pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0085332**
Facility Type	**Municipal**	APS ID	**1082589**
Major / Minor	**Minor**	Authorization ID	**1429635**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Delta Borough Municipal Authority**	Facility Name	**Delta Borough WWTP**
Applicant Address	PO Box 278 101 College Avenue	Facility Address	208 Bunker Hill Avenue
	Delta, PA 17314-0278		Delta, PA 17314-8936
Applicant Contact	Greg Moul	Facility Contact	Greg Moul
Applicant Phone	(717) 810-8063	Facility Phone	(717) 456-6248
Client ID	375800	Site ID	451701
Ch 94 Load Status	Not Overloaded	Municipality	Delta Borough
Connection Status	No Limitations	County	York
Date Application Received	February 27, 2023	EPA Waived?	Yes
Date Application Accepted	April 12, 2023	If No, Reason	

Purpose of Application: Renewal of Existing NPDES Permit

Summary of Review

The Delta Borough Municipal Authority (DBMA) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of a NPDES permit for the Delta Borough STP. The permit was last reissued on August 16, 2018. The permit expired on August 31, 2023 but the terms and conditions of the permit have been administratively extended since that time.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted, and a notice of the draft permit be published in the *Pennsylvania Bulletin* for public comments for 30 days. A file review of documents associated with the discharge or permittee may be available at the PA DEP southcentral regional office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file reviews, contact the SCRO file review coordinator at 717.705.4700.

Sludge use and disposal description and location(s): Sod Run WWTP (Perryman, Maryland).

Public Participation

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

Approve	Deny	Signatures	Date
x		*Aaron Baar* Aaron Baar / Project Manager	May 16, 2024
x		*Maria D. Bebenek* for Daniel W. Martin, P.E. / Environmental Engineer Manager	May 22, 2024

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.48
Latitude	39º 43' 37.70"	Longitude	-76º 19' 49.88"
Quad Name	Delta	Quad Code	2135
Wastewater Description:	Sewage Effluent		
Receiving Waters	Scott Creek (CWF (existing use))	Stream Code	07280
NHD Com ID	57474373	RMI	2.93
Drainage Area	1.36 mi^2	Yield (cfs/mi^2)	0.1985
Q_{7-10} Flow (cfs)	0.27	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	251.99	Slope (ft/ft)	
Watershed No.	7-I	Chapter 93 Class.	TSF
Existing Use	CWF(COLD WATER FISHES)	Existing Use Qualifier	Use Attainability Analysis
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	FLOW REGIME MODIFICATION, NUTRIENTS, SILTATION		
Source(s) of Impairment	MUNICIPAL POINT SOURCE DISCHARGES, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Chester Water Authority		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	1.42 (from the PA-MD border)	Distance from Outfall (mi)	14.0

Drainage Area

The discharge is to Scott Creek at RMI 2.93. A drainage area upstream of the discharge is determined to be 1.36 sq.mi. according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow

According to StreamStats, the watershed has a Q_{7-10} of 0.27 cfs. This information was used to obtain a LFY, a chronic 30-day (Q_{30-10}) and acute (Q_{1-10}) exposure stream flows for the discharge point as follows (Guidance No. 391-2000-023).

Q_{7-10} = 0.27 cfs
Q_{30-10} = 1.36 * 0.27 cfs = 0.3672 cfs
Q_{1-10} = 0.64 * 0.27 cfs = 0.1728 cfs
LFY = 0.27 cfs/1.36 mi^2 = 0.1985 cfs/mi^2

Scott Creek

25 Pa Code §93.9 classifies the receiving water, Scott Creek, with a CWF/TSF Existing Use designation. Effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. The discharge is in a stream segment listed as not attaining use; the cause of the impairment has been identified as urban runoff (see *Local Watershed TMDL* below).

Local Watershed Total Maximum Daily Loads (TMDLs)

According to PA's 2024 integrated water quality monitoring and assessment report, Scott Creek in the vicinity of the proposed point of discharge is impaired for aquatic life due to flow regime modification, siltation and nutrients from urban runoff. The aquatic life impairment due to flow regime modification from urban runoff is listed as Category 4c in the 2024 integrated report, indicating that the waters are impaired for one or more uses not needing a TMDL because the impairment is not caused by a pollutant. The aquatic life impairments due to siltation and nutrients from

urban runoff are listed as Category 5 in the 2024 integrated report, indicating that the waters are impaired for one or more uses by a pollutant that requires the development of a TMDL. No TMDL has been developed for Scott Creek to date, so no local watershed TMDL has been taken into consideration during this review.

Public Water Supply Intake

The nearest downstream public water supply intake is Chester Water Authority, located on Susquehanna River, approximately 14 miles from the discharge point. Considering the dilution and distance from the intake, the discharge is not expected to significantly affect the water supply.

Class A Wild Trout Streams

The receiving stream is not a Class A Wild Trout stream; therefore, no Class A Wild Trout Fishery is impacted by this discharge.

DEP has evaluated information indicating that the existing use of the receiving waters is different than the designated use under 25 Pa. Code § 93.9. In developing the draft NPDES permit, DEP is proposing to protect the existing use of the receiving waters. Following DEP's notice of the receipt of the application and the draft permit in the Pennsylvania Bulletin, DEP will accept written comments during the public comment period regarding DEP's tentative determination to protect the existing use. DEP will make a final determination on existing use protection for the receiving waters as part of the final permit action.

Treatment Facility Summary

Treatment Facility Name: Delta Borough WWTP

WQM Permit No.	Issuance Date
6705401	08/22/2005
6705408	03/25/2008

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Activated Sludge With Solids Removal	Hypochlorite	0.24

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.24 MGD (See Comments Below)	480 interim; 960 final	Not Overloaded	Sludge Holding	Land Applied

The facility serves Peach Bottom Township and Delta Borough, as well as flows from Hartford County in Maryland. The 0.24 MGD facility currently has four (4) treatment trains, consisting of the following treatment units: Comminutor/Flow Distribution Box → Flow Equalization Tanks (2) → Aeration Tanks (4) → Clarifiers (4) → Sludge Holding Tanks (2) → Chlorine Contact Tank w/dechlorination → Outfall to Scott Creek.

Per the 2018 renewal Fact Sheet, the construction of the original plant was completed in 1998 and was considered a Phase I project. The Phase II project was proposed in 2008 to expand the facility to treat additional 0.24 MGD flows (a total of 0.48 MGD) from about 800 homes that were expected to be built in PA. The Water Quality Management Permit no. 6705408 was issued in 2008 for this expansion project. The project consisted of converting flow equalization tanks to anoxic tanks, installing an automatic bar screen, equalization tank, flow splitter tank, sand filters, and UV system, and removal of chlorination/dechlorination. Due to the 2008 housing industry collapse, the project fell through and this Phase II project has never been materialized. Consequently, both average annual design flow and hydraulic design capacity remained as 0.24 MGD.

The facility currently uses sodium hypochlorite for disinfection, sodium bisulfite for dechlorination, soda ash and polymer as coagulants, and MasterMet/MasterCat copper removal.

There are currently no industrial/commercial users contributing industrial wastes to the facility.

Compliance History	
Summary of DMRs:	DMR results for the past year are presented below.
Summary of Inspections:	Since the last renewal of the facility's NPDES permit, the following inspections have been logged: November 6, 2019: A routine CEI was conducted by Austen Randecker. No violations were noted. Recommendations were made regarding sludge hauling record keeping, installing a secondary thermometer in the influent and effluent composite samplers, and replacing expired reagents. June 9, 2020: An administrative inspection was conducted via phone by Austen Randecker. No violations were noted.

Other Comments: As of May 16, 2024, there are no open violations associated with this facility.

Existing Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2] 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
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.061	XXX	0.199	1/day	Grab
CBOD5	50	80	XXX	25.0	40.0	50	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	60	90	XXX	30.0	45.0	60	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Nitrate-Nitrite (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Total Nitrogen (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Ammonia Nov 1 - Apr 30	12.0	XXX	XXX	6.0	XXX	12	1/week	8-Hr Composite
Ammonia May 1 - Oct 31	4.0	XXX	XXX	2.0	XXX	4	1/week	8-Hr Composite
Ammonia (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
TKN	XXX	XXX	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TKN (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Phosphorus	4.0	XXX	XXX	2.0	XXX	4	1/week	8-Hr Composite
Total Phosphorus (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Copper	0.024	0.038 Daily Max	XXX	0.012	0.019 Daily Max	XXX	2/month	24-Hr Composite
Total Zinc	0.208	0.298 Daily Max	XXX	0.104	0.149 Daily Max	XXX	2/month	24-Hr Composite

Compliance History

DMR Data for Outfall 001 (from April 1, 2023 to March 31, 2024)

Parameter	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23
Flow (MGD) Average Monthly	0.0912	0.0929	0.0958	0.0806	0.0698	0.075	0.0782	0.0808	0.0819	0.0797	0.07361	0.0797
Flow (MGD) Daily Maximum	0.1217	0.1305	0.1863	0.152	0.1405	0.1258	0.1351	0.1166	0.1245	0.1353	0.0953	0.1349
pH (S.U.) Daily Minimum	6.92	7.01	6.91	7.02	7.02	6.76	7.26	7.19	7.27	7.03	7.19	7.08
pH (S.U.) Daily Maximum	7.5	7.47	7.73	7.54	7.6	7.68	7.91	7.83	7.75	7.71	7.88	7.66
DO (mg/L) Daily Minimum	7.95	8.69	8.45	6.7	6.94	8.51	8.51	8.52	8.1	7.84	8.38	8.12
TRC (mg/L) Average Monthly	< 0.020	< 0.010	< 0.010	< 0.020	< 0.018	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.020
TRC (mg/L) Instantaneous Maximum	0.050	0.040	0.030	0.050	0.050	0.030	0.030	0.030	0.030	0.040	0.020	0.040
CBOD5 (lbs/day) Average Monthly	3.0	3	6	< 2	< 2	< 2	< 2	< 1	< 1	< 1	< 1	2
CBOD5 (lbs/day) Weekly Average	4.0	4	9	3	4	3	< 2	< 2	< 2	< 2	2	3
CBOD5 (mg/L) Average Monthly	3.7	3.8	6.9	< 2.9	< 3.2	< 3.5	< 2.4	< 2.4	< 2.4	< 2.4	< 2.3	3.2
CBOD5 (mg/L) Weekly Average	5.0	4.0	9.0	4.0	6.0	7.0	< 2.0	< 2.0	< 2.0	< 2.0	2.0	5.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	203	183	218	121	129	59	88	64	62	78	147	132
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	353	299	407	156	178	71	129	78	69	116	167	146
BOD5 (mg/L) Raw Sewage Influent Average Monthly	276	229	262	220	215	106	135	103	101	127	251	245
TSS (lbs/day) Average Monthly	6.0	3	3	2	2	4	2	2	1.0	4.0	< 3	2

TSS (lbs/day) Raw Sewage Influent Average Monthly	169	153	197	129	164	57	89	68	62	93	163	154
TSS (lbs/day) Raw Sewage Influent Daily Maximum	303	275	352	169	212	75	173	88	69	126	195	171
TSS (lbs/day) Weekly Average	11.0	4	5	3	3	11	4	3	2.0	7.0	4	3
TSS (mg/L) Average Monthly	8.5	3.8	4.3	3.0	2.6	9.3	3.0	2.6	2.0	7.3	< 4.8	4.3
TSS (mg/L) Raw Sewage Influent Average Monthly	230	193	247	242	270	97	136	109	100	153	277	284
TSS (mg/L) Weekly Average	17.0	5.0	7.0	6.0	5.0	27.0	5.0	4.0	3.0	13.0	6.0	5.0
Fecal Coliform (No./100 ml) Geometric Mean	< 3	2	6	< 4	< 2	< 17	< 3	< 4	23	10	9	< 2
Fecal Coliform (No./100 ml) Instantaneous Maximum	5	10	147	10	8	80	30	32	32	61	74	6
Nitrate-Nitrite (mg/L) Average Monthly	44	36	31.17	40	48	46.44	48	50	49	47	< 36.4	< 35.6
Nitrate-Nitrite (lbs) Total Monthly	991	809	739	724	879	838	930	968	926	869	< 653	< 601
Total Nitrogen (mg/L) Average Monthly	44	36	31.17	40	48	48.31	48	50	49	47	< 36.8	36.26
Total Nitrogen (lbs) Total Monthly	991	809	739	724	879	861	930	968	926	869	< 661	611
Total Nitrogen (lbs) Total Annual							< 9941					
Ammonia (lbs/day) Average Monthly	< 0.08	< 0.08	< 0.2	< 0.06	< 0.06	< 0.6	< 0.07	< 0.07	< 0.06	< 0.06	< 0.07	< 0.05
Ammonia (mg/L) Average Monthly	< 0.11	< 0.1	< 0.28	< 0.1	< 0.1	< 1.5	< 0.1	< 0.12	< 0.1	< 0.1	< 0.12	< 0.1
Ammonia (lbs) Total Monthly	< 2.4	< 2.3	< 7.7	< 1.9	< 1.8	< 18.2	< 2.0	< 2.3	< 1.9	< 1.8	< 2.2	< 1.6
Ammonia (lbs) Total Annual							< 24					
TKN (mg/L) Average Monthly	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 2.3	< 0.5	< 0.5	< 0.5	< 0.5	< 1	< 1.3

TKN (lbs) Total Monthly	< 11	< 11	< 13	< 9	< 9	< 30	< 9	< 10	< 10	< 9	< 19	< 21
Total Phosphorus (lbs/day) Average Monthly	1.3	1.2	0.8	0.3	0.2	0.2	0.4	0.2	0.2	0.5	0.5	0.5
Total Phosphorus (mg/L) Average Monthly	1.8	1.5	0.95	0.54	0.39	0.48	0.64	0.39	0.39	0.79	0.82	0.94
Total Phosphorus (lbs) Total Monthly	39.2	33.8	25.4	10	7.0	7.4	12.5	7.6	7.3	14.4	15.4	15.4
Total Phosphorus (lbs) Total Annual							< 173					
Total Copper (lbs/day) Average Monthly	0.007	< 0.005	< 0.004	0.003	0.004	0.003	0.005	0.004	0.004	0.005	0.004	0.004
Total Copper (lbs/day) Daily Maximum	0.008	0.007	< 0.005	0.003	0.004	0.004	0.005	0.004	0.004	0.005	0.005	0.004
Total Copper (mg/L) Average Monthly	0.009	< 0.006	< 0.005	0.006	0.006	0.007	0.007	0.007	0.007	0.008	0.007	0.007
Total Copper (mg/L) Daily Maximum	0.010	0.007	< 0.005	0.006	0.007	0.007	0.008	0.007	0.007	0.008	0.008	0.007
Total Zinc (lbs/day) Average Monthly	0.020	0.020	0.020	0.010	0.008	0.009	0.008	0.008	0.010	0.010	0.010	0.010
Total Zinc (lbs/day) Daily Maximum	0.020	0.030	0.030	0.010	0.009	0.010	0.009	0.008	0.010	0.010	0.010	0.020
Total Zinc (mg/L) Average Monthly	0.030	0.030	0.030	0.020	0.010	0.020	0.010	0.010	0.020	0.020	0.020	0.030
Total Zinc (mg/L) Daily Maximum	0.032	0.029	0.029	0.023	0.015	0.020	0.014	0.013	0.021	0.023	0.023	0.027

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .48
Latitude 39º 43' 37.86" **Longitude** -76º 19' 51.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	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)

Comments: These standards apply, subject to water quality analysis and BPJ where applicable.

Water Quality-Based Limitations

CBOD5, NH3-N and Dissolved Oxygen (DO)

WQM 7.0 version 1.0b is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD5, NH3-N and DO. DEP's guidance no. 391-2000-007 provides the technical methods contained in WQM 7.0 for conducting wasteload allocation and for determining recommended NPDES effluent limits for point source discharges. The model was utilized using data derived by USGS StreamStats and the model output indicated that existing WQBELs for ammonia and CBOD5 are still protective of water quality

The model also determined that the facility's existing DO limits of 5 mg/L are still protective of water quality.

Total Dissolved Solids (TDS)

The requirement to monitor TDS and its constituents is not needed given that the maximum concentration of TDS reported in the application is less than 1,000 mg/L.

Toxics

A reasonable potential (RP) analysis was done for Copper, Lead and Zinc using the sampling results provided with the application. The Department's Toxics Management Spreadsheet (Version 1.3) was used to perform the RP analysis for these parameters at a pH of 7.0 and a discharge hardness of 100 mg/L. The analysis indicates that limits for Total Copper are needed to be protective of water quality

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		Concentration Limits						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	0.028	39.9	0.014	19.9	19.9	mg/L	0.014	AFC	Discharge Conc ≥ 50% WQBEL (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 Lead	5.5	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	157	µg/L	Discharge Conc ≤ 10% WQBEL

However, the reviewer notes that TMS V1.3 is not configured to perform a statistical analysis on bimonthly samples, so modeling could only be performed with the assumption that sampling was occurring weekly. It is unknown how the sampling frequency is influencing the model output. Therefore, the Department proposes to continue the existing limits for Total Copper while increasing the sampling frequency to 1/week to allow for the future analysis of the need for effluent limits. This action is in conformity with DEP's Technical Guidance for the Development and Specification of Effluent Limitations (PA Doc. No. 362-0400-001), Table 6-3 (plant design flow = 0.24 mgd, *Toxics*).

Similar to Total Copper, the need for more data to determine if limits are needed for Total Zinc exists. However, coding limits in WMS prevent the continuation of the existing average monthly limit of 0.104 mg/L of Total Zinc. The current minimum limit allowed is 0.12 mg/L of Total Zinc, a value consistent with the WQ OBJ value coded into TMS V1.3. Given that currently modelling suggests that no monitoring is needed for Total Zinc (based on bimonthly testing), a relaxation of the average monthly effluent limit from 0.104 mg/L to 0.12 mg/L is a reasonable change that is still protective of water quality while additional data is collected during the upcoming permit cycle. The Department proposes to also increase the sampling frequency of Total Zinc to 1/week to allow for the future analysis of the need for effluent limits. This action is in conformity with DEP's Technical Guidance for the Development and Specification of Effluent Limitations (PA Doc. No. 362-0400-001), Table 6-3 (plant design flow = 0.24 mgd, *Toxics*).

No new monitoring requirements for Total Lead are proposed in this permit.

E. Coli Monitoring

In conformity with the Department's *Establishing Effluent Limitations for Individual Sewage Permits* (SOP No. BCW-PMT-033) and as authorized by § 92a.61 of the PA Code, quarterly E. Coli monitoring has been proposed in this permit. The collection method will be via grab sample.

Best Professional Judgment (BPJ) Limitations

Dissolved Oxygen

A minimum of 5.0 mg/L for DO is an existing effluent limit and will remain unchanged in the draft permit as recommended by DEP's SOP. This requirement has also been assigned to other sewage facilities in the region. 5.0 mg/L is taken directly from 25 Pa. Code § 93.7(a) and it is also determined to be appropriate according to water quality modeling.

Total Residual Chlorine (TRC)

Chlorine is currently used for disinfection and the current NPDES permit contains water quality based effluent limits for TRC. It is necessary to utilize DEP's TRC_CALC excel worksheet to determine appropriate permit requirements for the upcoming permit term. The worksheet indicated that existing limits of 0.061 mg/L (average monthly) and 0.199 mg/L (instantaneous maximum) are still protective of water quality.

Total Phosphorus & Total Nitrogen

DEP's SOP no. BPNPSM-PMT-033 (Establishing Effluent Limitations for Individual Sewage Permits) recommends monitoring requirements for Total Phosphorus and Total Nitrogen for all sewage facilities. Therefore, routine monitoring for TKN, Nitrate-Nitrite, and TN are recommended to be continued in this permit. Sampling frequency for TKN, Nitrate-Nitrite, TN, and TP are currently required 1/week, which is consistent with Table 6.3 in Guidance Doc. 362-0400-001, which recommends the testing of conventional pollutants weekly for facilities with flows between 0.1 mgd to 1.0 mgd. No change is proposed in this permit renewal.

Historically, an average monthly Total Phosphorus limit of 2.0 mg/L was recommended in NPDES permits, per DEP phosphorus guidance 391-2000-018, to control phosphorus effluent levels for any facilities that are expected to contribute 0.25% or more of the total phosphorus loading of the entire basin. DEP has previously determined that this facility meets the criteria and the limit has been continuously imposed in the permit. It is recommended to maintain this limit in the draft permit.

Additional Considerations

Flow Monitoring

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

Chesapeake Bay TMDL

The Department formulated a strategy in April 2007, to comply with the EPA's and Chesapeake Bay Foundation's requirements to reduce point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP) to the Bay. In the Strategy, sewage dischargers have been prioritized by Central Office based on their delivered TN loadings to the Bay. The highest priority (Phases 1, 2, and 3) dischargers received annual loading caps based on their design flow on August 29, 2005 and concentrations of 6 mg/l TN and 0.8 mg/l TP. Phase 4 (0.2 -0.4mgd) and Phase 5 (below 0.2mdg) facilities were required to monitor and report TN and TP during permit renewal at a monitoring frequency following Table 6-3 of DEP's Technical Guidance for Development and Specification of effluent Limitations (No. 362-0400-001).

EPA published the Chesapeake Bay Total Maximum Daily Load (TMDL) in December of 2010. Despite extensive restoration efforts during the past 25 years, the TMDL was prompted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries.

In order to address the TMDL, Pennsylvania developed, in addition to the Bay Strategy, a Chesapeake Watershed Implementation Plan (WIP) Phase 1 in January 2011, Phase 2 in March 2012 and Phase 3 in December 2019. In accordance with the Phase 3 WIP, re-issuing permits for significant dischargers follow the same phased approach formulated in the original Bay strategy, whilst Phase 4 and Phase 5 will be required to monitor and report TN and TP during permit renewal.

The Phase 3 WIP categorizes this facility as a phase 4 sewage facility that has a design flow less than 0.4 MGD but greater than 0.2 MGD. The WIP recommends the following:

1. Renewed or amended permits for facilities that do not increase design flow (compared to the date of the latest prior permit action) will contain monitoring and reporting for TN and TP throughout the permit term at a frequency no less than monthly.

2. Renewed or amended permits that include an increase in design flow will contain Cap Loads based on the lesser of a) existing TN and TP concentrations at current design average annual flow or b) 7,306 lbs/yr TN and 974 lbs/yr TP.

Monitoring Frequency and Sample Type

Unless discussed otherwise above, the permit's monitoring frequency and sample type for all parameters will remain unchanged from the last permit renewal.

Antidegradation Requirements

All effluent limitations and monitoring requirements have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected.

Anti-backsliding Requirement

All effluent limits proposed in this fact sheet are as stringent as effluent limits specified in the existing permit renewal unless noted otherwise above. This approach is in accordance with 40 CFR §122.44(l(1).

Annual Fees

An annual fee clause was added to the permit in accordance with 25 Pa. Code § 92a.62. The facility covered by the permit is classified in the Minor Sewage Facility >=0.05 and <1 MGD fee category, which has an annual fee of $1,000.

Mass Loading Limitations

Unless stated otherwise in this fact sheet, mass loading effluent limits are calculated based on the formula: design flow (average annual) (MGD) x concentration limit (mg/L) at design flow x conversion factor (8.34).

Other Permit Requirements

Given the previous impairment for Chlorine in Scott Creek, the following condition from Part C (modified from the existing permit) will be included in this permit:

> "*DEP strongly encourages the permittee to consider a method that leaves no detectable chlorine residual in the effluent. DEP considers a concentration level of 0.02 mg/L as the current method detection limit for Total Residual Chlorine."*

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) 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
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.061	XXX	0.199	1/day	Grab
CBOD5	50	80	XXX	25.0	40.0	50	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	60	90	XXX	30.0	45.0	60	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Nitrate-Nitrite (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Nitrogen	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) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Nitrogen (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Ammonia Nov 1 - Apr 30	12.0	XXX	XXX	6.0	XXX	12	1/week	8-Hr Composite
Ammonia May 1 - Oct 31	4.0	XXX	XXX	2.0	XXX	4	1/week	8-Hr Composite
Ammonia (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
TKN	XXX	XXX	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TKN (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Phosphorus	4.0	XXX	XXX	2.0	XXX	4	1/week	8-Hr Composite
Total Phosphorus (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Copper	0.024	0.038 Daily Max	XXX	0.012	0.019 Daily Max	XXX	1/week	24-Hr Composite
Total Zinc	0.240	0.298 Daily Max	XXX	0.12	0.149 Daily Max	XXX	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 001

Proposed Effluent Limitations and Monitoring Requirements

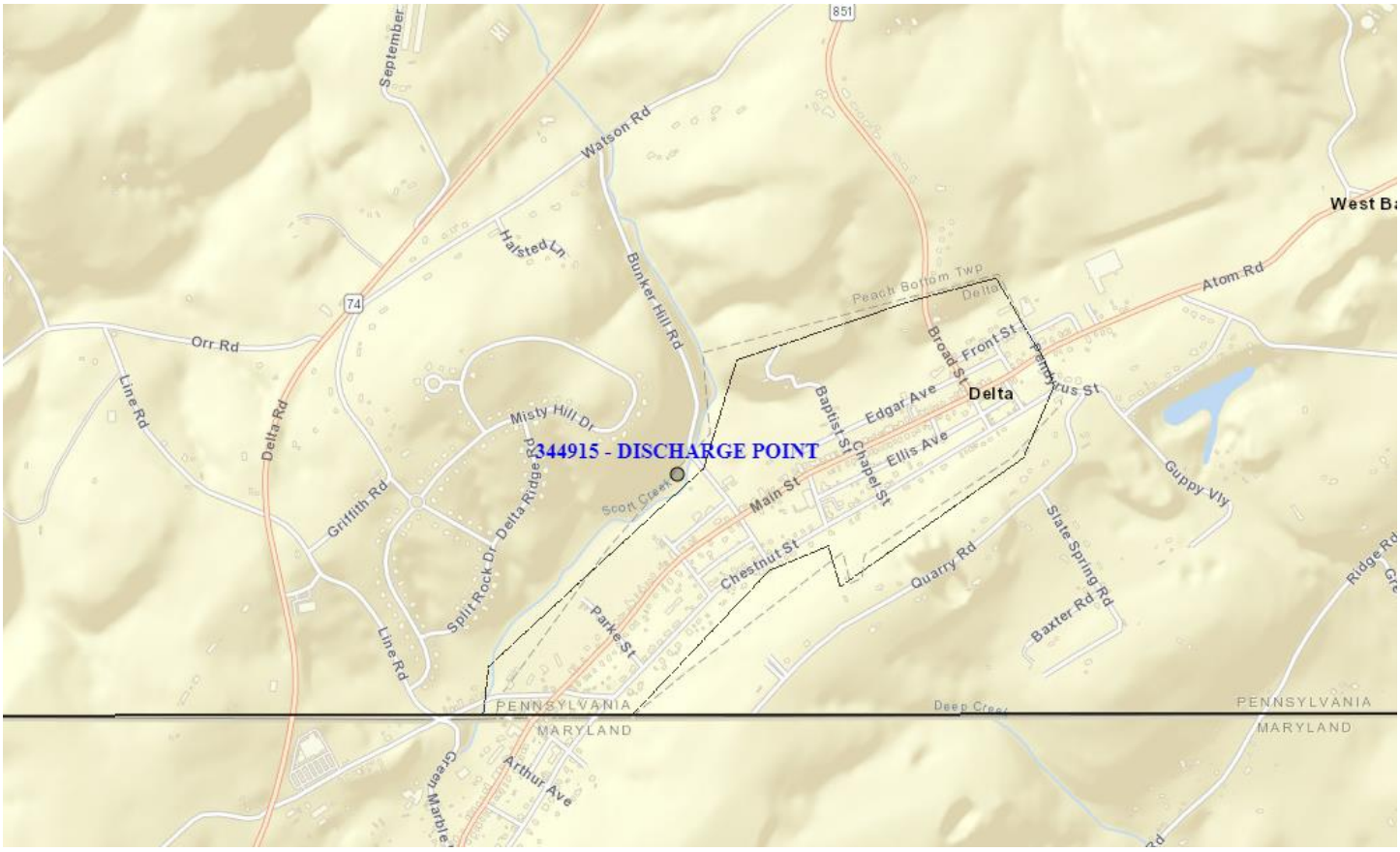
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Total Nitrogen (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation
Ammonia (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation
Total Phosphorus (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation

Compliance Sampling Location: Outfall 001

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	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.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☐	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.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	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.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	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.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:


344915 - DISCHARGE POINT
Watson Rd
Halsted Ln
Bunker Hill Rd
Orr Rd
Line Rd
Delta Rd
Misty Hill Dr
Griffith Rd
Split Rock Dr
Delta Ridge Rd
Scott Creek
Peach Bottom Twp
Delta
Broad St
Front St
Pennsylvania St
Atom Rd
Baptist St
Edgar Ave
Chapel St
Ellis Ave
Main St
Chestnut St
Quarry Rd
Slate Spring Rd
Baxter Rd
Guppy Vly
Parke St
Arthur Ave
PENNSYLVANIA
MARYLAND
Deep Creek
74
851

StreamStats Report

Region ID: PA
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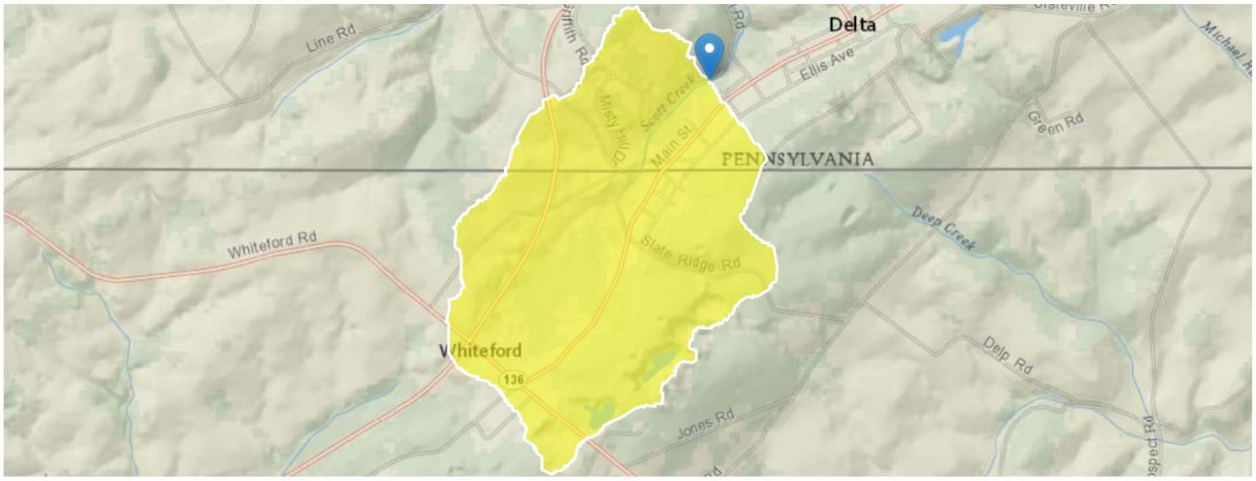


Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	5.5449	degrees
DRNAREA	Area that drains to a point on a stream	1.36	square miles
ROCKDEP	Depth to rock	5	feet
URBAN	Percentage of basin with urban development	13.6722	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.36	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	5.5449	degrees	1.7	6.4
ROCKDEP	Depth to Rock	5	feet	4.13	5.21
URBAN	Percent Urban	13.6722	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

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 1]

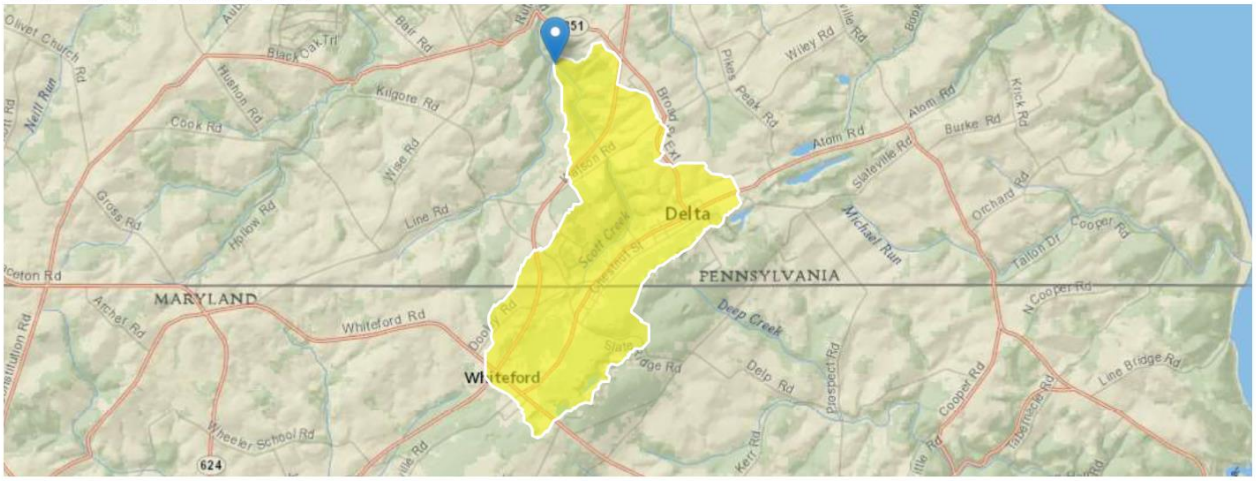
Statistic	Value	Unit
7 Day 2 Year Low Flow	0.534	ft^3/s
30 Day 2 Year Low Flow	0.653	ft^3/s
7 Day 10 Year Low Flow	0.27	ft^3/s
30 Day 10 Year Low Flow	0.34	ft^3/s
90 Day 10 Year Low Flow	0.476	ft^3/s

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/)

StreamStats Report

Region ID: PA
Workspace ID: PA20240514113236109000
Clicked Point (Latitude, Longitude): 39.74600, -76.34078
Time: 2024-05-14 07:32:56 -0400



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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	6.1614	degrees
DRNAREA	Area that drains to a point on a stream	2.63	square miles
ROCKDEP	Depth to rock	5	feet
URBAN	Percentage of basin with urban development	12.2801	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.63	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	6.1614	degrees	1.7	6.4
ROCKDEP	Depth to Rock	5	feet	4.13	5.21
URBAN	Percent Urban	12.2801	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

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 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	1.16	ft^3/s
30 Day 2 Year Low Flow	1.37	ft^3/s
7 Day 10 Year Low Flow	0.621	ft^3/s
30 Day 10 Year Low Flow	0.757	ft^3/s
90 Day 10 Year Low Flow	0.995	ft^3/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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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Delta Borough STP** NPDES Permit No.: **PA0085332** Outfall No.: **001**

Evaluation Type: **Custom / Additives** Wastewater Description: **Treated Sewage**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.24	100	7						

				0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Total Copper	mg/L		0.0131343			0.3835						
Total Lead	mg/L		0.001									
Total Zinc	mg/L		0.066828			0.674						

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Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Delta Borough STP, NPDES Permit No. PA0085332, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Scott Creek**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	007280	2.93	381.12	1.36			Yes
End of Reach 1	007280	0.96	251.99	2.63			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi^2)*	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	2.93	0.1	0.27									100	7		
End of Reach 1	0.96	0.1	0.621												

Q_h

Location	RMI	LFY (cfs/mi^2)	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	2.93														
End of Reach 1	0.96														

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Delta Borough STP, NPDES Permit No. PA0085332, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | (•) All ( ) Inputs ( ) Results ( ) Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.465 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

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 Copper	0	0		0	13.439	14.0	24.2	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.581	81.6	141	Chem Translator of 0.791 applied
Total Zinc	0	0		0	117.180	120	207	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 0.465 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

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 Copper	0	0		0	8.956	9.33	16.1	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.517	3.18	5.5	Chem Translator of 0.791 applied
Total Zinc	0	0		0	118.139	120	207	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 0.465 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

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 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): 0.752 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

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 Copper	0	0		0	N/A	N/A	N/A	

Model Results 5/14/2024 Page 3

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: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	0.028	39.9	0.014	19.9	19.9	mg/L	0.014	AFC	Discharge Conc ≥ 50% WQBEL (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 Lead	5.5	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	157	µg/L	Discharge Conc ≤ 10% WQBEL

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07I	7280	SCOTT 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)
2.930	Delta Boro	PA0085332	0.240	CBOD5	25		
				NH3-N	3.19	6.38	
				Dissolved Oxygen			5

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)
1.120	Peach Bottom In	PA0081833	0.007	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			5

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07I	7280	SCOTT 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
2.930	Delta Boro	12.63	18.51	12.63	18.51	0	0
1.120	Peach Bottom In	NA	50	13.98	50	0	0
0.970		NA	NA	14	NA	NA	NA

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
2.930	Delta Boro	1.6	3.19	1.6	3.19	0	0
1.120	Peach Bottom In	NA	25	1.73	25	0	0
0.970		NA	NA	1.73	NA	NA	NA

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
2.93	Delta Boro	25	25	3.19	3.19	5	5	0	0
1.12	Peach Bottom In	25	25	25	25	5	5	0	0
0.97		NA	NA	NA	NA	NA	NA	NA	NA

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07I	7280	SCOTT CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
2.930	0.240	22.895	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
8.294	0.469	17.678	0.165
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
15.32	1.354	1.85	0.875
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.365	28.161	Owens	6
Reach Travel Time (days)			
0.671			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.067	13.81	1.74	7.12
0.134	12.45	1.64	7.35
0.201	11.22	1.55	7.48
0.268	10.11	1.46	7.59
0.336	9.12	1.38	7.69
0.403	8.22	1.30	7.78
0.470	7.41	1.23	7.82
0.537	6.68	1.16	7.82
0.604	6.02	1.09	7.82
0.671	5.43	1.03	7.82

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.120	0.247	21.661	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
11.285	0.512	22.040	0.199
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
4.14	1.003	0.82	0.795
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.975	23.831	Tsivoglou	NA
Reach Travel Time (days)			
0.046			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.005	4.11	0.82	7.99
0.009	4.09	0.81	7.99
0.014	4.07	0.81	7.99
0.018	4.05	0.81	7.99
0.023	4.03	0.81	7.99
0.028	4.01	0.80	7.99
0.032	3.99	0.80	7.99
0.037	3.97	0.80	7.99
0.041	3.95	0.79	7.99
0.046	3.93	0.79	7.99

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07I	7280	SCOTT 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
Q7-10 Flow												
2.930	0.27	0.00	0.27	.3713	0.01213	.469	8.29	17.68	0.16	0.671	22.89	7.00
1.120	0.77	0.00	0.77	.3827	0.01210	.512	11.29	22.04	0.20	0.046	21.66	7.00
0.970	0.78	0.00	0.78	.3827	0.06780	.61	8.27	13.55	0.23	0.003	21.64	7.00
Q1-10 Flow												
2.930	0.17	0.00	0.17	.3713	0.01213	NA	NA	NA	0.15	0.736	23.41	7.00
1.120	0.49	0.00	0.49	.3827	0.01210	NA	NA	NA	0.17	0.054	22.19	7.00
0.970	0.50	0.00	0.50	.3827	0.06780	NA	NA	NA	0.20	0.003	22.17	7.00
Q30-10 Flow												
2.930	0.37	0.00	0.37	.3713	0.01213	NA	NA	NA	0.18	0.620	22.51	7.00
1.120	1.05	0.00	1.05	.3827	0.01210	NA	NA	NA	0.22	0.041	21.34	7.00
0.970	1.06	0.00	1.06	.3827	0.06780	NA	NA	NA	0.26	0.002	21.32	7.00

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
07I	7280	SCOTT CREEK	**2.930**	381.12	1.36	0.00000	0.00	☑

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 Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.27	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
Delta Boro	PA0085332	0.2400	0.2400	0.2400	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	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
07I	7280	SCOTT CREEK	**1.120**	265.15	2.54	0.00000	0.00	☐

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 Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.423	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
Peach Bottom In	PA0081833	0.0074	0.0074	0.0074	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	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
07I	7280	SCOTT CREEK	**0.970**	255.57	2.57	0.00000	0.00	☐

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 Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.423	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

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
07I	7280	SCOTT CREEK	**0.960**	251.99	2.63	0.00000	0.00	☑

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 Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.62	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