.020	0.020

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Total Copper (mg/L) Average Monthly	0.020	0.010	0.010	0.020	0.020	0.010	0.010	0.020	0.030	0.020	0.020	0.010
Total Copper (mg/L) Daily Maximum	0.018	0.018	0.015	0.022	0.022	0.016	0.016	0.029	0.031	0.026	0.020	0.016

**3.3 Non-Compliance**

**3.3.1 Non-Compliance- NPDES Effluent**

A summary of the non-compliance to the permit limits for the existing permit cycle is as follows.

From the DMR data beginning in August 1, 2018 to April 10, 2024, the following were observed effluent non-compliances.

Summary of Non-Compliance w/NPDES Effluent Limits									
Beginning August 1, 2018 and Ending April 10, 2024									
NON_COMPLIANCE_DATE	NON_COMPL_TYPE_DESC	NON_COMPL_CATEGORY_DESC	PARAMETER	SAMPLE_VALUE	VIOLATION_CONDITION	PERMIT_VALUE	UNIT_OF_MEASURE	STAT_BASE_CODE	DISCHARGE_COMMENTS
10/11/2018	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	40	>	37	lbs/day	Weekly Average	
2/12/2019	Violation of permit condition	Effluent	Carbonaceous Biochemical Oxygen Demand (CBOD5)	117	>	75	lbs/day	Weekly Average	
2/12/2019	Violation of permit condition	Effluent	Copper, Total	0.034	>	.025	mg/L	Average Monthly	
2/12/2019	Violation of permit condition	Effluent	Copper, Total	0.057	>	.039	mg/L	Daily Maximum	
2/12/2019	Violation of permit condition	Effluent	Copper, Total	0.080	>	.062	lbs/day	Average Monthly	
2/12/2019	Violation of permit condition	Effluent	Copper, Total	0.400	>	.097	lbs/day	Daily Maximum	
2/12/2019	Violation of permit condition	Effluent	Total Suspended Solids	130	>	75	lbs/day	Average Monthly	
2/12/2019	Violation of permit condition	Effluent	Total Suspended Solids	371	>	113	lbs/day	Weekly Average	
2/12/2019	Violation of permit condition	Effluent	Total Suspended Solids	58.0	>	45.0	mg/L	Weekly Average	
4/29/2019	Late DMR Submission	Other Violations							
6/13/2019	Violation of permit condition	Effluent	Fecal Coliform	3600	>	1000	No./100 ml	Instantaneous Maximum	
6/13/2019	Violation of permit condition	Effluent	Fecal Coliform	418	>	200	No./100 ml	Geometric Mean	
8/14/2019	Violation of permit condition	Effluent	Fecal Coliform	4300	>	1000	No./100 ml	Instantaneous Maximum	
8/14/2019	Violation of permit condition	Effluent	Fecal Coliform	524	>	200	No./100 ml	Geometric Mean	
1/14/2020	Violation of permit condition	Effluent	Fecal Coliform	17200	>	1000	No./100 ml	Instantaneous Maximum	
11/22/2021		Unauthorized Discharges							Plant was flooded which caused the sewer lines in town to be full discharged to avert flooded basements an sewage running out of manholes onto the streets
11/22/2021		Unauthorized Discharges							Pump Station Suffered a total loss of power
2/24/2022	Violation of permit condition	Effluent	Fecal Coliform	> 20000	>	1000	No./100 ml	Instantaneous Maximum	
2/24/2022	Violation of permit condition	Effluent	Fecal Coliform	> 48	>	200	No./100 ml	Geometric Mean	
6/23/2022	Violation of permit condition	Effluent	Fecal Coliform	2700	>	1000	No./100 ml	Instantaneous Maximum	
7/27/2023	Violation of permit condition	Effluent	Copper, Total	0.030	>	.025	mg/L	Average Monthly	
1/16/2024	Violation of permit condition	Effluent	Copper, Total	0.100	>	.097	lbs/day	Daily Maximum	
1/16/2024	Violation of permit condition	Effluent	Total Suspended Solids	123	>	113	lbs/day	Weekly Average	

**3.3.2 Non-Compliance- Enforcement Actions**

A summary of the non-compliance enforcement actions for the current permit cycle is as follows:

Beginning in August 1, 2018 to April 10, 2024, there were no observed enforcement actions.

**3.4 Summary of Biosolids Disposal**

A summary of the biosolids disposed of from the facility is as follows.

2023			
Sewage Sludge / Biosolids Production Information			
Hauled Off-Site			
Date (2023)	Gallons	% Solids	Dry Tons
January	30000	2.48	3.107
February	39600	2.3	3.796
March	34800	2.17	3.148
April	35000	2.1	3.065
May	40000	2	3.336
June	34500	1.69	2.421
July	25000	2.32	2.421
August	20000	2.23	1.856
September	15000	2.1	1.314
October	45000	2.08	3.899
November	30000	2.5	3.128
December	19000	2.15	1.714
Notes:			
Biosolids/sewage sludge disposed at Topton Wastewater, Borough of Topton, Berks County on reed beds			
Biosolids/sewage sludge disposed at Lehigh County Pretreatment			

**3.5 Open Violations**

As of April 2024, there were no open violations.

**4.0 Receiving Waters and Water Supply Information Detail Summary**

**4.1 Receiving Waters**

The receiving waters has been determined to be Toad Creek. The sequence of receiving streams that the Toad Creek discharges into are the Little Lehigh River, the Lehigh River, the Delaware Canal, and the Delaware River which eventually drains into the Delaware Bay.

**4.2 Public Water Supply (PWS) Intake**

The closest PWS to the subject facility is LCA Allentown Division (PWS ID #3390024) located approximately 21 miles downstream of the subject facility on the Little Lehigh Creek. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

#### **4.3 Class A Wild Trout Streams**

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that no Class A Wild Trout Fishery will be impacted by this discharge.

#### **4.4 2024 Integrated List of All Waters (303d Listed Streams)**

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

**The receiving waters is listed in the 2024 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 4c and 5 waterbody. The surface waters is impaired for aquatic life. The receiving waters is also impaired for recreational uses. The designated use has been classified as protected waters for high quality – cold water fishes (HQ - CWF) and migratory fishes (MF).**

#### **4.5 Low Flow Stream Conditions**

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 -year time period. The facility discharge is based upon a known design capacity of the subject facility.

The closest gauge station to the subject facility is the Little Lehigh Creek near Allentown, PA (USGS station number 1451500). This gauge station is located approximately 20 miles downstream of the subject facility.

For WQM modeling, default values for pH and stream water temperature data were used. pH was estimated to be 7.0 and the stream water temperature was estimated to be 20 C.

The default value for hardness of the stream was also used. The hardness used for modeling was 100 mg/l CaCO<sub>3</sub>.

The low flow yield and the Q710 for the subject facility was estimated as shown below.

Gauge Station Data		
USGS Station Number	01451500	
Station Name	Little Lehigh Creek near Allentown, PA	
Q710	28.8	ft <sup>3</sup> /sec
Drainage Area (DA)	80.8	mi <sup>2</sup>
<b>Calculations</b>		
The low flow yield of the gauge station is:		
Low Flow Yield (LFY) = Q710 / DA		
LFY = ( 28.8 ft <sup>3</sup> /sec / 80.8 mi <sup>2</sup> )		
LFY =	0.3564	ft <sup>3</sup> /sec/mi <sup>2</sup>
The low flow at the subject site is based upon the DA of		
	1.91	mi <sup>2</sup>
Q710 = (LFY@gauge station)(DA@Subject Site)		
Q710 = (0.3564 ft <sup>3</sup> /sec/mi <sup>2</sup> )(1.91 mi <sup>2</sup> )		
Q710 =	0.681	ft <sup>3</sup> /sec

**4.6 Summary of Discharge, Receiving Waters and Water Supply Information**

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.3</u>
Latitude	<u>40° 30' 3.66"</u>	Longitude	<u>-75° 41' 36.74"</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>Sewage Effluent</u>			

Receiving Waters	<u>Unnamed Tributary of Little Lehigh Creek (HQ-CWF)</u>	Stream Code	<u>3624</u>
NHD Com ID	<u>26294705</u>	RMI	<u>3.67</u>
Drainage Area	<u>1.91</u>	Yield (cfs/mi <sup>2</sup> )	<u>0.3564</u>
Q <sub>7-10</sub> Flow (cfs)	<u>0.681</u>	Q <sub>7-10</sub> Basis	<u>Stream Stats/Stream gauge</u>
Elevation (ft)	<u>440</u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>2-C</u>	Chapter 93 Class.	<u>HQ-CWF, MF</u>
Existing Use	<u></u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Impaired for aquatic life</u>		
Cause(s) of Impairment	<u>Organic enrichment</u>		
Source(s) of Impairment	<u>Siltation from agriculture</u>		
TMDL Status	<u>Not appl</u>	Name	<u></u>

Background/Ambient Data		Data Source	
pH (SU)	<u>7</u>	Default	<u></u>
Temperature (°C)	<u>20</u>	Default	<u></u>
Hardness (mg/L)	<u>100</u>	Default	<u></u>
Other:	<u></u>		<u></u>

Nearest Downstream Public Water Supply Intake	<u>LCA Allentown Division</u>		
PWS Waters	<u>Little Lehigh Creek</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u>2.11</u>	Distance from Outfall (mi)	<u>21</u>

**5.0: Overview of Presiding Water Quality Standards**

**5.1 General**

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET) The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

**5.2.1 Technology-Based Limitations**

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Available TBEL requirements for the state of Pennsylvania are itemized in PA Code 25, Chapter 92a.47.

The presiding sources for the basis for the effluent limitations are governed by either federal or state regulation. The reference sources for each of the parameters is itemized in the tables. The following technology-based limitations apply, subject to water quality analysis and best professional judgement (BPJ) where applicable:

Parameter	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)

**5.2.2 Mass Based Limits**

For publicly owned treatment works (POTW), mass loadings are calculated based upon design flow rate of the facility and the permit limit concentration. The generalized calculation for mass loadings is shown below:

$$Quantity \left( \frac{lb}{day} \right) = (MGD)(Concentration)(8.34)$$

**5.3 Water Quality-Based Limitations**

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). The subject facility that is typically enforced is the more stringent limit of either the TBEL or the WQBEL.

Determination of WQBEL is calculated by spreadsheet analysis or by a computer modeling program developed by DEP. DEP permit engineers utilize the following computing programs for WQBEL permit limitations: (1) MS Excel worksheet for Total Residual Chlorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.1 (WQM Model) and (3) Toxics using DEP Toxics Management Spreadsheet for Toxics pollutants.

The modeling point nodes utilized for this facility are summarized below.

<b>General Data 1</b>	<b>(Modeling Point #1)</b>	<b>(Modeling Point #2)</b>	<b>Units</b>
Stream Code	3624	3624	
River Mile Index	3.67	1.55	miles
Elevation	440	410	feet
Latitude	40.505556	40.515312	
Longitude	-75.686667	-75.6543	
Drainage Area	1.91	4.74	sq miles
Low Flow Yield	0.356	0.356	cfs/sq mile

### **5.3.1 Water Quality Modeling 7.0**

The WQM Model is a computer model that is used to determine NPDES discharge effluent limitations for Carbonaceous BOD (CBOD5), Ammonia Nitrogen (NH<sub>3</sub>-N), and Dissolved Oxygen (DO) for single and multiple point source discharges scenarios. WQM Model is a complete-mix model which means that the discharge flow and the stream flow are assumed to instantly and completely mixed at the discharge node.

WQM recommends effluent limits for DO, CBOD5, and NH<sub>3</sub>-N in mg/l for the discharge(s) in the simulation.

Four types of limits may be recommended. The limits are

- (a) a minimum concentration for DO in the discharge as 30-day average;
- (b) a 30-day average concentration for CBOD5 in the discharge;
- (c) a 30-day average concentration for the NH<sub>3</sub>-N in the discharge;
- (d) 24-hour average concentration for NH<sub>3</sub>-N in the discharge.

The WQM Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

**The applicable WQM Effluent Limit Type are discussed in Section 6 under the corresponding parameter which is either DO, CBOD, or ammonia-nitrogen.**

### **5.3.2 Toxics Modeling**

The Toxics Management Spreadsheet model is a computer model that is used to determine effluent limitations for toxics (and other substances) for single discharge wasteload allocations. This computer model uses a mass-balance water quality analysis that includes consideration for mixing, first-order decay, and other factors used to determine recommended water quality-based effluent limits. Toxics Management Spreadsheet does not assume that all discharges completely mix with the stream. The point of compliance with water quality criteria are established using criteria compliance times (CCTs). The available CCTs are either acute fish criterion (AFC), chronic fish criterion (CFC), or human health criteria (THH & CRL).

**Acute Fish Criterion (AFC)** measures the criteria compliance time as either the maximum criteria compliance time (i.e. 15 minutes travel time downstream of the current discharge) or the complete mix time whichever comes first. AFC is evaluated at Q710 conditions.

**Chronic Fish Criterion (CFC)** measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CFC is evaluated at Q710 conditions.

**Threshold Human Health (THH)** measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the estimated travel time downstream to the nearest potable water supply intake whichever comes first. THH is evaluated at Q710 conditions.

**Cancer Risk Level (CRL)** measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CRL is evaluated at Qh (harmonic mean or normal flow) conditions.

The Toxics Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

### **5.3.2.1 Determining if NPDES Permit Will Require Monitoring/Limits in the Proposed Permit for Toxic Pollutants**

To determine if Toxics modeling is necessary, DEP has developed a Toxics Management Spreadsheet to identify toxics of concern. Toxic pollutants whose maximum concentrations as reported in the permit application or on DMRs are greater than the most stringent applicable water quality criterion are pollutants of concern. A Reasonable Potential Analysis was utilized to determine (a) if the toxic parameters modeled would require monitoring or (b) if permit limitations would be required for the parameters. The toxics reviewed for reasonable potential were the following pollutants: TDS, chloride, bromide, sulfate, total copper, total lead, and total zinc.

Based upon the SOP- Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants (Revised January 10, 2019), monitoring and/or limits will be established as follows.

- (a) When reasonable potential is demonstrated, establish limits where the maximum reported concentration equals or exceeds 50% of the WQBEL.
- (b) For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
- (c) For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

**Applicable monitoring or permit limits for toxics are summarized in Section 6.**

**The Toxics Management Spreadsheet output has been included in Attachment B.**

### **5.3.3 Whole Effluent Toxicity (WET)**

The facility is not subject to WET.

## **5.4 Total Maximum Daily Loading (TMDL)**

### **5.4.1 TMDL**

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (TMDL) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

A TMDL for a given pollutant and waterbody is composed of the sum of individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background levels. In addition, the TMDL must include an implicit or explicit margin of safety (MOS) to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving waterbody. The TMDL components are illustrated using the following equation:

$$TMDL = \sum WLA_s + \sum LA_s + MOS$$

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

#### **5.4.1.1 Local TMDL**

The subject facility does not discharge into a local TMDL.

#### **5.5 Anti-Degradation Requirement**

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

**The subject facility's discharge will be to a special protection waters and the permit conditions are imposed to protect existing instream water quality and uses. The facility was issued a permit in the 1970s. The stream for the Little Lehigh Creek mainstem was designated as HQ-CWF in September 1979. For the 1985 permit renewal, the existing limits of CBOD5 and NH3-N were WQBELs based on the stream conditions evaluated at that time and existing limits of TSS were derived from the secondary treatment standards found in 40 CFR §133.102(b) which were first promulgated on October 16, 1984 (Fact Sheet dated for May 2018). The proposed effluent limits should be protective of the special protection waters from this discharge.**

#### **5.6 Anti-Backsliding**

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (40 CFR 122.1.1 and 40 CFR 122.1.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

#### **6.0 NPDES Parameter Details**

The basis for the proposed sampling and their monitoring frequency that will appear in the permit for each individual parameter are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, anti-degradation, or WET.

The reader will find in this section:

- a) a justification of recommended permit monitoring requirements and limitations for each parameter in the proposed NPDES permit;
- b) a summary of changes from the existing NPDES permit to the proposed permit; and
- c) a summary of the proposed NPDES effluent limits.

### **6.1 Recommended Monitoring Requirements and Effluent Limitations**

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The tables are categorized by (a) Conventional Pollutants and Disinfection, (b) Nitrogen Species and Phosphorus, (c) Toxics, and (d) Chapter 92a.61 targeted parameters

#### Notes:

- Fact Sheets dated from at least 2001 had limits for CBOD at 10 mg/l during the summer, CBOD at 20 mg/l during the winter, ammonia at 1 mg/l during the summer, ammonia at 3 mg/l during the winter, and a non-detectable limit for TRC. Permit limits for these parameters have been carried through since at least 2001 on the anti-backsliding basis.
- The Fact Sheet prepared in June 2011 changed the requirements for phosphorus from monitor to an effluent limit. It was based upon Chapter 96.5c of the regulations which states:

*When it is determined that the discharge of phosphorus, alone or in combination with the discharge of other pollutants, contributes or threatens to impair existing or designated uses in a free flowing surface water, phosphorus discharges from point source discharges shall be limited to an average monthly concentration of 2 mg/l. More stringent controls on point source discharges may be imposed, or may be otherwise adjusted as a result of a TMDL which has been developed.*

The Fact Sheet prepared in May 2018 discussed limits for phosphorus. The Fact Sheet indicated that phosphorus had an existing limit at the time. However, the phosphorus limit did not appear in the NPDES permit. It was likely inadvertently missed in the NPDES permit table. The permit became effective on August 1, 2018 and expired on July 31, 2023. The DRBC docket requires monthly monitoring for phosphorus.

- Toxic modeling was conducted with DEP's Toxics Management Spreadsheet (TMS). Evaluation was conducted for copper using different approaches. Run #1 utilized the maximum sample result from the August 2018 to February 2024 data set. The maximum daily sample result from the data set was 0.057 mg/l in January 2019. The average of the maximum daily sample from the data set was 0.017 mg/l. The maximum daily result was plugged into the TMS sheet. The output for copper was 0.022 mg/l as an average monthly and 0.055 mg/l as an instantaneous maximum.

Run #2 utilized DEP's Toxcon spreadsheet. From Tox con, the average monthly was 0.0258 mg/l and the coefficient of variation (daily) was 0.3622. These results were plugged into the TMS sheet. The output for copper was 0.019 mg/l as an average monthly and 0.048 mg/l as an instantaneous maximum.

The current permit limit for copper is 0.025 mg/l. In comparing the results from Run #1 and Run #2, Run #2 was more stringent than Run #1. DEP decided to use the copper results originating from Run #1. The proposed permit shall have an average monthly limit for copper at 0.022 mg/l.

From the DMR data from August 2018 to February 2024, the copper limit would have been in violation (a) as a daily maximum 12% of the time ( 8 violations / 67 months = 12%) or (b) as an average monthly 3% of the time (2 violations / 67 months = 3%) if the average monthly limit for copper was 0.022 mg/l. The facility should have reasonable ability to meet the new proposed average monthly limit of 0.022 mg/l.

TMS also flagged zinc. However, no reasonable potential was observed giving reason to not require monitoring or effluent limits.

- On TRC, the Fact Sheet from 2018 utilized the TRC evaluation worksheet. A Best Professional Judgement (BPJ) value of 0.05 was placed as a data entry point. This value was based on the TRC effluent limit of previous TRC NPDES effluent limits. For this Fact Sheet, the default value for BAT/BPJ of 0.5 was used. A review of the TRC limits showed that the current permit limits of 0.05 mg/l (average monthly) and 0.16 mg/l (instantaneous maximum) are more stringent than the TRC evaluation conducted for this Fact Sheet review (i.e. 0.5 mg/l average monthly and 1.6 mg/l instantaneous maximum). Due to anti-backsliding, the current limit shall continue to the proposed permit. Since the facility discharges to a special protection watershed, the effluent limits are appropriate
- Via email correspondence on April 22, 2024, David Kovach from DRBC, requested that the effluent limits in Effluent Table C-2 from the docket be placed in the NPDES permit.

**6.1.1 Conventional Pollutants and Disinfection**

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection			
Borough of Topton; PA0020711			
Parameter	Permit Limitation Required by <sup>1</sup> :	Recommendation	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 95.2(1).
Dissolved Oxygen	BPJ	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits shall be greater than 5.0 mg/l.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by best professional judgement.
CBOD	Anti-backsliding	Monitoring:	The monitoring frequency shall be 1x/wk as a 24-hr composite sample (Table 6-3).
		Effluent Limit:	During the months of May 1 to October 31, effluent limits shall not exceed 25 lbs/day and 10 mg/l as an average monthly. During the months of Nov 1 to Apr 30, effluent limits shall not exceed 50 lbs/day and 20 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by anti-backsliding.
TSS	TBEL	Monitoring:	The monitoring frequency shall be 1x/wk as a 24-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 75 lbs/day and 30 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1).
TRC	Anti-backsliding	Monitoring:	The monitoring frequency shall be on a daily basis as a grab sample (Table 6-3).
		Effluent Limit:	The average monthly limit should not exceed 0.05 mg/l and/or 0.16 mg/l as an instantaneous maximum.
		Rationale:	Chlorine in both combined (chloramine) and free form is extremely toxic to freshwater fish and other forms of aquatic life (Implementation Guidance Total Residual Chlorine 1). The TRC effluent limitations to be imposed on a discharger shall be the more stringent of either the WQBEL or TBEL requirements and shall be expressed in the NPDES permit as an average monthly and instantaneous maximum effluent concentration (Implementation Guidance Total Residual Chlorine 4). Based on the stream flow rate (lowest 7-day flow rate in 10 years) and the design flow rate of the subject facility calculated by the TRC Evaluation worksheet, the WQBEL is more stringent than the TBEL. The Fact Sheet dated May 2018 utilized a BPJ factor of 0.05. This Fact Sheet utilized the default value factor of 0.50. The 0.05 factor likely represents the non-detectable limit since the facility discharges to special protection watershed. Due to anti-backsliding regulations, the current limit of 0.05 mg/l shall continue to the proposed permit. The monitoring frequency has been assigned in accordance with Table 6-3
Fecal Coliform	DRBC	Monitoring:	The monitoring frequency shall be 1x/wk as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 200 No./100 mL as a geometric mean.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by DRBC Section 4.30 - Effluent Quality Requirements

**Notes:**

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.30 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

**6.1.2 Nitrogen Species and Phosphorus**

Summary of Proposed NPDES Parameter Details for Nitrogen Species and Phosphorus			
Borough of Topton; PA0020711			
Parameter	Permit Limitation Required by <sup>1</sup> :	Recommendation	
Ammonia-Nitrogen	Anti-backsliding	Monitoring:	The monitoring frequency shall be 1x/wk as a 24-hr composite sample
		Effluent Limit:	During the months of May 1 to October 31, effluent limits shall not exceed 2.5 lbs/day and 1.0 mg/l as an average monthly. During the months of Nov 1 to Apr 30, effluent limits shall not exceed 7.5 lbs/day and 3.0 mg/l as an average monthly.
		Rationale:	The WQM output allowed for summer limit of 4.4 mg/l. However, anti-backsliding regulations require the proposed limit to be as stringent as the current limit. The current limit of 1.0 mg/l during the summer and 3.0 mg/l during the winter shall continue to the proposed permit.
Nitrate-N	DRBC	Monitoring:	The monitoring frequency shall be 1x/month as a 24-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Monitoring is consistent with DRBC Docket D-2001-041 CP-3
Total Nitrogen	DRBC	Monitoring:	The monitoring frequency shall be 1x/month as a 24-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Monitoring is consistent with DRBC Docket D-2001-041 CP-3
Phosphorus	Anti-backsliding / DRBC	Monitoring:	The monitoring frequency shall be 1x/month as a 24-hr composite sample
		Effluent Limit:	Effluent limits shall not exceed 2.0 mg/l as a monthly average
		Rationale:	Monitoring frequency is consistent with DRBC Docket D-2001-041 CP-3. The phosphorus limit was in the NPDES permit (September 2011) but erroneously left out of the NPDES permit (Aug 2018). Due to anti-backsliding regulations, the permit limit shall be placed in the proposed permit.

**Notes:**

- 1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other
- 2 Monitoring frequency based on flow rate of 0.30 MGD.
- 3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (Document # 362-0400-001) Revised 10/97
- 4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)
- 5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

**Summary of Proposed NPDES Parameter Details for Toxics**  
Borough of Topton; PA0020711

Parameter	Permit Limitation Required by <sup>1</sup> :	Recommendation	
Total Copper	WQBEL	Monitoring:	The monitoring frequency shall be 1x/wk as a 24-hr composite sample
		Effluent Limit:	The effluent should not exceed 0.022 mg/l as an average monthly and 0.055 mg/l as an instantaneous maximum.
		Rationale:	Water quality modeling through Toxics Management Spreadsheet recommends effluent limits

**Notes:**

- 1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other
- 2 Monitoring frequency based on flow rate of 0.30 MGD.
- 3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent
- 4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)
- 5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

**6.1.3 Toxics**

Summary of Proposed NPDES Parameter Details for Non-Conventional Pollutants Borough of Tipton; PA0020711			
Parameter	Permit Limitation Required by <sup>1</sup> :	Recommendation	
Total Dissolved Solids	DRBC	Monitoring:	The monitoring frequency shall be 1x/quarter as a 24-hr composite sample
		Effluent Limit:	Effluent limits shall not exceed 1,000 mg/l
		Rationale:	Effluent limits are consistent with DRBC Section 3.10.4D.2 and the DRBC Docket D-2001-041 CP-3
Notes:			
1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other			
2 Monitoring frequency based on flow rate of 0.30 MGD.			
3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent			
4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)			
5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021			

**6.1.3.1 Implementation of Regulation- Chapter 92a.61**

Chapter 92a.61 provides provisions to DEP to monitor for pollutants that may have an impact on the quality of waters of the Commonwealth.

Based upon DEP policy directives the following pollutants shall be monitored:

- Consistent with DEP Management directives issued on March 22, 2021 and in conjunction with EPA’s 2017 Triennial Review, monitoring for E. Coli shall be required. The monitoring frequency is based upon flow rate.

Summary of Proposed NPDES Parameter Details for pollutants monitored under Chapter 92a.61 Borough of Tipton; PA0020711			
Parameter	Permit Limitation Required by <sup>1</sup> :	Recommendation	
E. Coli	SOP; Chapter 92a.61	Monitoring:	The monitoring frequency shall be 1x/quarter as a grab sample (SOP).
		Effluent Limit:	No effluent requirements.
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised Febraury 5, 2024) and under the authority of Chapter 92a.61, the facility will be required to monitor for E.Coli.

## **6.2 Summary of Changes From Existing Permit to Proposed Permit**

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

- Due to the EPA Triennial Review, monitoring shall be required for E. Coli.
- Phosphorus limit has been placed back into the permit.
- Copper limit was reduced from 0.025 mg/l to 0.022 mg/l as an average monthly
- Included DRBC Permit limits appearing in the docket as Effluent Table C-2.

**6.3.1 Summary of Proposed NPDES Effluent Limits**

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.

The proposed NPDES effluent limitations are summarized in the table below.

**PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS**

I. A. For Outfall 001, Latitude 40° 30' 20.28", Longitude 75° 41' 10.97", River Mile Index 3.67, Stream Code 3624

Receiving Waters: Unnamed Tributary of Little Lehigh Creek (HQ-CWF)

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> 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	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.05	XXX	0.16	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) Nov 1 - Apr 30	50	75	XXX	20.0	30.0	40	1/week	24-Hr Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) May 1 - Oct 31	25	37	XXX	10.0	15.0	20	1/week	24-Hr Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
CBOD20 Minimum % Removal (%)	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Suspended Solids	75	113	XXX	30.0	45.0	60	1/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Dissolved Solids	XXX	Report Daily Max	XXX	XXX	1000.00 Daily Max	XXX	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	Grab
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Ammonia-Nitrogen Nov 1 - Apr 30	7.5	XXX	XXX	3.0	XXX	4.5	1/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	2.5	XXX	XXX	1.0	XXX	1.5	1/week	24-Hr Composite
Nitrate as N	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Phosphorus	5.0	XXX	XXX	2.0	XXX	XXX	1/month	24-Hr Composite
Copper, Total	0.055	0.086 Daily Max	XXX	0.022	0.035 Daily Max	XXX	1/week	24-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

### 6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- Chlorine Minimization
- Hauled-in Waste Restrictions
- DRBC
- Solids Management for Non-Lagoon Treatment Systems

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment [redacted])
<input checked="" type="checkbox"/>	Toxics Management Spreadsheet (see Attachment [redacted])
<input checked="" type="checkbox"/>	TRC Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
<input type="checkbox"/>	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
<input type="checkbox"/>	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
<input type="checkbox"/>	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
<input type="checkbox"/>	Design Stream Flows, 386-2000-003, 9/98.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input checked="" type="checkbox"/>	SOP: New and Reissuance Sewage Individual NPDES Permit Applications, rev 2/3/2022
<input type="checkbox"/>	Other: [redacted]

# Attachment A

## Stream Stats/Gauge Data

Table 1 9

**Table 1.** List of U.S. Geological Survey streamgage locations in and near Pennsylvania with updated streamflow statistics.—Continued

[Latitude and Longitude in decimal degrees; mi<sup>2</sup>, square miles]

Streamgage number	Streamgage name	Latitude	Longitude	Drainage area (mi <sup>2</sup> )	Regulated <sup>1</sup>
01439500	Bush Kill at Shoemakers, Pa.	41.088	-75.038	117	N
01440000	Flat Brook near Flatbrookville, N.J.	41.106	-74.953	64.0	N
01440200	Delaware River near Delaware Water Gap, Pa.	41.013	-75.086	3,850	Y
01440400	Brodhead Creek near Analomink, Pa.	41.085	-75.215	65.9	N
01441000	McMichael Creek near Stroudsburg, Pa.	40.979	-75.201	65.3	N
01442500	Brodhead Creek at Minisink Hills, Pa.	40.999	-75.143	259	N
01443280	East Branch Paulins Kill near Lafayette, N.J.	41.076	-74.695	13.0	N
01443500	Paulins Kill at Blairstown, N.J.	40.981	-74.953	126	N
01443900	Yards Creek near Blairstown, N.J.	40.981	-75.039	5.34	N
01445000	Pequest River at Huntsville, N.J.	40.981	-74.776	31.0	N
01445500	Pequest River at Pequest, N.J.	40.831	-74.978	106	N
01446000	Beaver Brook near Belvidere, N.J.	40.843	-75.046	36.7	N
01446500	Delaware River at Belvidere, N.J.	40.826	-75.083	4,535	Y
01446600	Martins Creek near East Bangor, Pa.	40.900	-75.202	10.4	N
01447500	Lehigh River at Stoddartsville, Pa.	41.130	-75.625	91.7	N
01447680	Tunkhannock Creek near Long Pond, Pa.	41.065	-75.522	20.0	LF
01447720	Tobyhanna Creek near Blakeslee, Pa.	41.085	-75.605	118	LF
01447800	Lehigh River below Francis E Walter Res near White Haven, Pa.	41.105	-75.732	290	Y
01448000	Lehigh River at Tannery, Pa.	41.040	-75.761	322	N
01448500	Dilldown Creek near Long Pond, Pa.	41.036	-75.543	2.39	N
01449000	Lehigh River at Lehighon, Pa.	40.829	-75.705	591	Y
01449360	Pohopoco Creek at Kresgeville, Pa.	40.898	-75.502	49.9	N
01449800	Pohopoco Creek below Beltzville Dam near Parryville, Pa.	40.846	-75.646	96.4	Y
01450500	Aquashicola Creek at Palmerton, Pa.	40.806	-75.598	76.7	N
01451000	Lehigh River at Walnutport, Pa.	40.757	-75.603	889	Y
01451500	Little Lehigh Creek near Allentown, Pa.	40.582	-75.483	80.8	N
01451650	Little Lehigh Creek at Tenth St. Br. at Allentown, Pa.	40.596	-75.474	98.2	N
01451800	Jordan Creek near Schnecksville, Pa.	40.662	-75.627	53.0	N
01452000	Jordan Creek at Allentown, Pa.	40.623	-75.482	75.8	N
01452500	Monocacy Creek at Bethlehem, Pa.	40.641	-75.379	44.5	N
01453000	Lehigh River at Bethlehem, Pa.	40.615	-75.379	1,279	Y
01454700	Lehigh River at Glendon, Pa.	40.669	-75.236	1,359	Y
01455160	Brass Castle Creek near Washington, N.J.	40.765	-75.018	2.34	N
01455500	Musconetcong River at outlet of Lake Hopatcong, N.J.	40.917	-74.666	25.3	N
01457000	Musconetcong River near Bloomsbury, N.J.	40.672	-75.061	141	N
01459500	Tohickon Creek near Pipersville, Pa.	40.434	-75.117	97.4	Y
01463500	Delaware River at Trenton, N.J.	40.222	-74.778	6,780	Y
01463620	Assunpink Creek near Clarksville, N.J.	40.270	-74.672	34.3	N
01464000	Assunpink Creek at Trenton, N.J.	40.224	-74.749	90.6	N
01464500	Crosswicks Creek at Extonville, N.J.	40.137	-74.6	81.5	N
01464645	NB Neshaminy Creek bl Lake Galena nr New Britain, Pa.	40.312	-75.207	16.2	Y
01464720	NB Neshaminy Creek at Chalfont, Pa.	40.288	-75.204	31.5	Y
01465000	Neshaminy Creek at Rushland, Pa.	40.255	-75.033	134	N
01465500	Neshaminy Creek near Langhorne, Pa.	40.174	-74.957	210	N
01465770	Poquessing Creek at Trevoise Road, Phila., Pa.	40.132	-74.994	5.08	N

Table 2 21

Table 2. Selected low-flow statistics for streamgage locations in and near Pennsylvania.—Continued

[ft<sup>3</sup>/s; cubic feet per second; —, statistic not computed; <, less than]

Streamgage number	Period of record used in analysis <sup>1</sup>	Number of years used in analysis	1-day, 10-year (ft <sup>3</sup> /s)	7-day, 10-year (ft <sup>3</sup> /s)	7-day, 2-year (ft <sup>3</sup> /s)	30-day, 10-year (ft <sup>3</sup> /s)	30-day, 2-year (ft <sup>3</sup> /s)	90-day, 10-year (ft <sup>3</sup> /s)
01434021	1992–2008	17	.1	.1	.2	.1	.3	.3
01434025	1985–2008	24	.3	.4	1.0	.6	1.5	1.2
01434498	1993–2008	16	7.0	7.4	15.2	9.4	19.5	15.2
01435000	1939–2008	67	12.2	13.5	24.9	17.3	31.8	25.4
01436000	<sup>2</sup> 1955–2008	54	1.0	1.9	8.1	3.8	8.6	4.6
01436000	<sup>3</sup> 1943–1953	11	18.3	19.9	33.6	25.2	43.4	42.2
01436500	<sup>2</sup> 1955–1993	34	11.6	13.7	20.4	16.9	26.4	24.3
01436500	<sup>3</sup> 1939–1953	15	20.4	22.0	37.4	29.1	49.2	44.4
01436690	1994–2008	15	30.4	35.0	61.5	44.1	82.4	58.9
01437500	<sup>2</sup> 1955–2008	54	47.4	54.6	87.6	72.3	112	98.8
01437500	<sup>3</sup> 1939–1953	15	37.2	44.7	76.0	57.2	98.8	84.6
01438500	1941–2008	68	648	887	1,460	1,050	1,700	1,310
01439500	1910–2008	99	6.6	7.5	18.6	10.3	26.4	17.5
01440000	1925–2008	84	6.6	7.4	13.2	9.2	17.0	12.8
01440200	1966–1995	30	1,030	1,200	1,830	1,440	2,110	1,660
01440400	1959–2008	50	6.9	7.4	13.5	9.1	18.1	12.3
01441000	1913–1938	26	13.3	16.2	24.3	19.1	29.8	23.3
01442500	1952–2008	57	44.7	48.4	80.6	57.0	100	73.6
01443280	1994–2008	15	2.0	2.6	6.9	3.0	8.1	4.4
01443500	1923–2008	84	11.6	16.2	28.3	20.3	36.8	26.8
01443900	1968–2008	41	.2	.6	1.0	.9	1.4	1.1
01445000	1941–2008	27	1.9	2.1	5.3	2.8	7.2	4.8
01445500	1923–2008	86	18.2	19.5	33.5	22.0	39.0	27.2
01446000	1924–2008	42	1.9	2.1	5.1	2.6	6.8	4.2
01446500	1924–2008	85	864	1,080	1,740	1,260	2,020	1,580
01446600	1963–1978	16	.1	.1	.7	.2	1.1	.4
01447500	1945–2008	64	11.8	13.1	24.8	16.5	33.1	24.5
01447680	<sup>2</sup> 1971–2008	38	3.2	3.6	7.6	4.9	10.6	8.1
01447720	<sup>3</sup> 1963–1985	23	—	28	43.3	34.1	58.8	43.2
01447720	<sup>2</sup> 1987–2008	22	26.0	28.9	49.2	37.3	68.2	51.8
01447800	1959–2008	50	39.5	46.8	81.4	62.4	124	94.1
01448000	1918–1959	41	49.0	66.7	108	79.0	136	116
01448500	1950–1996	47	.4	.4	.8	.5	1.0	.7
01449000	1984–2008	25	135	148	237	180	315	236
01449360	1968–2008	41	14.4	15.1	23.7	17.3	27.7	21.7
01449800	1969–2008	40	14.2	16.5	31.0	19.9	38.1	29.4
01450500	1941–2008	68	15.1	17.0	29.3	20.0	35.6	26.7
01451000	<sup>2</sup> 1962–2008	47	185	203	337	252	430	322
01451000	<sup>3</sup> 1948–1960	13	203	213	311	253	391	343
01451500	1947–2008	62	27.6	28.8	43.4	32.0	48.1	35.4
01451650	1988–2008	21	29.8	36.2	52.7	41.9	60.7	50.0
01451800	1967–2008	42	1.7	2.2	7.0	3.7	11.0	7.5
01452000	1946–2008	63	3.0	3.0	12.0	4.4	13.9	7.6
01452500	1950–2008	59	12.1	13.2	22.9	14.8	25.9	16.8
01453000	<sup>2</sup> 1929–2008	81	340	371	579	439	702	546

## StreamStats Report

Region ID: PA  
 Workspace ID: PA20240412083725284000  
 Clicked Point (Latitude, Longitude): 40.50569, -75.68670  
 Time: 2024-04-12 04:37:46 -0400



Topton Borough PA0020711 Modeling Point #1 April 2024

Collapse All

### Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	51.84	percent
DRNAREA	Area that drains to a point on a stream	1.91	square miles
PRECIP	Mean Annual Precipitation	45	inches
ROCKDEP	Depth to rock	5.1	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.53	miles per square mile

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.91	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	45	inches	35	50.4
STRDEN	Stream Density	1.53	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	5.1	feet	3.32	5.65
CARBON	Percent Carbonate	51.84	percent	0	99

Low-Flow Statistics Disclaimers [Low Flow Region 2]

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

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.616	ft <sup>3</sup> /s
30 Day 2 Year Low Flow	0.726	ft <sup>3</sup> /s
7 Day 10 Year Low Flow	0.351	ft <sup>3</sup> /s
30 Day 10 Year Low Flow	0.406	ft <sup>3</sup> /s
90 Day 10 Year Low Flow	0.491	ft <sup>3</sup> /s

*Low-Flow Statistics Citations*

**Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)**

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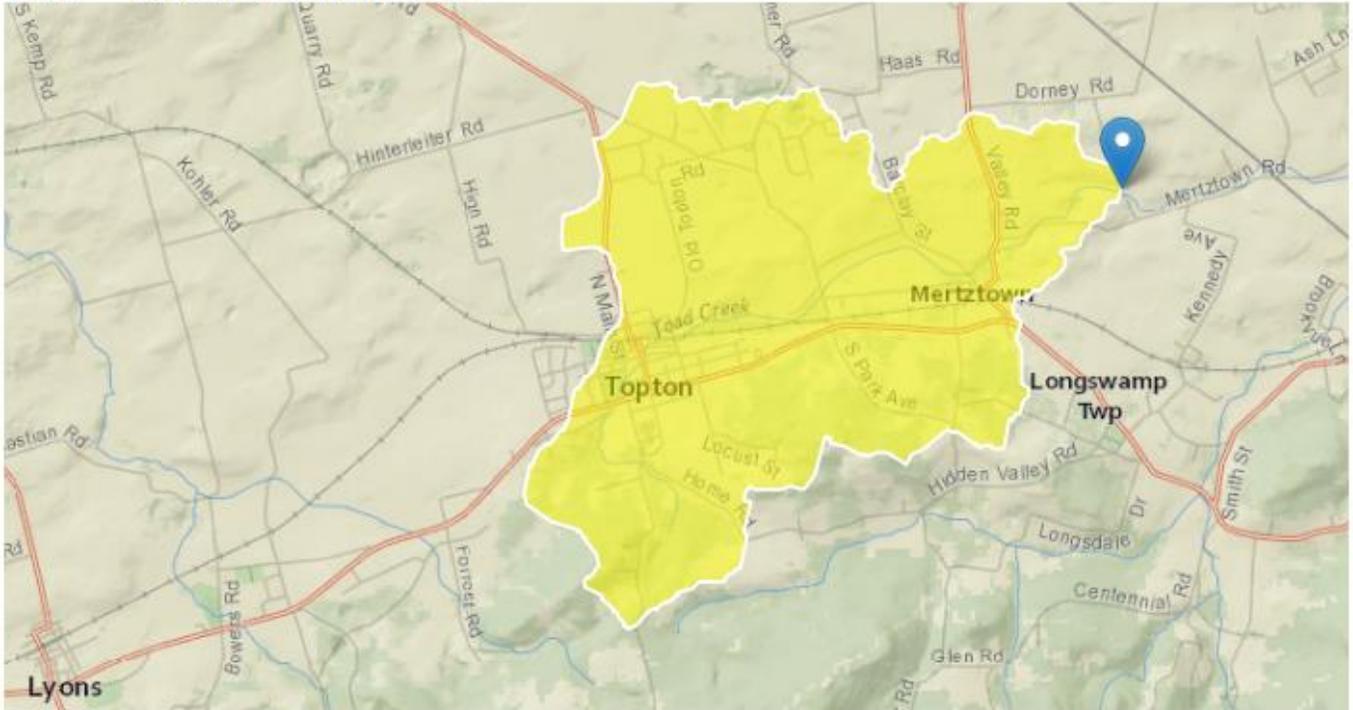
Application Version: 4.19.4

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

## StreamStats Report

Region ID: PA  
 Workspace ID: PA20240412084840187000  
 Clicked Point (Latitude, Longitude): 40.51522, -75.65439  
 Time: 2024-04-12 04:49:01 -0400



Topton Borough PA0020711 Modeling Point #2 April 2024

Collapse All

### Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	69.18	percent
DRNAREA	Area that drains to a point on a stream	4.74	square miles
PRECIP	Mean Annual Precipitation	45	inches
ROCKDEP	Depth to rock	5.3	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.07	miles per square mile

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	4.74	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	45	inches	35	50.4
STRDEN	Stream Density	1.07	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	5.3	feet	3.32	5.65
CARBON	Percent Carbonate	69.18	percent	0	99

Low-Flow Statistics Disclaimers [Low Flow Region 2]

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

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2.92	ft <sup>3</sup> /s
30 Day 2 Year Low Flow	3.18	ft <sup>3</sup> /s
7 Day 10 Year Low Flow	1.97	ft <sup>3</sup> /s
30 Day 10 Year Low Flow	2.11	ft <sup>3</sup> /s
90 Day 10 Year Low Flow	2.3	ft <sup>3</sup> /s

*Low-Flow Statistics Citations*

**Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)**

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# Attachment B

## WQM 7.0 Modeling Output Values

### Toxics Screening Analysis

**WQM 7.0 Effluent Limits**

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>			
02C		3624		TOAD CREEK			
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)
3.670	Topton Borough	PA0020711	0.300	CBOD5	23.08		
				NH3-N	4.4	8.8	
				Dissolved Oxygen			5

### WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
02C	3624	TOAD CREEK

**NH3-N Acute Allocations**

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
3.670	Topton Borough	14.27	34.33	14.27	34.33	0	0

**NH3-N Chronic Allocations**

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
3.670	Topton Borough	1.68	4.4	1.68	4.4	0	0

**Dissolved Oxygen Allocations**

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
3.67	Topton Borough	23.08	23.08	4.4	4.4	5	5	0	0

**Input Data WQM 7.0**

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
02C	3624	TOAD CREEK	<b>3.670</b>	440.00	1.91	0.00000	0.00	<input checked="" type="checkbox"/>

**Stream Data**

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary		Stream	
									Temp (°C)	pH	Temp (°C)	pH
<b>Q7-10</b>	0.356	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
<b>Q1-10</b>		0.00	0.00	0.000	0.000							
<b>Q30-10</b>		0.00	0.00	0.000	0.000							

**Discharge Data**

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Topton Borough	PA0020711	0.3000	0.3000	0.3000	0.000	25.00	6.97

**Parameter Data**

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

**Input Data WQM 7.0**

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
02C	3624	TOAD CREEK	1.550	410.00	4.74	0.00000	0.00	<input checked="" type="checkbox"/>

**Stream Data**

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	Tributary pH	Stream Temp	Stream pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.356	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

**Discharge Data**

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

**Parameter Data**

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

### WQM 7.0 D.O. Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
02C	3624	TOAD CREEK		
<hr/>				
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>	
3.670	0.300	22.028	6.988	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>	
11.740	0.522	22.476	0.187	
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>	<u>Reach Kn (1/days)</u>	
10.55	1.134	1.79	0.818	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>	
6.927	4.985	Tsivoglou	5	
<u>Reach Travel Time (days)</u>	<b>Subreach Results</b>			
0.694	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>
	0.069	9.68	1.69	6.00
	0.139	8.88	1.59	5.45
	0.208	8.14	1.51	5.17
	0.278	7.47	1.42	5.07
	0.347	6.85	1.34	5.08
	0.417	6.28	1.27	5.17
	0.486	5.76	1.20	5.31
	0.556	5.29	1.13	5.48
	0.625	4.85	1.07	5.66
	0.694	4.45	1.01	5.85

### WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>				<u>Stream Name</u>						
02C		3624				TOAD CREEK						
RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
<b>Q7-10 Flow</b>												
3.670	0.68	0.00	0.68	.4641	0.00268	.522	11.74	22.48	0.19	0.694	22.03	6.99
<b>Q1-10 Flow</b>												
3.670	0.65	0.00	0.65	.4641	0.00268	NA	NA	NA	0.18	0.704	22.08	6.99
<b>Q30-10 Flow</b>												
3.670	0.75	0.00	0.75	.4641	0.00268	NA	NA	NA	0.19	0.670	21.90	6.99

### WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input type="checkbox"/>
WLA Method	EMPR	Use Inputted W/D Ratio	<input type="checkbox"/>
Q1-10/Q7-10 Ratio	0.96	Use Inputted Reach Travel Times	<input type="checkbox"/>
Q30-10/Q7-10 Ratio	1.11	Temperature Adjust Kr	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	5		

RUN # 1



Toxics Management Spreadsheet  
Version 1.4, May 2023

## Discharge Information

Instructions Discharge Stream

Facility: Topton NPDES Permit No.: PA0020711 Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: Sewage effluent

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q <sub>7-10</sub>	Q <sub>h</sub>
0.3	100	6.97						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank		1 if left blank		
			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L	588								
	Chloride (PWS)	mg/L	121								
	Bromide	mg/L	< 0.11								
	Sulfate (PWS)	mg/L	28.5								
	Fluoride (PWS)	mg/L									
Group 2	Total Aluminum	µg/L									
	Total Antimony	µg/L									
	Total Arsenic	µg/L									
	Total Barium	µg/L									
	Total Beryllium	µg/L									
	Total Boron	µg/L									
	Total Cadmium	µg/L									
	Total Chromium (III)	µg/L									
	Hexavalent Chromium	µg/L									
	Total Cobalt	µg/L									
	Total Copper	mg/L	0.057								
	Free Cyanide	µg/L									
	Total Cyanide	µg/L									
	Dissolved Iron	µg/L									
	Total Iron	µg/L									
	Total Lead	mg/L	< 0.001								
	Total Manganese	µg/L									
	Total Mercury	µg/L									
	Total Nickel	µg/L									
	Total Phenols (Phenolics) (PWS)	µg/L									
	Total Selenium	µg/L									
	Total Silver	µg/L									
	Total Thallium	µg/L									
Total Zinc	mg/L	0.047									
Total Molybdenum	µg/L										
Acrolein	µg/L	<									
Acrylamide	µg/L	<									
Acrylonitrile	µg/L	<									
Benzene	µg/L	<									
Bromoform	µg/L	<									



Stream / Surface Water Information

Topton, NPDES Permit No. PA0020711, Outfall 001

Instructions Discharge **Stream**

Receiving Surface Water Name: Toad Creek No. Reaches to Model: 1

- Statewide Criteria
- Great Lakes Criteria
- ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi <sup>2</sup> )*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	003624	3.67	440	1.91			Yes
End of Reach 1	003624	1.55	410	4.74			Yes

**Q<sub>7-10</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	3.67	0.3564										100	7		
End of Reach 1	1.55	0.3564										100	7		

**Q<sub>h</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	3.67														
End of Reach 1	1.55														



Model Results

Topton, NPDES Permit No. PA0020711, Outfall 001

All
  Inputs
  Results
  Limits

Hydrodynamics

Wasteload Allocations

**AFC**
 CCT (min): 
 PMF: 
 Analysis Hardness (mg/l): 
 Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	13.439	14.0	34.5	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.581	81.6	201	Chem Translator of 0.791 applied
Total Zinc	0	0		0	117.180	120	296	Chem Translator of 0.978 applied

**CFC**
 CCT (min): 
 PMF: 
 Analysis Hardness (mg/l): 
 Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	8.956	9.33	23.0	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.517	3.18	7.85	Chem Translator of 0.791 applied
Total Zinc	0	0		0	118.139	120	296	Chem Translator of 0.986 applied

**THH**
 CCT (min): 
 PMF: 
 Analysis Hardness (mg/l): 
 Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	

Total Copper	0	0		0	N/A	N/A	N/A
Total Lead	0	0		0	N/A	N/A	N/A
Total Zinc	0	0		0	N/A	N/A	N/A

**CRL**      CCT (min):       PMF:       Analysis Hardness (mg/l):       Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

**Recommended WQBELs & Monitoring Requirements**

No. Samples/Month:

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Total Copper	0.055	0.086	0.022	0.035	0.055	mg/L	0.022	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.19	AFC	Discharge Conc > 10% WQBEL (no RP)

**Other Pollutants without Limits or Monitoring**

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., ≤ Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Lead	N/A	N/A	Discharge Conc < TQL

RUN #2



Toxics Management Spreadsheet  
Version 1.4, May 2023

## Discharge Information

Instructions Discharge Stream

Facility: Topton NPDES Permit No.: PA0020711 Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: Sewage effluent

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q <sub>7-10</sub>	Q <sub>h</sub>
0.3	100	6.97						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank		1 if left blank		
			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L	588								
	Chloride (PWS)	mg/L	121								
	Bromide	mg/L	< 0.11								
	Sulfate (PWS)	mg/L	28.5								
	Fluoride (PWS)	mg/L									
Group 2	Total Aluminum	µg/L									
	Total Antimony	µg/L									
	Total Arsenic	µg/L									
	Total Barium	µg/L									
	Total Beryllium	µg/L									
	Total Boron	µg/L									
	Total Cadmium	µg/L									
	Total Chromium (III)	µg/L									
	Hexavalent Chromium	µg/L									
	Total Cobalt	µg/L									
	Total Copper	mg/L	0.0258894			0.3623					
	Free Cyanide	µg/L									
	Total Cyanide	µg/L									
	Dissolved Iron	µg/L									
	Total Iron	µg/L									
	Total Lead	mg/L	< 0.001								
	Total Manganese	µg/L									
	Total Mercury	µg/L									
	Total Nickel	µg/L									
	Total Phenols (Phenolics) (PWS)	µg/L									
Total Selenium	µg/L										
Total Silver	µg/L										
Total Thallium	µg/L										
Total Zinc	mg/L	0.047									
Total Molybdenum	µg/L										
Acrolein	µg/L	<									
Acrylamide	µg/L	<									
Acrylonitrile	µg/L	<									
Benzene	µg/L	<									
Bromoform	µg/L	<									



Stream / Surface Water Information

Topton, NPDES Permit No. PA0020711, Outfall 001

Instructions Discharge **Stream**

Receiving Surface Water Name: Toad Creek No. Reaches to Model: 1

- Statewide Criteria
- Great Lakes Criteria
- ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi <sup>2</sup> )*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	003624	3.67	440	1.91			Yes
End of Reach 1	003624	1.55	410	4.74			Yes

Q<sub>7-10</sub>

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	3.67	0.3564										100	7		
End of Reach 1	1.55	0.3564										100	7		

Q<sub>h</sub>

Location	RMI	LFY (cfs/mi <sup>2</sup> )	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	3.67														
End of Reach 1	1.55														



Model Results

Topton, NPDES Permit No. PA0020711, Outfall 001

Instructions

Results

RETURN TO INPUTS

SAVE AS PDF

PRINT

All

Inputs

Results

Limits

Hydrodynamics

Wasteload Allocations

AFC

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	13.439	14.0	34.5	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.581	81.6	201	Chem Translator of 0.791 applied
Total Zinc	0	0		0	117.180	120	296	Chem Translator of 0.978 applied

CFC

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	8.956	9.33	23.0	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.517	3.18	7.85	Chem Translator of 0.791 applied
Total Zinc	0	0		0	118.139	120	296	Chem Translator of 0.986 applied

THH

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	

Total Copper	0	0		0	N/A	N/A	N/A
Total Lead	0	0		0	N/A	N/A	N/A
Total Zinc	0	0		0	N/A	N/A	N/A

**CRL**      CCT (min):       PMF:       Analysis Hardness (mg/l):       Analysis pH:

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

**Recommended WQBELs & Monitoring Requirements**

No. Samples/Month:

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Total Copper	0.048	0.069	0.019	0.027	0.048	mg/L	0.019	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.19	AFC	Discharge Conc > 10% WQBEL (no RP)

**Other Pollutants without Limits or Monitoring**

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Lead	N/A	N/A	Discharge Conc < TQL

# Attachment C

## TRC Evaluation

Topton Borough STP  
PA0020711

April 2024

1A	B	C	D	E	F	G
2	<b>TRC EVALUATION</b>					
3	Input appropriate values in B4:B8 and E4:E7					
4	0.680792079	= Q stream (cfs)		0.5	= CV Dally	
5	0.3	= Q discharge (MGD)		0.5	= CV Hourly	
6	30	= no. samples		1	= AFC_Partial Mix Factor	
7	0.3	= Chlorine Demand of Stream		1	= CFC_Partial Mix Factor	
8	0	= Chlorine Demand of Discharge		15	= AFC_Criteria Compliance Time (min)	
9	0.5	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)	
	0	= % Factor of Safety (FOS)		0	=Decay Coefficient (K)	
10	Source	Reference	AFC Calculations		Reference	CFC Calculations
11	TRC	1.3.2.iii	WLA_afc = 0.487		1.3.2.iii	WLA_cfc = 0.467
12	PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373		5.1c	LTAMULT_cfc = 0.581
13	PENTOXSD TRG	5.1b	LTA_afc = 0.181		5.1d	LTA_cfc = 0.272
14						
15	Source	Effluent Limit Calculations				
16	PENTOXSD TRG	5.1f	AML_MULT = 1.231			
17	PENTOXSD TRG	5.1g	AVG_MON_LIMIT (mg/l) = 0.223		AFC	
18			INST_MAX_LIMIT (mg/l) = 0.730			
	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)				

# Attachment D

## DRBC Docket

**DOCKET NO. D-2001-041 CP-3**

**DELAWARE RIVER BASIN COMMISSION**

**Discharge to a Tributary of Special Protection Waters**

**Borough of Topton  
Wastewater Treatment Plant  
Longswamp Township, Berks County, Pennsylvania**

**PROCEEDINGS**

This docket is issued in response to an application submitted to the Delaware River Basin Commission (DRBC or Commission) on August 28, 2020 (Application), for renewal of the docket holder's existing wastewater treatment plant (WWTP) and its discharge. The discharge is permitted by the Pennsylvania Department of Environmental Protection (PADEP) in National Pollutant Discharge Elimination System (NPDES) Permit No. PA0020711.

The application was reviewed for continuation of the project in the Comprehensive Plan and approval under Section 3.8 of the *Delaware River Basin Compact*. The Berks County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on May 12, 2021.

**A. DESCRIPTION**

- 1. Purpose.** The purpose of this docket is to renew approval of the docket holder's existing 0.3 million gallons per day (mgd) WWTP and its discharge.
- 2. Location.** The docket holder's WWTP is located at Pump Lane, West of the border to Topton Borough, in Longswamp Township, Berks County, Pennsylvania. The WWTP will continue to discharge treated effluent to Toad Creek at River Mile 183.67 – 16.4 – 18.6 – 3.7 (Delaware River – Lehigh River – Little Lehigh Creek – Toad Creek) and is located in the drainage area to the Lower Delaware Special Protection Waters (SPW).

Specific location information has been withheld for security reasons.

- 3. Area Served.** The docket holder's WWTP will continue to serve Topton Borough and a small portion of Longswamp Township located in Berks County, Pennsylvania. For the purpose of defining the Area Served, Section B (Type of Discharge) and D (Service Area) of the docket holder's Application are incorporated herein by reference, to the extent consistent with all other conditions contained in the DECISION Section of this docket.

**D-2001-041 CP-3 Borough of Topton WWTP**

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4. **Design Criteria.** The docket holder's 0.3 mgd WWTP utilizes an extended aeration activated sludge treatment process with chlorine disinfection.

5. **Facilities.** The WWTP facilities consist of a screening/communitor chamber, a pump station, 2 selector tanks, two trains consisting of a stage 1 aeration tank, a stage 2 aeration tank, a final clarifier, each train also consists of an aerobic digester. The treatment trains flow to a chlorine contact tank, and de-chlorination/post-aeration tank before discharging. The sludge handling facilities on-site consist of sludge pump station and reed beds for sludge drying.

The docket holder's WWTP discharges to waters classified as SPW and is required to have available standby power. The existing WWTP has a generator installed capable of providing standby power.

The docket holder's WWTP is not staffed 24 hours per day and shall have a remote alarm system that continuously monitors plant operations in accordance with the Commission's SPW requirements. The existing WWTP has a remote alarm system installed that continuously monitors plant operations.

The docket holder has prepared and implemented an emergency management plan (EMP) for the existing WWTP in accordance with Commission SPW requirements.

The project facilities are not located in the 100-year floodplain.

Wasted sludge will continue to be hauled off-site for disposal.

6. **Water withdrawals.** The potable water supply in the project service area is provided by Topton Borough Authority. The docket holder's water withdrawal is described in detail in Docket No. D-1973-121 CP, which was approved on July 27, 1973.

7. **N(J)PDES/SPDES Permit / DRBC Effluent Requirements.** NPDES Permit No. PA0020711 issued by the PADEP includes final effluent limitations for the project discharge to surface waters classified by the PADEP as supporting high quality water (HQ) and cold-water fishes (CWF). EFFLUENT TABLES C-1 & C-2 included in the DECISION section of this docket, contain effluent requirements for DRBC parameters that must be met as a condition of this approval (See DECISION Condition C.1.). Effluent requirements for Outfall No. 001 are based on a discharge rate of 0.3 mgd.

8. **Relationship to the Comprehensive Plan.** The existing WWTP was added to the Comprehensive Plan by Docket No. D-1974-178 CP on December 4, 1974. The WWTP approval was renewed and modified by Docket Nos. D-2001-041 CP-1 and D-2001-041 CP-2 on October 31, 2001 and September 10, 2014, respectively. Issuance of this docket will renew and continue the WWTP and its discharge in the Comprehensive Plan.

**D-2001-041 CP-3 Borough of Topton WWTP**

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**B. FINDINGS**

The docket holder submitted an application to renew approval of their existing 0.30 mgd WWTP and its discharge.

**1. Special Protection Waters**

On July 16, 2008, the DRBC approved amendments to its *Water Quality Regulations (WQR)* that provide increased protection for waters that the Commission classifies as SPW. The portion of the Delaware River and its tributaries within the boundary of the Lower Delaware River Management Plan Area was approved for SPW designation. (Lower SPW)

The docket holder's WWTP discharges to the drainage area to the Lower Delaware SPW. The docket holder's WWTP discharge is required to comply with the SPW requirements, as outlined in Article 3.10.3A.2. of the WQR.

Article 3.10.3A.2.e.1). and 2). of the Commission's *WQR* states that projects subject to review under Section 3.8 of the Compact that are located in the drainage area of SPW must submit for approval a Non-Point Source Pollution Control Plan (NPSPCP) that controls the new or increased non-point source loads generated within the portion of the docket holder's service area which is also located within the drainage area of SPW. The service area of the docket holder is located in the drainage area to the SPW. Since this project (does not) entail additional construction and/or expansion of facilities and service area and there are no new or increased non-point source loads associated with this approval, the NPSPCP requirement is not applicable at this time. Accordingly, DECISION Conditions C.4 and C.7 have been included in this docket.

Topton Borough and Longswamp Township are regulated by the PADEP as a Stormwater Phase II municipalities y and is permitted by PADEP as such. Topton Borough and Longswamp Township adopted and implemented a stormwater ordinance in accordance with the PADEP requirements. The PADEP Stormwater Phase II requirements satisfy the NPSPCP requirements of the Commission.

**2. Other**

At the docket holder's WWTP discharge, the Toad Creek has an estimated seven-day low flow with a recurrence interval of ten years ( $Q_{7-10}$ ) of 0.23 mgd (0.35 cfs). The ratio of this low flow to the hydraulic design wastewater discharge rate from the 0.30 mgd WWTP is 0.77 to 1.

The nearest surface water intake of record for public water supply is located on Little Lehigh Creek approximately 19 River Miles downstream of the docket holder's WWTP and is operated by City of Allentown.

**D-2001-041 CP-3 Borough of Topton WWTP**

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The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

The effluent limits in the NPDES Permit conform with Commission effluent quality requirements, where applicable.

The project is designed to produce a discharge that meets the effluent requirements as set forth in the Commission’s *Water Quality Regulations (WQR)*.

**C. DECISION**

Effective on the approval date for Docket No. D-2001-041 CP-3 below, the project(s) described in Docket No. D-2001-041 CP-2 is removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-2001-041 CP-3; Docket No. D-2001-041 CP-2 is terminated and replaced by Docket No. D-2001-041 CP-3; and the project and the appurtenant facilities described in Section A “DESCRIPTION” of this docket shall be continued in the Comprehensive Plan. The project and appurtenant facilities as described in Section A of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

**Monitoring and Reporting**

1. The docket holder shall comply with the requirements contained in the EFFLUENT TABLES below. The docket holder shall submit the required monitoring results electronically to the DRBC Project Review Section via email [aemr@drbc.gov](mailto:aemr@drbc.gov) on the **Annual Effluent Monitoring Report Form** located at this web address: <https://www.nj.gov/drbc/programs/project/docket-app-info.html#3>. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If a DRBC effluent limit is violated, the docket holder shall submit the result(s) to the DRBC within 30 days of the violation(s) and provide a written explanation that states the action(s) the docket holder has taken to correct the violation(s) and protect against any future violations. The following average monthly effluent limits are among those listed in the NPDES Permit and meet or are more stringent than the effluent requirements of the DRBC.

**EFFLUENT TABLE C-1: DRBC Parameters Included in NPDES Permit**

<b>OUTFALL 001 (Discharging to Toad Creek)</b>		
<b>PARAMETER</b>	<b>LIMIT</b>	<b>MONITORING</b>
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Total Suspended Solids	30 mg/l	As required by NPDES Permit
Dissolved Oxygen	5.0 mg/l (minimum at all times)	As required by NPDES Permit
CBOD <sub>5</sub> (at 20° C)	10 mg/l (Minimum 85% Removal)	As required by NPDES Permit
Ammonia Nitrogen (5-1 to 10-31) (11-1 to 4-30)	1.0 mg/l 3.0 mg/l	As required by NPDES Permit
Fecal Coliform	200 colonies per 100 ml as a geo. avg.	As required by NPDES Permit
Nitrate as N	Monitor & Report	As required by NPDES Permit

**D-2001-041 CP-3 Borough of Topton WWTP**

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<b>OUTFALL 001 (Discharging to Toad Creek)</b>		
<b>PARAMETER</b>	<b>LIMIT</b>	<b>MONITORING</b>
Total N	Monitor & Report	As required by NPDES Permit
Total Dissolved Solids*	Monitor & Report	As required by NPDES Permit

\* See DECISION Condition C.6

The following monitoring requirements and average monthly effluent limits are for DRBC parameters not listed in the NPDES Permit.

**EFFLUENT TABLE C-2: DRBC Parameters Not Included in NPDES Permit**

<b>OUTFALL 001 (Discharging to Toad Creek)</b>		
<b>PARAMETER</b>	<b>LIMIT</b>	<b>MONITORING</b>
Total Dissolved Solids*	1,000 mg/l *	Quarter
CBOD <sub>5</sub> (at 20° C)	Monitor & Report Percent Removal	Monthly
CBOD <sub>5</sub> (at 20° C) Influent	Monitor & Report	Monthly
Nitrate as N	Monitor & Report	Monthly
Total N	Monitor & Report	Monthly
Phosphorus	Monitor & Report	Monthly

\* See DECISION Condition C.6

**Other Conditions**

2. Nothing in this docket constitutes a defense to any penalty action for past conduct of the docket holder or ongoing activity not authorized by this approval. In particular, renewal of this docket does not resolve violations – whether in the past or continuing – of provisions of the Delaware River Basin Compact (“Compact”) or any rule, regulation, order or approval duly issued by the Commission or the Executive Director pursuant to the Compact. The Commission reserves its right to take appropriate enforcement action against the docket holder, including but not limited to recovery of financial penalties consistent with Section 14.17 of the Compact, for any and all such prior or continuing violations.

3. Prior to allowing connections from any new service areas or any new developments, the docket holder shall either submit and have approved by the Executive Director of the DRBC a NPSPCP in accordance with Section 3.10.3.A.2.e, or receive written confirmation from the Executive Director of the DRBC that the new service area is in compliance with a DRBC-approved NPSPCP.

4. Prior to the docket holder initiating any substantial alterations or additions to the existing WWTP as defined in Section 3.10.3A2.a.16) of the Commission’s WQR, an application must be submitted and approved by the Commission. Such an application shall be submitted prior to final design to ensure that the Commission can provide the docket holder with draft effluent limitations for SPW specific parameters as guidance for design as to not require duplication of work or cause a substantial expenditure of public funds without Commission approval. The docket holder is encouraged to contact the Commission staff during the planning stages to identify the potential effluent limitations required to meet the no measurable change parameters under SPW.

**D-2001-041 CP-3 Borough of Topton WWTP**

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5. Except as otherwise authorized by this docket, if the docket holder seeks relief from any limitation based upon a DRBC water quality standard or minimum treatment requirement, the docket holder shall apply for approval from the Executive Director or for a docket revision in accordance with Section 3.8 of the *Compact* and the *Rules of Practice and Procedure*.

6. The docket holder may request of the Executive Director in writing the substitution of specific conductance for TDS. The request should include information that supports the effluent specific correlation between TDS and specific conductance. Upon review, the Executive Director may modify the docket to allow the substitution of specific conductance for TDS monitoring.

7. The docket holder is responsible for timely submittal to the DRBC of a docket renewal application on the appropriate application form including the appropriate docket application filing fee (see 18 CFR 401.43) at least 6 months in advance of the docket expiration date set forth below. The docket holder will be subject to late filed renewal surcharges in the event of untimely submittal of its renewal application, whether or not DRBC issues a reminder notice in advance of the deadline or the docket holder receives such notice. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below, the terms and conditions of the current docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

8. The docket holder is permitted to treat and discharge wastewater as set forth in the Area Served Section of this docket, which incorporates by reference Sections B (Type of Discharge) and D (Service Area) of the docket holder's Application to the extent consistent with all other conditions of this DECISION Section.

9. The docket holder is prohibited from treating/pre-treating any hydraulic fracturing wastewater from sources in or out of the Basin at this time. Should the docket holder wish to treat/pre-treat hydraulic fracturing wastewater in the future, the docket holder will need to first apply to the Commission to renew this docket and be issued a revised docket allowing such treatment and an expanded service area. Failure to obtain this approval prior to treatment/pre-treatment will result in action by the Commission.

10. The facility and operational records shall be available at all times for inspection by the DRBC.

11. The facility shall be operated at all times to comply with the requirements of the Commission's WQR.

12. If at any time the receiving treatment plant proves unable to produce an effluent that is consistent with the requirements of this docket approval, no further connections shall be permitted until the deficiency is remedied.

13. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

**D-2001-041 CP-3 Borough of Topton WWTP**

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14. The docket holder shall discharge wastewater in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property.
15. No sewer service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).
16. The issuance of this docket approval shall not create any private or proprietary rights in the waters of the Basin, and the Commission reserves the right to amend, suspend or rescind the docket for cause, in order to ensure proper control, use and management of the water resources of the Basin.
17. The docket holder shall be subject to applicable DRBC regulatory program fees, in accordance with duly adopted DRBC resolutions and/or regulations (see 18 CFR 401.43).
18. This approval is transferable by request to the DRBC Executive Director provided that the project purpose and area served approved by the Commission in this docket will not be materially altered because of the change in project ownership. The request shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).
19. The docket holder shall request a name change of the entity to which this approval is issued if the name of the entity to which this approval is issued changes its name. The request for name change shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).
20. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.
21. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the Rules of Practice and Procedure. In accordance with Section 15.1(p) of the *Delaware River Basin Compact*, cases and controversies arising under the *Compact* are reviewable in the United States district courts.

**BY THE COMMISSION**

**APPROVAL DATE: June 9, 2021**

**EXPIRATION DATE: July 31, 2028**

# Attachment E

## Copper Sample Results

Monitoring Period Begin Date	Monitoring Period End Date	DMR Received Date	Outfall	Discharge	Monitoring Location	Parameter Name	Parameter Code	DMR Value	Permit Limit	Units	Statistical Base Code
08/01/2018	08/31/2018	09/20/2018	001	Yes	Final Effluent	Copper, Total	01042	0.014	0.039	mg/L	Daily Maximum
09/01/2018	09/30/2018	10/11/2018	001	Yes	Final Effluent	Copper, Total	01042	0.016	0.039	mg/L	Daily Maximum
10/01/2018	10/31/2018	11/12/2018	001	Yes	Final Effluent	Copper, Total	01042	0.015	0.039	mg/L	Daily Maximum
11/01/2018	11/30/2018	12/14/2018	001	Yes	Final Effluent	Copper, Total	01042	0.015	0.039	mg/L	Daily Maximum
12/01/2018	12/31/2018	01/04/2019	001	Yes	Final Effluent	Copper, Total	01042	0.02	0.039	mg/L	Daily Maximum
01/01/2019	01/31/2019	02/12/2019	001	Yes	Final Effluent	Copper, Total	01042	0.057	0.039	mg/L	Daily Maximum
02/01/2019	02/28/2019	03/12/2019	001	Yes	Final Effluent	Copper, Total	01042	0.014	0.039	mg/L	Daily Maximum
03/01/2019	03/31/2019	04/15/2019	001	Yes	Final Effluent	Copper, Total	01042	0.02	0.039	mg/L	Daily Maximum
04/01/2019	04/30/2019	05/24/2019	001	Yes	Final Effluent	Copper, Total	01042	0.011	0.039	mg/L	Daily Maximum
05/01/2019	05/31/2019	06/13/2019	001	Yes	Final Effluent	Copper, Total	01042	0.01	0.039	mg/L	Daily Maximum
06/01/2019	06/30/2019	07/16/2019	001	Yes	Final Effluent	Copper, Total	01042	0.012	0.039	mg/L	Daily Maximum
07/01/2019	07/31/2019	08/14/2019	001	Yes	Final Effluent	Copper, Total	01042	0.016	0.039	mg/L	Daily Maximum
08/01/2019	08/31/2019	09/24/2019	001	Yes	Final Effluent	Copper, Total	01042	0.016	0.039	mg/L	Daily Maximum
09/01/2019	09/30/2019	10/03/2019	001	Yes	Final Effluent	Copper, Total	01042	0.025	0.039	mg/L	Daily Maximum
10/01/2019	10/31/2019	11/12/2019	001	Yes	Final Effluent	Copper, Total	01042	0.023	0.039	mg/L	Daily Maximum
11/01/2019	11/30/2019	12/10/2019	001	Yes	Final Effluent	Copper, Total	01042	0.016	0.039	mg/L	Daily Maximum
12/01/2019	12/31/2019	01/14/2020	001	Yes	Final Effluent	Copper, Total	01042	0.019	0.039	mg/L	Daily Maximum
01/01/2020	01/31/2020	02/11/2020	001	Yes	Final Effluent	Copper, Total	01042	0.012	0.039	mg/L	Daily Maximum
02/01/2020	02/29/2020	03/03/2020	001	Yes	Final Effluent	Copper, Total	01042	0.008	0.039	mg/L	Daily Maximum
03/01/2020	03/31/2020	04/22/2020	001	Yes	Final Effluent	Copper, Total	01042	0.012	0.039	mg/L	Daily Maximum
04/01/2020	04/30/2020	05/19/2020	001	Yes	Final Effluent	Copper, Total	01042	0.011	0.039	mg/L	Daily Maximum
05/01/2020	05/31/2020	06/18/2020	001	Yes	Final Effluent	Copper, Total	01042	0.009	0.039	mg/L	Daily Maximum
06/01/2020	06/30/2020	07/22/2020	001	Yes	Final Effluent	Copper, Total	01042	0.015	0.039	mg/L	Daily Maximum
07/01/2020	07/31/2020	08/28/2020	001	Yes	Final Effluent	Copper, Total	01042	0.013	0.039	mg/L	Daily Maximum
08/01/2020	08/31/2020	09/28/2020	001	Yes	Final Effluent	Copper, Total	01042	0.019	0.039	mg/L	Daily Maximum
09/01/2020	09/30/2020	10/20/2020	001	Yes	Final Effluent	Copper, Total	01042	0.016	0.039	mg/L	Daily Maximum
10/01/2020	10/31/2020	11/12/2020	001	Yes	Final Effluent	Copper, Total	01042	0.014	0.039	mg/L	Daily Maximum
11/01/2020	11/30/2020	12/08/2020	001	Yes	Final Effluent	Copper, Total	01042	0.017	0.039	mg/L	Daily Maximum
12/01/2020	12/31/2020	01/12/2021	001	Yes	Final Effluent	Copper, Total	01042	0.014	0.039	mg/L	Daily Maximum
01/01/2021	01/31/2021	02/24/2021	001	Yes	Final Effluent	Copper, Total	01042	0.009	0.039	mg/L	Daily Maximum
02/01/2021	02/28/2021	03/16/2021	001	Yes	Final Effluent	Copper, Total	01042	0.009	0.039	mg/L	Daily Maximum
03/01/2021	03/31/2021	04/19/2021	001	Yes	Final Effluent	Copper, Total	01042	0.007	0.039	mg/L	Daily Maximum
04/01/2021	04/30/2021	05/17/2021	001	Yes	Final Effluent	Copper, Total	01042	0.012	0.039	mg/L	Daily Maximum
05/01/2021	05/31/2021	06/04/2021	001	Yes	Final Effluent	Copper, Total	01042	0.012	0.039	mg/L	Daily Maximum
06/01/2021	06/30/2021	07/26/2021	001	Yes	Final Effluent	Copper, Total	01042	0.028	0.039	mg/L	Daily Maximum
07/01/2021	07/31/2021	08/17/2021	001	Yes	Final Effluent	Copper, Total	01042	0.02	0.039	mg/L	Daily Maximum
08/01/2021	08/31/2021	09/27/2021	001	Yes	Final Effluent	Copper, Total	01042	0.016	0.039	mg/L	Daily Maximum
09/01/2021	09/30/2021	11/22/2021	001	Yes	Final Effluent	Copper, Total	01042	0.016	0.039	mg/L	Daily Maximum
10/01/2021	10/31/2021	11/19/2021	001	Yes	Final Effluent	Copper, Total	01042	0.022	0.039	mg/L	Daily Maximum
11/01/2021	11/30/2021	12/27/2021	001	Yes	Final Effluent	Copper, Total	01042	0.019	0.039	mg/L	Daily Maximum
12/01/2021	12/31/2021	01/11/2022	001	Yes	Final Effluent	Copper, Total	01042	0.021	0.039	mg/L	Daily Maximum
01/01/2022	01/31/2022	02/24/2022	001	Yes	Final Effluent	Copper, Total	01042	0.022	0.039	mg/L	Daily Maximum
02/01/2022	02/28/2022	03/24/2022	001	Yes	Final Effluent	Copper, Total	01042	0.011	0.039	mg/L	Daily Maximum
03/01/2022	03/31/2022	04/28/2022	001	Yes	Final Effluent	Copper, Total	01042	0.012	0.039	mg/L	Daily Maximum
04/01/2022	04/30/2022	05/19/2022	001	Yes	Final Effluent	Copper, Total	01042	0.013	0.039	mg/L	Daily Maximum
05/01/2022	05/31/2022	06/23/2022	001	Yes	Final Effluent	Copper, Total	01042	0.014	0.039	mg/L	Daily Maximum
06/01/2022	06/30/2022	07/26/2022	001	Yes	Final Effluent	Copper, Total	01042	0.029	0.039	mg/L	Daily Maximum
07/01/2022	07/31/2022	08/25/2022	001	Yes	Final Effluent	Copper, Total	01042	0.022	0.039	mg/L	Daily Maximum
08/01/2022	08/31/2022	09/13/2022	001	Yes	Final Effluent	Copper, Total	01042	0.019	0.039	mg/L	Daily Maximum
09/01/2022	09/30/2022	10/13/2022	001	Yes	Final Effluent	Copper, Total	01042	0.02	0.039	mg/L	Daily Maximum
10/01/2022	10/31/2022	11/22/2022	001	Yes	Final Effluent	Copper, Total	01042	0.017	0.039	mg/L	Daily Maximum
11/01/2022	11/30/2022	12/15/2022	001	Yes	Final Effluent	Copper, Total	01042	0.019	0.039	mg/L	Daily Maximum
12/01/2022	12/31/2022	01/23/2023	001	Yes	Final Effluent	Copper, Total	01042	0.014	0.039	mg/L	Daily Maximum
01/01/2023	01/31/2023	02/21/2023	001	Yes	Final Effluent	Copper, Total	01042	0.017	0.039	mg/L	Daily Maximum
02/01/2023	02/28/2023	03/22/2023	001	Yes	Final Effluent	Copper, Total	01042	0.016	0.039	mg/L	Daily Maximum
03/01/2023	03/31/2023	04/27/2023	001	Yes	Final Effluent	Copper, Total	01042	0.016	0.039	mg/L	Daily Maximum
04/01/2023	04/30/2023	05/25/2023	001	Yes	Final Effluent	Copper, Total	01042	0.02	0.039	mg/L	Daily Maximum
05/01/2023	05/31/2023	06/26/2023	001	Yes	Final Effluent	Copper, Total	01042	0.026	0.039	mg/L	Daily Maximum
06/01/2023	06/30/2023	07/27/2023	001	Yes	Final Effluent	Copper, Total	01042	0.031	0.039	mg/L	Daily Maximum
07/01/2023	07/31/2023	08/24/2023	001	Yes	Final Effluent	Copper, Total	01042	0.029	0.039	mg/L	Daily Maximum
08/01/2023	08/31/2023	09/24/2023	001	Yes	Final Effluent	Copper, Total	01042	0.016	0.039	mg/L	Daily Maximum
09/01/2023	09/30/2023	10/25/2023	001	Yes	Final Effluent	Copper, Total	01042	0.016	0.039	mg/L	Daily Maximum
10/01/2023	10/31/2023	11/22/2023	001	Yes	Final Effluent	Copper, Total	01042	0.022	0.039	mg/L	Daily Maximum
11/01/2023	11/30/2023	12/11/2023	001	Yes	Final Effluent	Copper, Total	01042	0.022	0.039	mg/L	Daily Maximum
12/01/2023	12/31/2023	01/16/2024	001	Yes	Final Effluent	Copper, Total	01042	0.015	0.039	mg/L	Daily Maximum
01/01/2024	01/31/2024	02/27/2024	001	Yes	Final Effluent	Copper, Total	01042	0.018	0.039	mg/L	Daily Maximum
02/01/2024	02/29/2024	03/26/2024	001	Yes	Final Effluent	Copper, Total	01042	0.018	0.039	mg/L	Daily Maximum
								<b>Max</b>	<b>0.057</b>		
								<b>Average</b>	<b>0.017</b>		

