pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0028592**
Facility Type	**Municipal**	APS ID	**338215**
Major / Minor	**Minor**	Authorization ID	**1476359**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Bonneauville Borough Adams County**	Facility Name	**Bonneauville STP**
Applicant Address	46 E Hanover Street	Facility Address	86 W Hanover Street
	Gettysburg, PA 17325-7752		Gettysburg, PA 17325-7725
Applicant Contact	Wesley Chrismer	Facility Contact	Wesley Chrismer
Applicant Phone	(717) 334-2662	Facility Phone	(717) 334-2662
Client ID	118247	Site ID	250928
Ch 94 Load Status	Not Overloaded	Municipality	Bonneauville Borough
Connection Status	No Limitations	County	Adams
Date Application Received	March 11, 2024	EPA Waived?	No
Date Application Accepted	March 12, 2024	If No, Reason	Significant CB Discharge

Purpose of Application: NPDES permit renewal.

Summary of Review

C.S. Davidson, Inc., on behalf of the Bonneauville Borough (Authority/Permittee), applied to the Pennsylvania Department of Environmental Protection (DEP) for issuance of the NPDES permit. The permit was reissued on October 28, 2019 and became effective on November 1, 2019. The permit expires on October 31, 2024.

The average annual design flow and hydraulic design capacity is 0.55 MGD, and the organic loading capacity is 1,009 lbs BOD_5/day. The treated effluent is discharged to Chicken Run. This facility receives 69% of its flow from Bonneauville Borough and 31% of its flow from Mt. Pleasant Township. The 2024 application states that there are no industrial users.

WQM Part II Permit No. 0192402 was issued on 10/30/2006. WQM Part II No. 0103403 was issued on 6/9/2003, and 0103403 A-1 amendment was issued on 9/8/2004.

Sludge use and disposal description and location(s): N/A because sludge is hauled by Synago Technologies, Inc. & Kline's Services Inc. contractors.

Changes from the previous permit: The E. Coli. monitoring and report requirements will add to the proposed permit.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted. A public notice of the draft permit will be published in the *Pennsylvania Bulletin* for public comments for 30 days.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	May 24, 2024
X		Maria D. Bebenek for Daniel W. Martin, P.E. / Environmental Engineer Manager	June 25, 2024

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.55
Latitude	39º 48' 54.21"	Longitude	-77º 8' 59.76"
Quad Name	Gettysburg	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Chicken Run (WWF)	Stream Code	59117
NHD Com ID	53320110	RMI	0.53
Drainage Area	1.35 mi.^{2}	Yield (cfs/mi^2)	0.02
Q_{7-10} Flow (cfs)	0.03	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	512	Slope (ft/ft)	
Watershed No.	13-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	City of Frederick, MD		
PWS Waters	Monocacy River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	Approximate 43.0 miles

Changes Since Last Permit Issuance: none

Drainage Area
The discharge is to Chicken Run at RMI 0.53. A drainage area upstream of the point of discharge is estimated to be 1.35 sq.mi. using USGS Stream Stats available at https://streamstats.usgs.gov/ss/.

Streamflow
According to StreamStats, the discharge point on Chicken Run has a Q_{7-10} of 0.03 cfs and a drainage area of 1.35 mi.^{2}, which results in a Q_{7-10} low flow yield of 0.02 cfs/mi.^{2}. This information is used to obtain a chronic or 30-day (Q_{30-10}), and an acute or 1-day (Q_{1-10}) exposure stream flow for the discharge point as follows (Guidance No. 391-2000-023):

Q_{7-10} = 0.03 cfs
Low Flow Yield = 0.03 cfs / 1.35 mi.^{2} = 0.02 cfs/mi.^{2}
Q_{30-10} = 1.36 * 0.03 cfs = 0.04 cfs
Q_{1-10} = 0.64 * 0.03 cfs = 0.02 cfs

Chicken Run
Chicken Run is a tributary of White Run which is a tributary of Plum Run which is a tributary of Rock Creek. The stream designated water uses for Chicken Run, White Run and Plum Run are not explicitly specified in 25 Pa Code Chapter 93. However, 25 Pa Code §93.9o classified the Rock Creek basin as warm water fishes. No special protection water is impacted by this discharge. No Class A Wild Trout Fishery is impacted by this discharge. DEP's 2024 integrated water quality report indicates that the discharge is located in a stream segment listed as attaining use(s).

Public Water Supply Intake
The fact sheet developed for the last permit renewal indicates that the nearest downstream public water supply intake is the City of Frederick located on the Monocacy River, approximately 43.0 miles from the discharge. Given the distance, the discharge is not expected to impact the water supply.

Treatment Facility Summary

Treatment Facility Name: Bonneauville STP

WQM Permit No.	Issuance Date
0103403	7/21/2003
0103403 A-1	9/8/2004
192402	10/30/2006

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Sequencing Batch Reactor	Gas Chlorine	0.55

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.55	1009	Not Overloaded	Aerobic Digestion	Combination of methods

Changes Since Last Permit Issuance: none

Other Comments:
The facility utilizes a sequencing batch reactor (SBR) activated sludge treatment process which is comprised of the following units:

Comminutor (1) → Sequencing Batch Reactors (3) → Post Equalization Tanks (2) → Ultraviolet System (3) → Outfall 001 to Chicken Run.

Chemical used:
Liquid Aluminum Sulfate is used for coagulant at a rate of 310 gpd.

Industrial/Commercial Users:
The permit application indicated there are no commercial or industrial contributors to the treatment plant.

Biosolids:
The total sewage sludge/biosolids production within the facility for the previous year was 16.9 dry tons.

Compliance History	
Summary of DMRs:	A summary of past 12-month DMR data is presented on the next page.
Summary of Inspections:	**June 24, 2022** – Mr. Sweeney, DEP Soil Scientist, conducted a sewage sludge generator compliance inspection. There was no violation notice during inspection. Recommendations are 1. Update the biosolids sample plan for the facility to reflect current collection process and labs used. Samples from digester do not have to be time composite as long as the digester is mixed when the samples are collected. Collection from several locations at one time is acceptable. The pollutants and SOUR samples should be collected from a composite at least 7 grabs taken from different locations around the digester. The fecal Coliform samples should be individual grab samples from 7 different location. 2. At least one responsible official should complete the Department's 2-day Biosolids training course within 1 year. 3. If solids are land applied this fall, collect a sample for %TS and use this number for the monthly totals reported on the eDMR biosolids supplemental report. **March 12, 2020** – Mr. Bettinger, DEP Water Quality Specialist, conducted a compliance evaluation inspection. Recommendations are to submit sewage sludge/biosolids production and disposal supplemental report with each monthly DMR and select check box if no off-site removal. The field test results were within the permit limits. **December 17, 2020** – Mr. Bettinger, DEP Water Quality Specialist, conducted an administrative review of the annual Chesapeake Bay nutrient monitoring data. No significant issues were found at the time of inspection.
Other Comments:	There is no violation against or associated to the facility or permittee.

Other Comments:

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	0.560	0.471	0.655	0.500	0.206	0.169	0.222	0.175	0.161	0.163	0.281	0.257
Flow (MGD) Daily Maximum	1.560	1.542	2.158	1.515	1.139	0.536	0.991	0.589	0.361	0.710	1.894	1.090
pH (S.U.) Minimum	7.0	7.0	6.9	6.9	7.0	7.1	7.2	7.2	7.0	7.1	6.9	6.8
pH (S.U.) Instantaneous Maximum	7.3	7.3	7.2	7.3	7.4	7.4	7.4	7.3	7.3	7.4	7.3	7.2
DO (mg/L) Daily Minimum	9.0	9.2	9.0	8.8	8.1	7.1	6.3	6.5	6.6	7.1	7.6	8.0
CBOD5 (lbs/day) Average Monthly	< 12	< 8	< 12	< 18	< 4	< 5	< 8	< 3	< 4	< 5	< 7	< 6
CBOD5 (lbs/day) Weekly Average	< 14	< 11	< 17	37	6	< 8	< 20	< 4	< 7	< 14	< 19	< 8
CBOD5 (mg/L) Average Monthly	< 2.5	< 2.5	< 2.4	< 2.7	< 2.5	< 2.9	< 2.5	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4
CBOD5 (mg/L) Weekly Average	2.8	2.6	< 2.4	3.7	2.9	4.8	2.9	< 2.4	< 2.4	< 2.4	< 2.4	2.4
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	695	446	546	790	272	305	430	< 229	378	305	246	228
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	974	508	985	1196	299	495	769	319	620	497	557	344
BOD5 (mg/L) Raw Sewage Influent Average Monthly	169	155	114	130	226	193	186	< 184	298	219	142	117
TSS (lbs/day) Average Monthly	15	11	7	12	2	3	9	4	3	5	4	6
TSS (lbs/day) Raw Sewage Influent Average Monthly	1000	530	729	720	148	333	441	173	406	285	301	309
TSS (lbs/day) Raw Sewage Influent Daily Maximum	1571	894	2196	1578	176	1132	1025	264	626	355	388	661
TSS (lbs/day) Weekly Average	29	18	9	30	4	7	15	7	5	12	8	10

TSS (mg/L) Average Monthly	4.0	4.0	2.0	2.0	2.0	2.0	5.0	3.0	2.0	2.0	2.0	3.0
TSS (mg/L) Raw Sewage Influent Average Monthly	240	178	134	200	121	147	156	137	290	231	157	173
TSS (mg/L) Weekly Average	8.0	7.0	3.0	3.0	2.0	3.0	6.0	4.0	5.0	3.0	3.0	3.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1	< 1	7	15	25	9	117	15	24	47	5	4
Fecal Coliform (No./100 ml) Instantaneous Maximum	3	3	9	68	51	12	548	23	152	144	50	13
UV Transmittance (%) Daily Minimum	93	91	92	88	90	89	87	89	89	89	86	89
Nitrate-Nitrite (mg/L) Average Monthly	3.1	3.1	4.78	4.81	8.61	5	5.33	5.13	3.0	3.47	3.48	2.16
Nitrate-Nitrite (lbs) Total Monthly	396.5	290.1	626.3	754	550.5	235.3	403.6	196.3	94.5	147.3	258.3	122.2
Total Nitrogen (mg/L) Average Monthly	< 3.88	< 3.73	< 5.31	< 5.41	< 9.12	< 5.7	< 6.58	< 6.26	3.47	4.59	4.33	3.3
Total Nitrogen (lbs) Effluent Net Total Monthly	< 497.4	< 345	< 698.6	< 858.2	< 582.1	< 265.8	< 542.3	< 244.6	138	198.6	320.4	182.9
Total Nitrogen (lbs) Total Monthly	< 497.4	< 345	< 698.6	< 858.2	< 582.1	< 265.8	< 542.3	< 244.6	138	198.6	320.4	182.9
Total Nitrogen (lbs) Effluent Net Total Annual							< 4488					
Total Nitrogen (lbs) Total Annual							< 4448					
Ammonia (lbs/day) Average Monthly	< 0.6	< 0.3	< 0.4	< 0.59	< 0.25	< 0.15	< 0.24	< 0.2	< 0.17	< 0.19	< 0.3	< 0.2
Ammonia (mg/L) Average Monthly	< 0.14	< 0.1	< 0.1	< 0.11	< 0.15	< 0.11	< 0.1	< 0.17	< 0.14	< 0.15	< 0.17	< 0.11
Ammonia (lbs) Total Monthly	< 19.4	< 9.4	< 14.1	< 18.3	< 7.7	< 4.9	< 7.2	< 6.4	< 5.4	< 5.7	< 12	< 6
Ammonia (lbs) Total Annual							< 209					
TKN (mg/L) Average Monthly	< 0.78	< 0.63	< 0.53	< 0.59	< 0.51	< 0.75	< 1.26	< 1.14	1.15	1.13	0.85	1.14
TKN (lbs) Total Monthly	< 100.9	< 54.9	< 72.2	< 104.2	< 31.6	< 30.5	< 138.7	< 48.3	43.5	51.4	62	60.7

Total Phosphorus (lbs/day) Average Monthly	< 0.7	0.4	0.6	1.6	2.19	0.83	2.19	1.2	1.2	1.87	< 0.6	0.58
Total Phosphorus (mg/L) Average Monthly	< 0.19	0.16	0.15	0.3	0.99	0.63	1.17	0.99	1.02	1.3	< 0.41	0.32
Total Phosphorus (lbs) Effluent Net Total Monthly	< 22	13.5	20.1	49.8	65.7	25.9	65.7	39.6	38.9	56.1	21.1	17.6
Total Phosphorus (lbs) Total Monthly	< 22	13.5	20.1	49.8	65.7	25.9	65.7	39.6	38.9	56.1	< 21.1	17.6
Total Phosphorus (lbs) Effluent Net Total Annual							< 362					
Total Phosphorus (lbs) Total Annual							< 362					

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.55
Latitude 39º 48' 54.21" **Longitude** -77º 8' 59.76"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

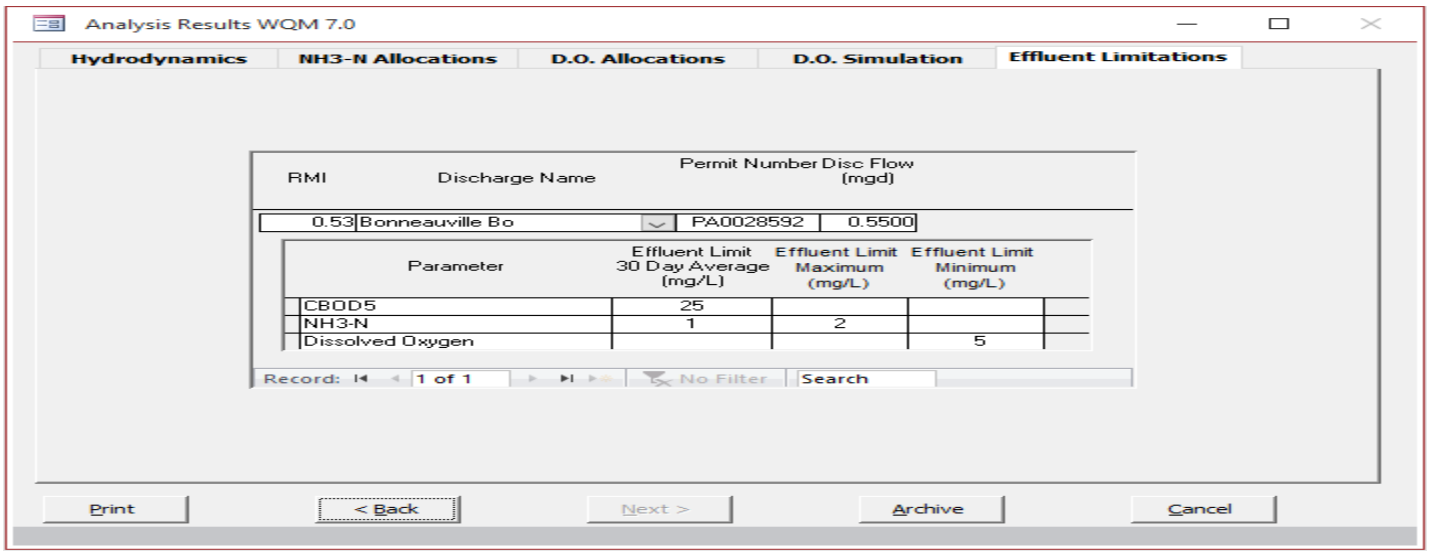
Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	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: The facility utilizes an UV disinfection unit. TRC standards are therefore not applicable to this facility.

Water Quality-Based Limitations

Ammonia (NH_3-N):
NH_3N calculations are based on the Department's Implementation Guidance of Section 93.7 Ammonia Criteria, dated 11/4/97 (ID No. 391-2000-013). The following data is necessary to determine the in-stream NH_3-N criteria used in the attached WQM 7.0 computer model of the stream:

*	Discharge pH	=	7.0	(Default)
*	Discharge Temperature	=	25°C	(Default)
*	Stream pH	=	7.0	(Default)
*	Stream Temperature	=	25ºC	(Default)
*	Background NH_3-N	=	0 mg/L	(Default)



Regarding NH_3-N limits, the attached computer printout of the WQM 7.0 stream model (version 1.1) indicates that a limit of 1.00 mg/L as a monthly average and 2.00 mg/L instantaneous maximum (IMAX) are necessary to protect the aquatic life from toxicity effects at the point of discharge. Therefore, the existing limits of 1.0 mg/L monthly average & 2.0 mg/L IMAX will remain in the proposed permit. The existing winter average monthly limit of 3.0 mg/L & IMAX limit of 6.0 mg/L will remain in place. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits. Mass limits are calculated as follows:

Summer average monthly mass limit: 1.0 mg/L x 0.55 MGD x 8.34 = 4.587 (4.5) lbs/day
Winter average monthly mass limit: 3.0 mg/L x 0.55 MGD x 8.34 = 13.76 (13.7) lbs/day

Dissolved Oxygen (D.O.):
A minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. It is recommended that this limit be maintained in the proposed permit to ensure the protection of water quality standards. This approach is consistent with DEP's current Standard Operating Procedure (SOP) No. BCW-PMT-033, version 2.0 revised February 5, 2024, and has been applied to other point source dischargers throughout the state.

pH:
The effluent discharge pH should remain above 6.0 and below 9.0 standard units according to 25 Pa. Code § 95.2(1).

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$):
The attached computer printout of the WQM 7.0 stream model (ver. 1.1) indicates that a monthly average limit of 25.00 mg/L, or secondary treatment, is adequate to protect the water quality of the stream. Therefore, the existing permit 25.0 mg/L as AML, 40.0 mg/L as weekly average limit (AWL), & 50.0 mg/L as IMAX are more stringent and will remain in the proposed permit. Recent DMRs and inspection reports show that the facility has typically been achieving concentrations below this limit. Mass limits are calculated as follows:

Summer Average monthly mass limit: 25.0 mg/L x 0.55 MGD x 8.34 = 114.68 (115.0) lbs/day
Summer Average weekly mass limit: 40.0 mg/L x 0.55 MGD x 8.34 = 183.48 (183.0) lbs/day

Total Suspended Solids (TSS):
The existing technology-based limits of 30.0 mg/L average monthly, 45.0 mg/L weekly average, and 60.0 mg/L IMAX will remain in the proposed permit based on the minimum level of effluent quality attainable by secondary treatment based on 25 Pa. Code § 92a.47. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits. Mass limits are calculated as follows:

Average monthly mass limit: 30.0 mg/L x 0.55 MGD x 8.34 = 137.61 (138.0) lbs/day
Average weekly mass limit: 45.0 mg/L x 0.55 MGD x 8.34 = 206.4 (206.0) lbs/day

The average monthly and weekly average mass loadings will be rounded down to 138.0 lbs/day and 206.0 lbs/day, respectively.

Fecal Coliform:
The recent coliform guidance in 25 Pa. Code § 92a.47.(a)(4) requires a summer technology limit of 200/100 ml as a geometric mean and an instantaneous maximum not greater than 1,000/100ml and § 92a.47.(a)(5) requires a winter limit of 2,000/100ml as a geometric mean and an instantaneous maximum not greater than 10,000/100ml.

E. Coli:
As recommended by DEP's SOP No. BCW-PMT-033, version 2.0 revised February 5, 2024, a routine monitoring for E. Coli will be included in the proposed permit under 25 Pa. Code § 92a.61. This requirement applies to all sewage dischargers greater than 0.002 MGD in their new and reissued permits. A monitoring frequency of 1/quarter will be included in the permit to be consistent with the recommendation from this SOP.

Raw Sewage Influent Monitoring:
As a result of negotiation with EPA, influent monitoring of TSS and BOD_5 are required for any POTWs; therefore, influent sampling of BOD_5 and TSS will remain in the proposed permit. A 24-hr composite sample type will be required to be consistent with the proposed sampling frequency for TSS and BOD_5 in the effluent.

Total Phosphorus:
The existing permit average monthly TP concentration of 2.0 mg/L, and 4.0 mg/L IMAX will remain in the proposed permit. Mass average monthly of 9.2 lbs/day is also in the proposed permit.

Average monthly mass limit: 2.0 mg/L x 0.55 MGD x 8.34 = 9.17 (9.2) lbs/day

Toxics:
Metals including Total Copper, Total Lead, and Total Zinc were analyzed as part of the application requirement. The analytical results indicate that these pollutants were either non-detected or presented at the level below the current water quality criteria. No water quality analysis is therefore needed for these pollutants.

Stormwater:
There is no known stormwater outfall associated with this facility.

UV:
The UV system daily monitor and report the UV light transmittance (%) will be added in the proposed permit.

Chesapeake Bay:
In the Phase 3 WIP Wastewater Supplement revised on July 29, 2022, Table 5 of this document shows that Bonneauville Borough has been allocated 9,741 lbs/year of TN and 1,218 lbs/year of TP This approach is consistent with the Chesapeake Bay TMDL, based on the actual performance data previously evaluated by the Department. Since the permittee is easily capable of achieving compliance with these loads, the Department determines that no "compliance schedule" for the requirements associated with the Chesapeake Bay Strategy is necessary. Accordingly, the Chesapeake Bay nutrient existing limitations and monitoring requirements will remain in the proposed permit.

This facility is currently a significant discharger. Therefore, the facility's waste load allocation (WLA) will be tracked under an individual WLA as a significant discharger in the Phase 3 WIP Wastewater Supplement. Monitoring frequency for TN constituents will remain in the proposed permit.

Phase 3 WIP Wastewater Supplement
Revised, July 29, 2022

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0027081	3	Lackawanna River Basin Sewer Authority	11/7/2016	11/30/2021	10/1/2011	12,786	-	1,705	0.423	0.426
PA0027090	1	Lackawanna River Basin Sewer Authority	8/15/2016	8/31/2021	10/1/2011	127,852	-	17,047	0.556	0.506
PA0027171	1	Bloomsburg Municipal Authority	10/25/2017	3/31/2022	10/1/2010	78,355	-	10,447	0.805	0.483
PA0027189	1	Lower Allen Township Authority	5/25/2022	5/31/2027	10/1/2015	114,154		15,221	0.805	0.483
PA0027197	1	Harrisburg Sewerage Authority	12/4/2009	12/31/2014	10/1/2012	688,575	-	91,810	0.798	0.502
PA0027316	1	Lebanon City Authority	12/23/2016	12/31/2021	10/1/2012	146,117	-	19,482	0.685	0.483
PA0027324	1	Shamokin-Coal Township Joint Sanitary Authority	12/16/2020	12/31/2025	10/1/2012	127,852	-	17,047	0.784	0.454
PA0027405	1	Ephrata Borough Authority	7/28/2021	7/31/2026	10/1/2012	79,049	-	9,881	0.629	0.558
PA0027553	2	Pine Creek Municipal Authority	10/22/2015	8/31/2016	10/1/2011	23,744	-	3,166	0.789	0.388
PA0028088	3	Brown Township Municipal Authority	1/10/2022	1/31/2027	10/1/2014	10,959	-	1,461	0.835	0.416
PA0028142	1	Fort Indiantown Gap	11/7/2011	11/30/2016	10/1/2005	24,353	-	3,044	0.776	0.463
PA0028266	3	Troy Borough	10/26/2016	10/31/2021	10/1/2011	7,306	-	974	0.706	0.420
PA0028347	3	Martinsburg Borough	7/26/2022	7/31/2027	10/1/2013	12,785	-	1,705	0.649	0.519
PA0028461	3	Mifflinburg Borough Municipal Authority	4/6/2022	4/30/2027	10/1/2011	25,570	-	3,409	0.806	0.408
PA0028576	1	Abington Regional WW Authority	3/9/2018	3/31/2023	10/1/2014	66,483	-	8,310	0.486	0.379
PA0028592	3	Bonneauville Borough	10/28/2019	10/31/2024	1/1/2009	9,741	-	1,218	0.567	0.720
PA0028631	3	Emporium Borough (Mid-Cameron Authority)	5/26/2021	5/31/2026	10/1/2011	17,100	-	2,140	0.399	0.279
PA0028673	3	Gallitzin Borough	8/6/2020	8/31/2025	10/1/2016	7,306	-	974	0.486	0.347
PA0028681	2	Kelly Township Municipal Authority	4/5/2022	4/30/2027	10/1/2011	68,492	-	9,132	0.816	0.461
PA0028738	2	Ralpho Township Municipal Authority	8/24/2021	8/31/2026	10/1/2011	13,132	-	1,751	0.784	0.454
PA0028886	3	Quarryville Borough Authority	2/26/2020	2/28/2025	10/1/2014	7,306	-	974	0.493	0.553

Additional Considerations

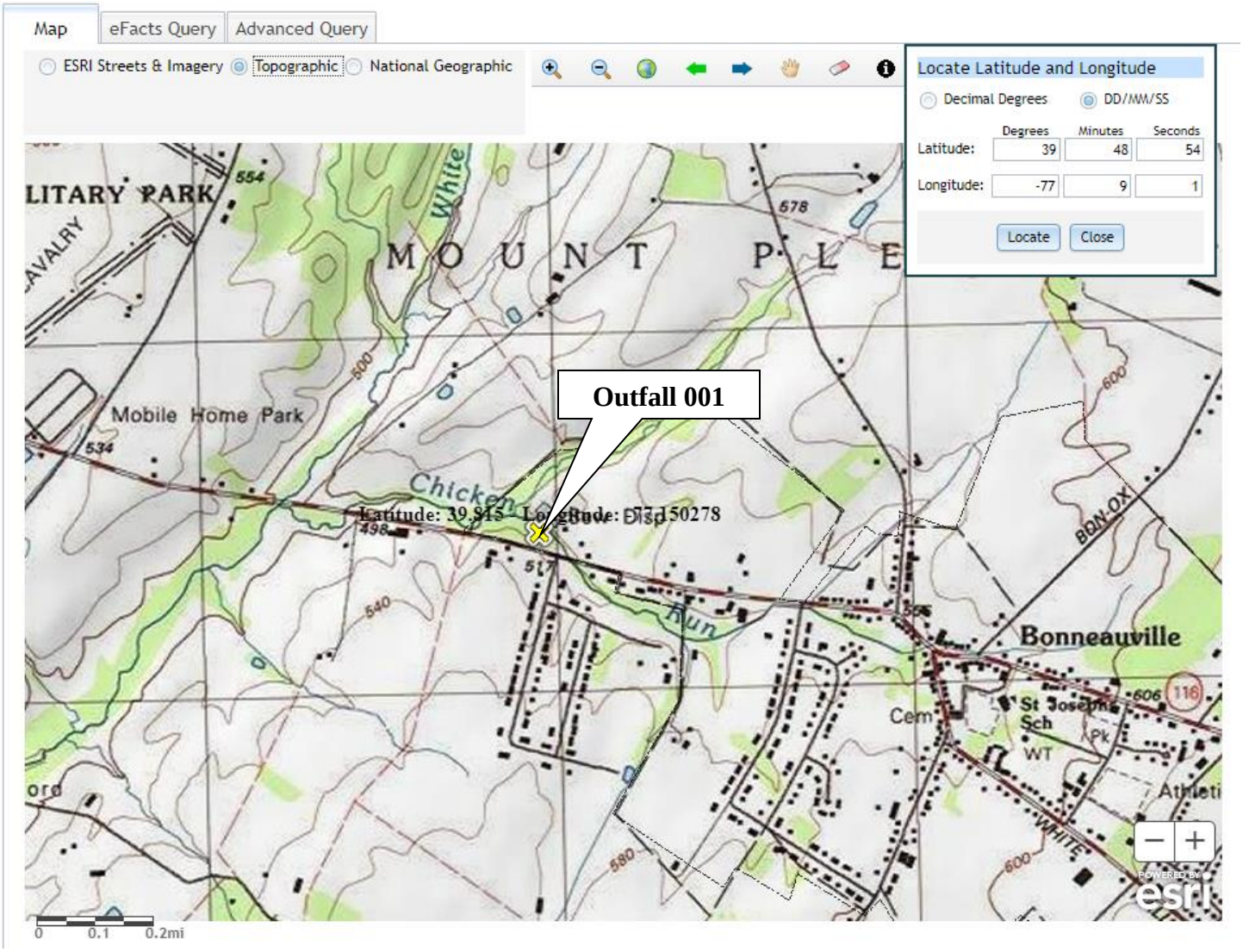
Flow Monitoring
The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

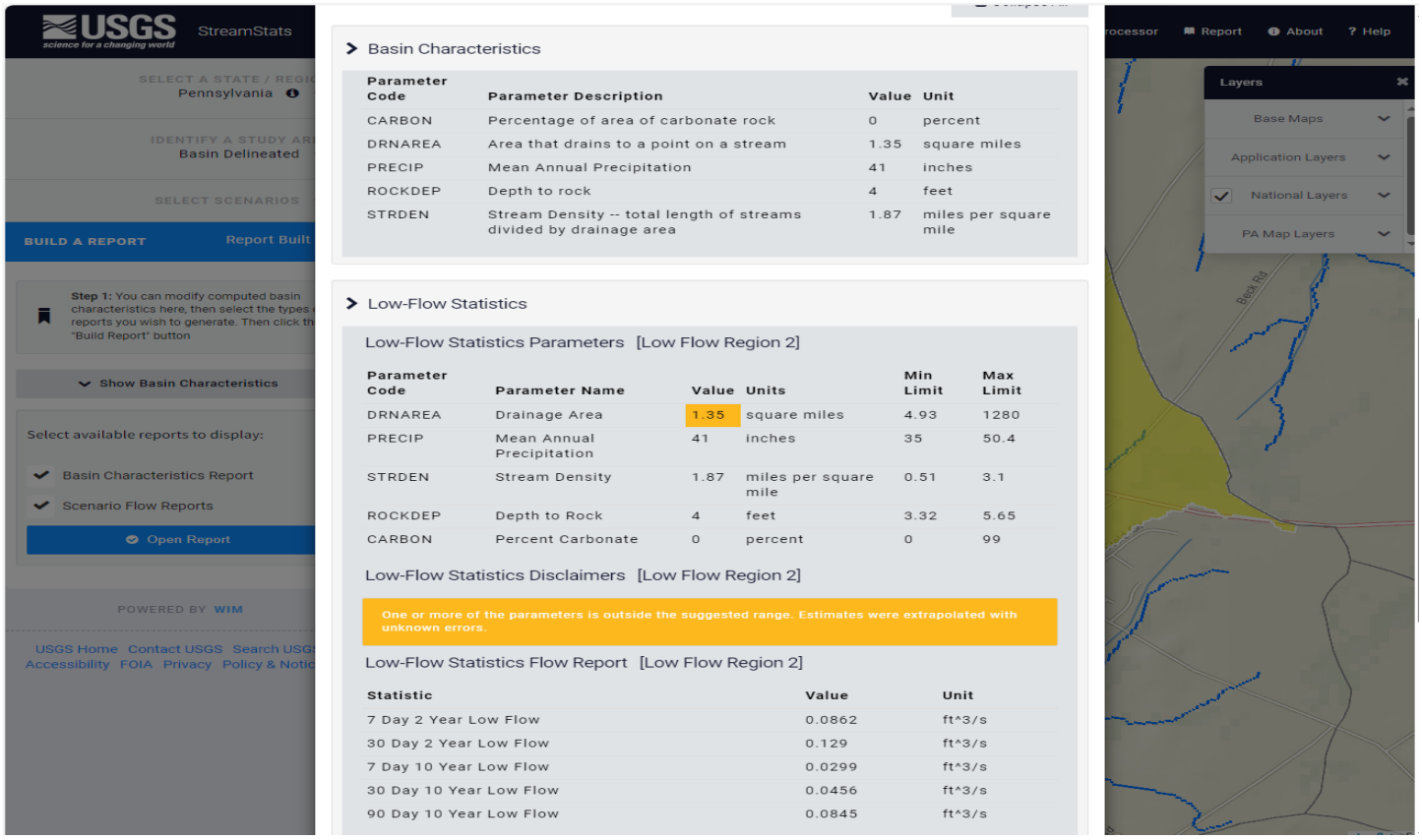
WETT:
Minor facilities and facilities without a formal EPA approved pretreatment program are exempted from WETT.

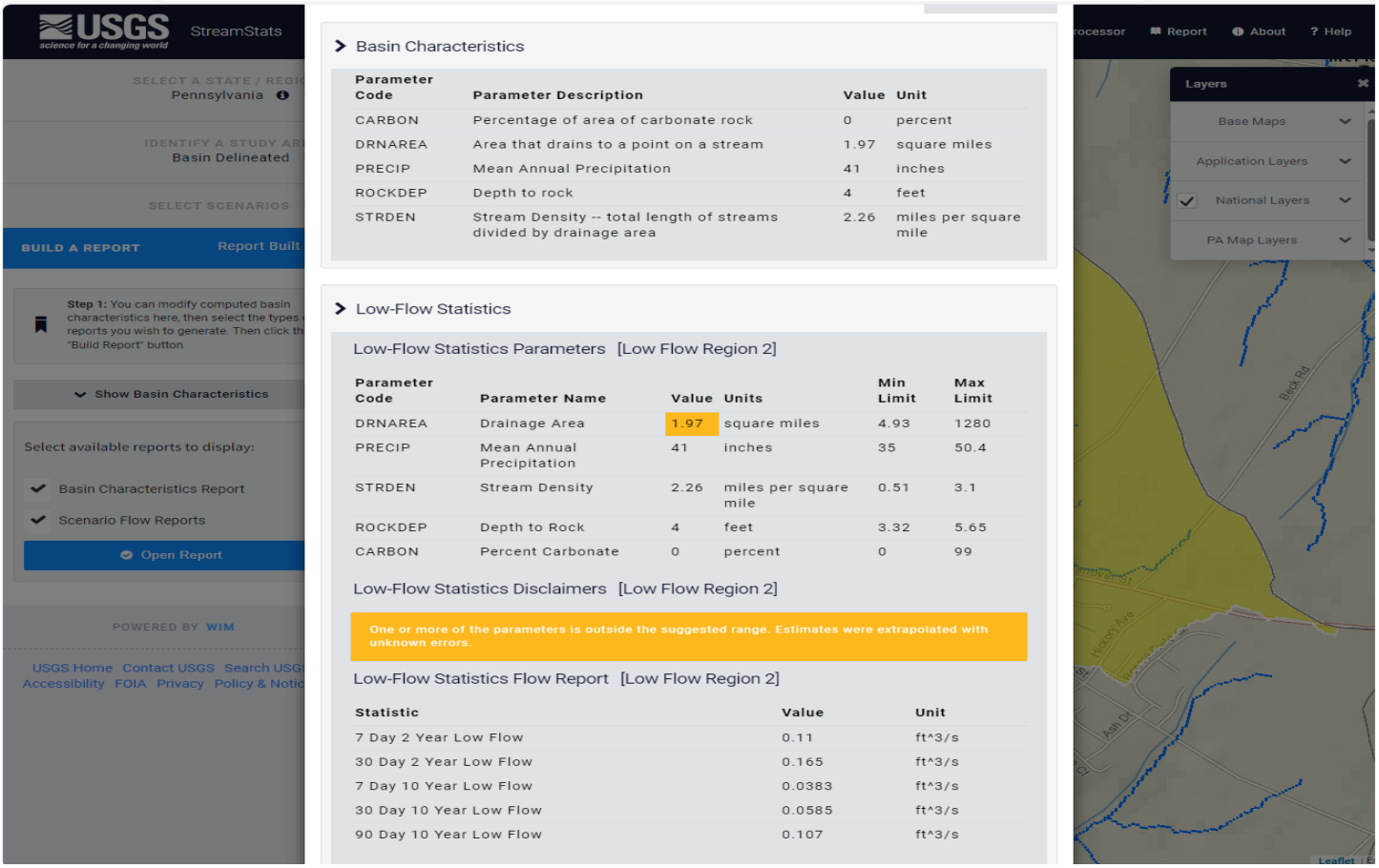
Anti-Backsliding:
The proposed limits are at least as stringent as are in existing permit; therefore, anti-backsliding is not applicable

Antidegradation (93.4):
The 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. No High-Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

Class A Wild Trout Fisheries:
No Class A Wild Trout Fisheries are impacted by this discharge.




USGS
science for a changing world
StreamStats
Pennsylvania
Basin Delineated
BUILD A REPORT
Report Built
Show Basin Characteristics
Select available reports to display:
Basin Characteristics Report
Scenario Flow Reports
Open Report
POWERED BY WIM
Report
About
Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers
Basin Characteristics
Parameter Code | Parameter Description | Value | Unit
CARBON | Percentage of area of carbonate rock | 0 | percent
DRNAREA | Area that drains to a point on a stream | 1.35 | square miles
PRECIP | Mean Annual Precipitation | 41 | inches
ROCKDEP | Depth to rock | 4 | feet
STRDEN | Stream Density -- total length of streams divided by drainage area | 1.87 | 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 | 1.35 | square miles | 4.93 | 1280
PRECIP | Mean Annual Precipitation | 41 | inches | 35 | 50.4
STRDEN | Stream Density | 1.87 | miles per square mile | 0.51 | 3.1
ROCKDEP | Depth to Rock | 4 | feet | 3.32 | 5.65
CARBON | Percent Carbonate | 0 | 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 | 0.0862 | ft^3/s
30 Day 2 Year Low Flow | 0.129 | ft^3/s
7 Day 10 Year Low Flow | 0.0299 | ft^3/s
30 Day 10 Year Low Flow | 0.0456 | ft^3/s
90 Day 10 Year Low Flow | 0.0845 | ft^3/s


USGS
science for a changing world
StreamStats
Pennsylvania
Basin Delineated
BUILD A REPORT
Report Built
Show Basin Characteristics
Select available reports to display:
Basin Characteristics Report
Scenario Flow Reports
Open Report
POWERED BY WIM
Report
About
Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers
Basin Characteristics
Parameter Code | Parameter Description | Value | Unit
CARBON | Percentage of area of carbonate rock | 0 | percent
DRNAREA | Area that drains to a point on a stream | 1.97 | square miles
PRECIP | Mean Annual Precipitation | 41 | inches
ROCKDEP | Depth to rock | 4 | feet
STRDEN | Stream Density -- total length of streams divided by drainage area | 2.26 | 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 | 1.97 | square miles | 4.93 | 1280
PRECIP | Mean Annual Precipitation | 41 | inches | 35 | 50.4
STRDEN | Stream Density | 2.26 | miles per square mile | 0.51 | 3.1
ROCKDEP | Depth to Rock | 4 | feet | 3.32 | 5.65
CARBON | Percent Carbonate | 0 | 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 | 0.11 | ft^3/s
30 Day 2 Year Low Flow | 0.165 | ft^3/s
7 Day 10 Year Low Flow | 0.0383 | ft^3/s
30 Day 10 Year Low Flow | 0.0585 | ft^3/s
90 Day 10 Year Low Flow | 0.107 | ft^3/s

WQM 7.0:
The following data were used in the attached computer model (WQM 7.0) of the stream:

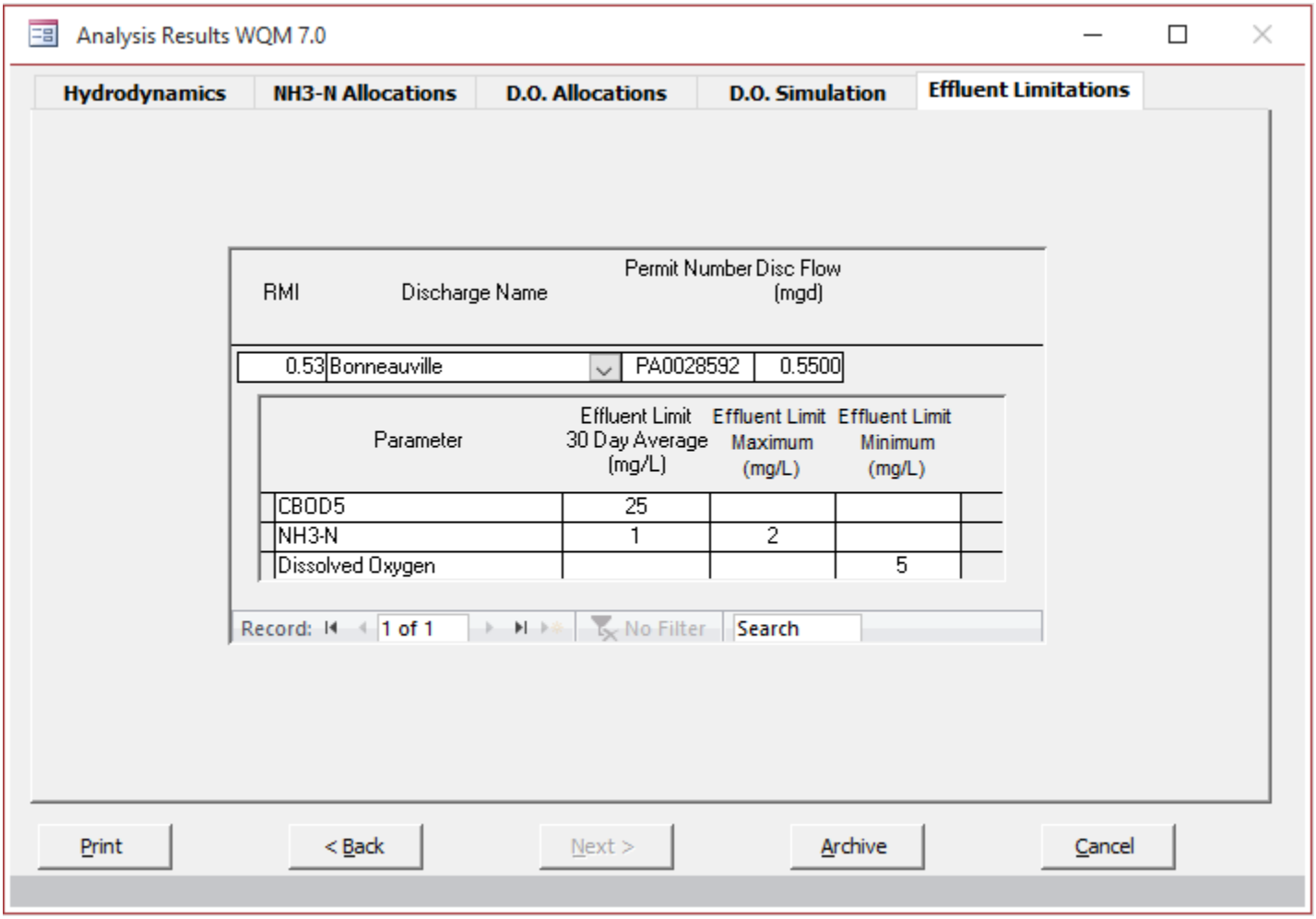
*	Discharge pH	=	7.0	(Default)
*	Discharge Temperature	=	25°C	(Default)
*	Stream pH	=	7.0	(Default)
*	Stream Temperature	=	25°C	(Default)
*	Background NH_3-N	=	0 mg/L	(Default)

Node 1: Outfall 001 Chicken Run (059117)

Elevation:	512 ft (USGS National Map Viewer)
Drainage Area:	1.35 mi^2 (USGS PA StreamStats)
River Mile Index:	0.53 (PA DEP eMapPA)
Low Flow Yield:	0.02 cfs/mi^2
Discharge Flow:	0.55 mgd (NPDES PA0028592 Application)

Node 2: Just after confluence of White Run with UNT 590099

Elevation:	489 ft (USGS National Map Viewer)
Drainage Area:	1.97 mi^2 (USGS PA StreamStats)
River Mile Index:	0.000 (PA DEP eMapPA)
Low Flow Yield:	0.02 cfs/mi^2
Discharge Flow:	0.00 mgd



rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
13D	59117	CHICKEN RUN

RMI	Name	Permit Number	Disc. Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
0.530	Bonneauville	PA0028592	0.550	CBOD5	25		
				NH3-N	1	2	
				Dissolved Oxygen			5

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rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
13D	59117	CHICKEN RUN

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
0.530	Bonneauville	11.07	2	11.07	2	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
0.530	Bonneauville	1.37	1	1.37	1	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5 Baseline (mg/L)	CBOD5 Multiple (mg/L)	NH3-N Baseline (mg/L)	NH3-N Multiple (mg/L)	Dissolved Oxygen Baseline (mg/L)	Dissolved Oxygen Multiple (mg/L)	Critical Reach	Percent Reduction
0.53	Bonneauville	25	25	1	1	5	5	0	0

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rptDOSim

WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name
13D	59117	CHICKEN RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.530	0.550	25.000	7.000
Reach Width (ft)	Reach Depth (ft)	Reach W/D Ratio	Reach Velocity (fps)
9.361	0.494	18.956	0.191
Reach CBOD5 (mg/L)	Reach Kc (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
24.12	1.494	0.96	1.029
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
5.123	29.763	Owens	5
Reach Travel Time (days)			
0.169			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.017	23.37	0.95	5.46
0.034	22.64	0.93	5.69
0.051	21.93	0.91	5.86
0.068	21.24	0.90	5.99
0.085	20.58	0.88	6.10
0.102	19.93	0.87	6.19
0.119	19.31	0.85	6.26
0.135	18.70	0.84	6.34
0.152	18.12	0.82	6.40
0.169	17.55	0.81	6.46

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rptModelSpecs

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	5		

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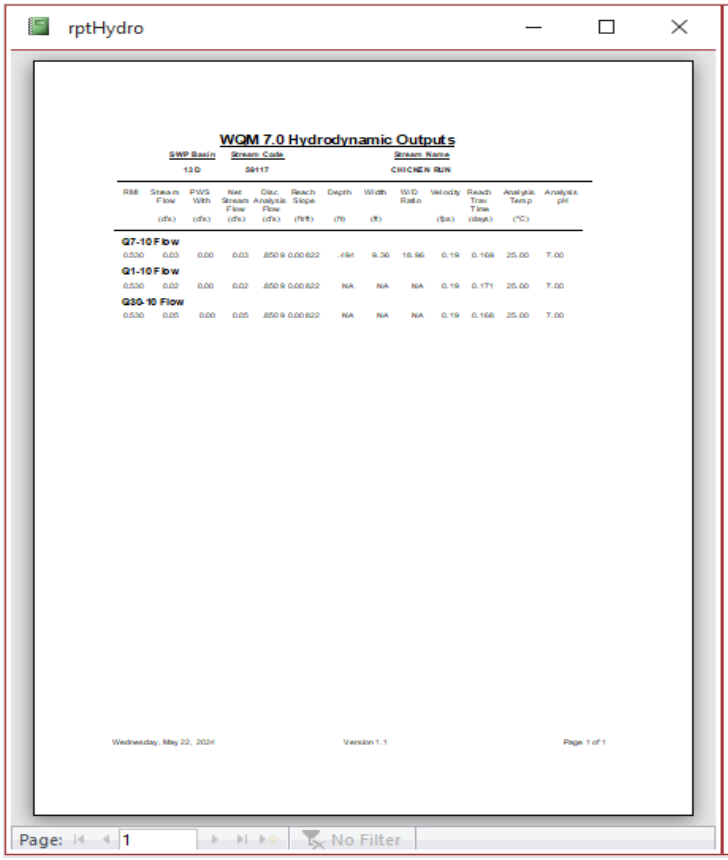
rptHydro
WQM 7.0 Hydrodynamic Outputs
SWP Basin
Stream Code
Stream Name
13D
59117
CHICKEN RUN
RMI
Stream Flow (cfs)
PWS With (cfs)
Net Stream Flow (cfs)
Disc Analysis Flow (cfs)
Reach Slope (ft/ft)
Depth (ft)
Width (ft)
W/D Ratio
Velocity (fps)
Reach Trav Time (days)
Analysis Temp (°C)
Analysis pH
Q7-10 Flow
0.530 0.03 0.00 0.03 .650 9 0.00 822 .494 9.36 18.96 0.19 0.169 25.00 7.00
Q1-10 Flow
0.530 0.02 0.00 0.02 .650 9 0.00 822 NA NA NA 0.19 0.171 25.00 7.00
Q30-10 Flow
0.530 0.05 0.00 0.05 .650 9 0.00 822 NA NA NA 0.19 0.169 25.00 7.00
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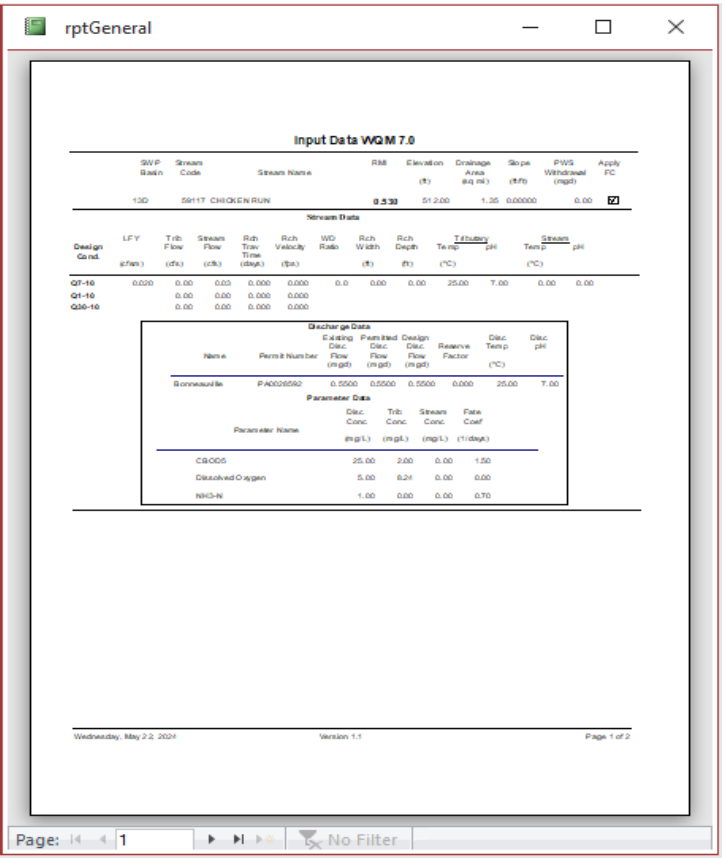
rptGeneral
Input Data WQM 7.0
SWP Basin
Stream Code
Stream Name
RMI
Elevation (ft)
Drainage Area (sq mi)
Slope (ft/ft)
PWS Withdrawal (mgd)
Apply FC
13D
59117 CHICKEN RUN
0.530
512.00
1.35
0.00000
0.00
Stream Data
Design Cond.
LFY (cfsm)
Trib Flow (cfs)
Stream Flow (cfs)
Rch Trav Time (days)
Rch Velocity (fps)
WD Ratio
Rch Width (ft)
Rch Depth (ft)
Tributary Temp (°C)
Tributary pH
Stream Temp (°C)
Stream pH
Q7-10 0.020 0.00 0.03 0.000 0.000 0.0 0.00 0.00 25.00 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
Bonneauville
PA0028592
0.5500 0.5500 0.5500 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 1.00 0.00 0.00 0.70
Wednesday, May 22, 2024
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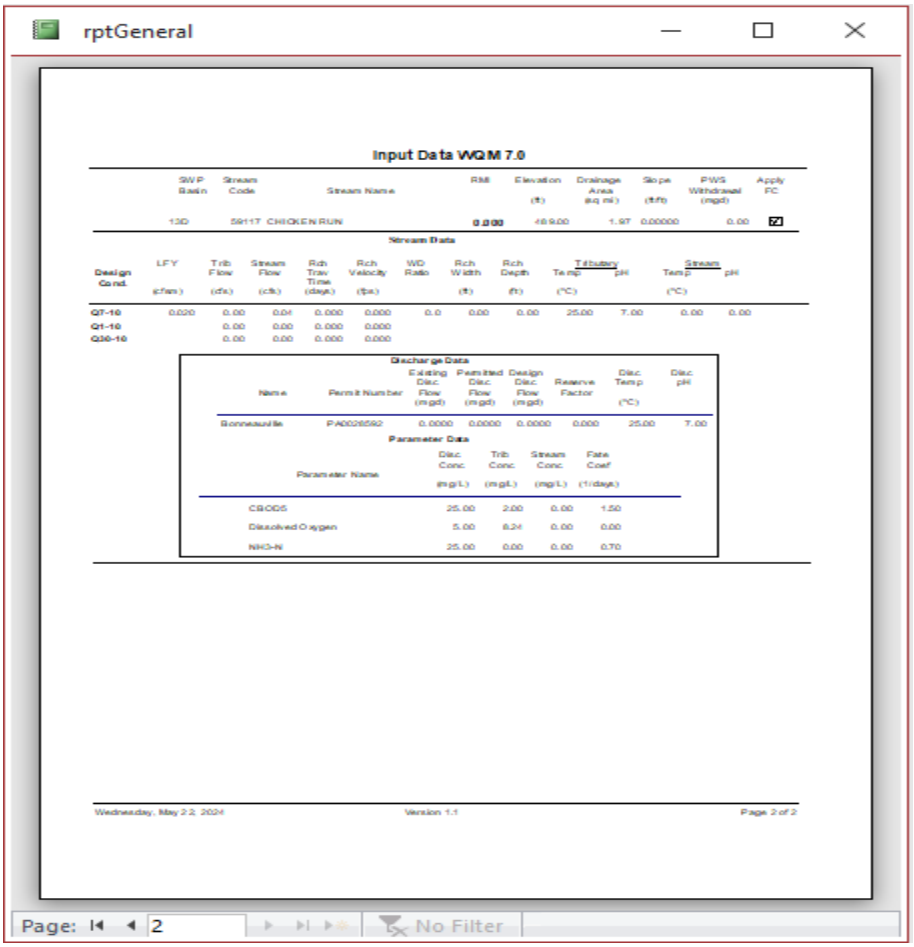
No Filter


rptGeneral
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
13D
59117 CHICKEN RUN
0.000
469.00
1.97
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 0.020 0.00 0.01 0.000 0.000 0.0 0.00 0.00 25.00 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
Bonneauville
PA0028592
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 5.00 8.24 0.00 0.00
NH3-N 25.00 0.00 0.00 0.70
Wednesday, May 22, 2024
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Existing Effluent Limitations and Monitoring Requirements

Outfall 001,

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Instant. 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	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV light transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
CBOD5	115	183 Wkly Avg	XXX	25	40	50	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	138	206 Wkly Avg	XXX	30	45	60	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Ammonia Nov 1 - Apr 30	13.7	XXX	XXX	3.0	XXX	6.0	2/week	24-Hr Composite
Ammonia May 1 - Oct 31	4.5	XXX	XXX	1.0	XXX	2.0	2/week	24-Hr Composite
Total Phosphorus	9.2	XXX	XXX	2.0	XXX	4.0	2/week	24-Hr Composite

Existing Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, to comply with Pennsylvania's Chesapeake Bay Tributary Strategy.

Outfall 001,

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia---N	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Kjeldahl---N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Net Total Nitrogen	Report	9,741	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	1,218	XXX	XXX	XXX	XXX	1/month	Calculation

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	Average Monthly	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	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
$CBOD_5$	115	183	XXX	25.0	40.0	50.0	1/week	24-Hr Composite
BOD_5 Raw Sewage Influent	Report	Report Daily Max	Report	Report Daily Max	XXX	XXX	1/week	24-Hr Composite
TSS	138	206	XXX	30.0	45.0	60.0	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	Report	Report Daily Max	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
UV Transmittance (%)	XXX	XXX	Report Daily Min	XXX	XXX	XXX	1/day	Recorded
Ammonia Nov 1 - Apr 30	13.7	XXX	XXX	3.0	XXX	6.0	2/week	24-Hr Composite
Ammonia May 1 - Oct 31	4.5	XXX	XXX	1.0	XXX	2.0	2/week	24-Hr Composite
Total Phosphorus	9.2	XXX	XXX	2.0	XXX	4.0	2/week	24-Hr Composite

Compliance Sampling Location:

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)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia---N	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Kjeldahl---N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Net Total Nitrogen	Report	9,741	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	1,218	XXX	XXX	XXX	XXX	1/month	Calculation

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: BCW-PMT-033
☐	Other: