pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0087921**
Facility Type	**Municipal**	APS ID	**29344**
Major / Minor	**Minor**	Authorization ID	**1250324**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Berwick Township Adams County**	Facility Name	**Berwick Township STP**
Applicant Address	85 Municipal Road	Facility Address	Kelly Drive
	Hanover, PA 17331-8992		New Oxford, PA 17350
Applicant Contact	Peter Socks	Facility Contact	Ryan Swope
Applicant Phone	(717) 632-1829	Facility Phone	(717) 880-5738
Client ID	39497	Site ID	451736
Ch 94 Load Status	Not Overloaded	Municipality	Berwick Township
Connection Status	No Limitations	County	Adams
Date Application Received	October 26, 2018	EPA Waived?	Yes
Date Application Accepted	November 7, 2018	If No, Reason	
Purpose of Application	NPDES permit renewal.		

Summary of Review

Berwick Township WWTF has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on April 18, 2014 and became effective on May 1, 2014. The permit expired on April 30, 2019 but the terms and conditions of the permit have been extended since that time.

This protection report has been developed for the sewage treatment facility for Berwick Township in Adams County. According to the most recent permit application, the facility receives 100% of its flow from Berwick Township.

This facility has a current hydraulic design capacity flow of 0.45 MGD and average annual design flow of 0.30 MGD. The most recent 12 months of DMR data indicated the highest average monthly flow of 0.106 MGD and the highest maximum daily flow of 0.25 MGD.

Changes from the previous permit: Unit of Fecal Coliform changed from CFU/100 ml to No./100 ml.

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. Any additional information or public review of documents associated with the discharge or the applicant 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.

Approve	Deny	Signatures	Date
X		Hilary H. Le / Environmental Engineering Specialist	November 22, 2019
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Clean Water Program Manager	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.3
Latitude	39º 52' 22.03"	Longitude	-77º 0' 54.23"
Quad Name	McSherrystown	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Pine Run (WWF)	Stream Code	08796
NHD Com ID	57473099	RMI	0.75 mile
Drainage Area	0.75 mi.^{2}	Yield (cfs/mi^2)	0.081 cfs/mi.^{2}
Q_{7-10} Flow (cfs)	0.061	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	530	Slope (ft/ft)	
Watershed No.	7-F	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	Wrightsville Borough Municipal Authority, York County		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	28.51 miles	Distance from Outfall (mi)	Approximate 58.27 miles

Changes Since Last Permit Issuance:

Drainage Area
The discharge is to Unnamed Tributary to Pine Run at RMI 0.75 mile. A drainage area upstream of the discharge is estimated to be 0.75 mi.^{2}, according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow
According to USGS StreamStats, the discharge point has a Q_{7-10} of 0.061 cfs and a drainage area of 0.75 mi.^{2}, which results in a Q_{7-10} low flow yield of 0.081 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):

$$Q_{7-10} = 0.061 \text{ cfs}$$
$$\text{Low Flow Yield} = 0.061 \text{ cfs} / 0.75 \text{ mi.}^2 \approx 0.081 \text{ cfs/mi.}^2$$
$$Q_{30-10} = 1.36 * 0.061 \text{ cfs} \approx 0.083 \text{ cfs}$$
$$Q_{1-10} = 0.64 * 0.061 \text{ cfs} \approx 0.040 \text{ cfs}$$

The resulting Q_{7-10} dilution ratio is: $Q_{stream} / Q_{discharge}$ = 0.061 cfs / [0.300 MGD * (1.55 cfs/MGD)] = 0.13:1

Unnamed Tributary to Pine Run
25 Pa Code 93.9o classifies Pine Run as warm water fishes (WWF) surface water. Based on the 2016 Integrated Report, Pine Run, is not impaired. A TMDL currently does not exist for this stream segment, therefore, no TMDL has been taken into consideration during this review.

Public Water Supply
The nearest downstream public water supply intake is the Wrightsville Borough Municipal Authority on the Susquehanna River in York County, approximately 58.27 miles downstream of this discharge. Considering distance and dilution, the discharge is not expected to impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: Berwick Township STP				
WQM Permit No.	**Issuance Date**			
0100401	6/19/2000			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Phosphorus Reduction	Sequencing Batch Reactor	Ultraviolet	0.3
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.45	600	Not Overloaded	Aerobic Digestion	Other WWTP

The WWTP train is as follows:

Fine Screen Press (1) ⇒ Sequencing Batch Reactor Unit (2) ⇒ Ultraviolet Disinfection Unit (1) ⇒ Discharge

The facility incorporates the chemical additions of aluminum sulfate (for phosphorus removal) and soda ash (for pH control). An aerobic digester is on site.

Compliance History	
Summary of DMRs:	DMRs reported last 12 months from October 1, 2018 to September 30, 2019 are summarized in the Table below (Pages 5 & 6).
Summary of Inspections:	**3**/13/2018: Mr. Bowen, DEP WQS, conducted compliance evaluation inspection. The pH and D.O. results were within permitted limits. There were no violations noted during inspection. 3/10/2016: Mr. Haines, DEP WQS, conducted compliance evaluation inspection. Effluent was clear. The pH and D.O. results were within permitted limits. There were no violations noted during inspection.
Other Comments:	There are currently no open violations associated with the permittee or the facility.

Other Comments:

The table below summarizes the influent/effluent testing results submitted along with the application.

Influent Testing Results			*Effluent Testing Results*		
Parameter	**Min/Max Value**	**Average Value**	**Parameter**	**Min/Max Value**	**Average Value**
BOD_5 (mg/L)	410 mg/L	236 mg/L	pH (minimum)	6.15 S.U.	
BOD_5 (lbs/day)	292 lbs/day	133 lbs/day	pH (maximum)	9.16 S.U.	
TSS (mg/L)	308 mg/L	221 mg/L	D.O (minimum)	5.51 mg/L	8.04 mg/L
TSS (lbs/day)	304 lbs/day	128 lbs/day	TRC	0.02 mg/L	0.02 mg/L
TN (mg/L)	69.8 mg/L	69.8 mg/L	Fecal Coliform	422 No./100mL	No Data
TN (lbs/day)	34.1 lbs/day	34.1 lbs/day	$CBOD_5$	8 mg/L	3.2 mg/L
TP (mg/L)	7.6 mg/L	7.6 mg/L	TSS	21 mg/L	4.0 mg/L
TP (lbs/day)	3.7 lbs/day	3.7 lbs/day	NH3-N	2.3 mg/L	0.38 mg/L
NH_3-N (mg/L)	33 mg/L	33 mg/L	TN	19.6 mg/L	10.1 mg/L
NH_3-N (lbs/day)	16 lbs/day	16 lbs/day	TP	2.0 mg/L	0.74 mg/L
TDS (mg/L)	594 mg/L	594 mg/L	Temp	No Data	No Data
TDS (lbs/day)	181 lbs/day	181 lbs/day	TKN	4.9 mg/L	1.9 mg/L
TKN	69 mg/L	69 mg/L	NO2-N + NO3-N	17.4 mg/L	8.3 mg/L
NO_2-N + NO_3-N	< 0.8 mg/L	< 0.8 mg/L	TDS	672 mg/L	672 mg/L
			Chloride	180 mg/L	180 mg/L
			Bromide	< 0.5 mg/L	< 0.5 mg/L
			Sulfate	82 mg/L	82 mg/L
			Oil and Grease	< 5.0 mg/L	< 5.0 mg/L
			Total Copper	0.008 mg/L	0.008 mg/L
			Total Lead	< 0.005 mg/L	< 0.005 mg/L
			Total Zinc	0.11 mg/L	0.11 mg/L

Compliance History

DMR Data for Outfall 001 (from October 1, 2018 to September 30, 2019)

Parameter	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18
Flow (MGD) Average Monthly	0.0453	0.0474	0.0525	0.0472	0.0736	0.0531	0.0841	0.0740	0.0851	0.0819	0.1055	0.0519
Flow (MGD) Daily Maximum	0.0753	0.0924	0.0987	0.0851	0.1643	0.1041	0.2538	0.1345	0.1553	0.1732	0.1723	0.0727
pH (S.U.) Minimum	8.07	8.06	8.01	7.68	7.88	7.99	7.97	8.00	7.69	7.99	7.49	7.94
pH (S.U.) Maximum	8.55	8.42	8.54	8.50	8.33	8.38	8.21	8.21	8.25	8.33	8.41	8.35
DO (mg/L) Minimum	6.79	8.06	7.41	7.46	6.96	6.52	7.70	7.77	8.09	8.69	7.64	7.25
$CBOD_5$ (lbs/day) Average Monthly	0.97	1.05	1.07	1.13	1.34	0.76	0.77	1.16	2.29	2.08	2.05	1.14
$CBOD_5$ (lbs/day) Weekly Average	1.13	1.31	2.18	1.78	1.76	1.07	0.87	1.56	3.67	3.87	2.53	1.34
$CBOD_5$ (mg/L) Average Monthly	3.25	3.20	3.00	4.00	3.40	3.00	3.50	3.25	3.60	4.25	3.25	3.00
$CBOD_5$ (mg/L) Weekly Average	4.00	4.00	3.00	6.00	4.00	3.00	5.00	4.00	5.00	8.00	4.00	3.00
BOD_5 (lbs/day) Raw Sewage Influent Average Monthly	71.82	85.07	69.55	48.43	76.73	70.59	67.39	67.83	92.19	86.92	87.47	68.68
BOD_5 (lbs/day) Raw Sewage Influent Daily Maximum	122.61	201.56	91.71	62.89	131.86	109.23	85.66	75.75	105.54	120.64	96.93	118.59
BOD_5 (mg/L) Raw Sewage Influent Average Monthly	231.25	277.00	226.00	173.75	218.20	274.50	189.75	199.25	154.40	178.00	141.50	177.20
TSS (lbs/day) Average Monthly	0.76	1.64	0.81	0.51	2.04	1.02	1.34	1.57	3.13	2.38	2.50	0.75
TSS (lbs/day) Raw Sewage Influent Average Monthly	43.16	62.14	60.44	36.67	60.83	43.17	48.44	54.23	83.38	75.48	65.03	61.47
TSS (lbs/day) Raw Sewage Influent Daily Maximum	81.00	120.35	98.57	38.60	89.45	65.89	66.95	64.74	168.87	96.31	84.28	94.88
TSS (lbs/day) Weekly Average	1.11	4.56	1.46	1.19	4.70	1.43	1.74	1.95	4.41	3.87	3.37	0.90
TSS (mg/L) Average Monthly	2.50	4.60	2.50	1.75	4.80	4.25	6.00	4.50	5.00	5.00	4.00	2.00

TSS (mg/L) Raw Sewage Influent Average Monthly	137.00	184.00	191.00	138.50	168.00	168.00	134.50	155.50	128.80	156.50	108.00	161.20
TSS (mg/L) Weekly Average	4.00	11.00	4.00	4.00	8.00	7.00	7.00	5.00	6.00	8.00	6.00	3.00
Fecal Coliform (CFU/100 ml) Geometric Mean	3.98	1.25	1.90	1.19	1.15	1.00	1.00	4.21	37.12	2.76	2.63	3.37
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	21.00	3.00	13.00	2.00	2.00	1.00	1.00	35.00	163.00	58.00	16.00	48.00
UV Intensity (µw/cm²) Minimum	3.6	4.1	5.0	5.2	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1
UV Intensity (µw/cm²) Average Monthly	6.8	7.3	7.5	7.3	3.7	0.1	0.2	0.25	0.25	0.35	0.45	0.95
Nitrate-Nitrite (mg/L) Average Monthly	8.58	8.60	9.66	10.88	11.24	9.53	10.53	9.60	9.22	10.68	9.38	8.70
Nitrate-Nitrite (lbs) Total Monthly	78.31	86.66	106.02	93.55	131.39	72.07	118.89	96.80	175.74	161.38	180.81	101.32
Total Nitrogen (mg/L) Average Monthly	9.20	9.47	10.16	11.83	12.18	10.48	11.41	10.93	10.82	11.98	10.25	10.27
Total Nitrogen (lbs) Total Monthly	83.86	95.54	111.56	101.31	142.53	79.16	128.04	108.85	205.86	182.13	198.82	118.81
Ammonia (lbs/day) Average Monthly	0.04	0.03	0.04	0.03	0.05	0.03	0.04	0.04	0.31	0.17	0.34	0.05
Ammonia (mg/L) Average Monthly	0.12	0.10	0.10	0.10	0.12	0.10	0.10	0.10	0.46	0.33	0.47	0.12
Ammonia (lbs) Total Monthly	1.07	1.04	1.11	0.85	1.61	0.76	1.12	0.99	9.49	5.29	10.19	1.48
TKN (mg/L) Average Monthly	0.62	0.87	0.50	0.96	0.94	0.95	0.89	1.33	1.60	1.30	0.87	1.57
TKN (lbs) Total Monthly	5.56	8.88	5.54	7.76	11.14	7.09	9.15	12.05	30.12	20.75	18.01	17.50
Total Phosphorus (lbs/day) Average Monthly	0.15	0.18	0.16	0.28	0.46	0.42	0.38	0.53	0.43	0.37	0.43	0.50
Total Phosphorus (mg/L) Average Monthly	0.52	0.54	0.48	0.98	1.17	1.75	1.07	1.55	0.67	0.75	0.67	1.30
Total Phosphorus (lbs) Total Monthly	4.63	5.47	4.91	8.44	14.15	12.56	11.81	14.92	13.40	11.62	12.85	15.57

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.3
Latitude 39º 52' 21.95" **Longitude** -77º 0' 54.51"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$) / Total Suspended Solids (TSS):

The original protection report for this facility, dated December 7, 1998, indicates the following:

> "*A point of first use (POFU) survey revealed that the stream is perennial and the POFU is at the point of discharge. However, the Q_{7-10} flow of the tributary is very low. To protect public health and to avoid nuisance, since there are times when there is no dilution, dry stream limits will be set according to the Implementation Guidance for Evaluating Wastewater Discharges to Drainage Ditches and Swales (ID #391-2000-014, 8/18/97), with the exception of ammonia which will be modeled at the point of first use with the Q_{7-10} based on the nearest gage station*."

This approach was used in the 2009 and 2014 renewals. The existing concentration limits for $CBOD_5$ and TSS (10 mg/L monthly average, 15 mg/L average weekly and 20 mg/L instantaneous maximum) will remain in effect.

As stated above, the dry stream limits will remain in effect. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits.

$CBOD_5$:
Average monthly mass limit: 10 mg/L x 0.300 MGD x 8.34 = 25.0 lbs/day
Average weekly mass limit: 15 mg/L x 0.300 MGD x 8.34 = 37.5 lbs/day

TSS:
Average monthly mass limit: 10 mg/L x 0.300 MGD x 8.34 = 25.0 lbs/day
Average weekly mass limit: 15 mg/L x 0.300 MGD x 8.34 = 37.5 lbs/day

Dissolved Oxygen (DO):
A minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. This is consistent with the previous permit and current Department criteria.

pH:
The effluent discharge pH should remain above 6 and below 9 standard units according to 25 Pa Code § 95.2(1).

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 = 25°C (Default for WWF)
- Background NH_3-N = 0 (Default)

The model input data and results are attached. The printout of the WQM 7.0 output indicates that at a discharge of 0.300 MGD, limits (rounded according to the NPDES Technical Guidance 362-0400-001) of 1.5 mg/L NH_3-N as a monthly average and 3.0 mg/L NH_3-N instantaneous maximum are necessary to protect the aquatic life from toxicity effects. These limits are the same as the existing limits. Recent DMRs and inspection reports indicate that the facility has been consistently achieving these limits.

Summer average monthly mass limit: 1.5 mg/L x 0.300 MGD x 8.34 = 3.8 lbs/day
Winter average monthly mass limit: 4.5 mg/L x 0.300 MGD x 8.34 = 11.3 lbs/day

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 1,000/100 ml and 25 Pa Code § 92a.47.(a)(5) requires a winter limit of 2,000/100 ml as a geometric mean and an instantaneous maximum not greater than 10,000/100 ml.

Total Residual Chlorine (TRC):
The facility incorporates an ultraviolet disinfection system. TRC limits are not needed in the permit. Monitoring of the functionality of the ultraviolet bulbs will remain in the proposed permit.

Chesapeake Bay Strategy:
The Department formulated a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). Sewage discharges have been prioritized by Central Office based on their delivered TN loadings to the Bay. The highest priority (Phases I, II, and III) dischargers will receive 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. These limits may be achieved through a combination of treatment technology, credits, or offsets. Phase IV (0.2 -0.4 MGD) will be required to monitor and report TN and TP during permit renewal monthly. However, any facility in Phases IV that undergoes expansion is subjected to cap load right away. This plant is classified as a phase IV, the existing TN and TP "Monitor & Report" requirements will remain in the proposed permit.

Influent BOD_5 and TSS Monitoring:
The permit will include influent BOD_5 and TSS monitoring at the same frequency as is done for effluent in order to implement Chapter 94.12 and assess percent removal requirements, per DEP policy.

Phosphorus:
Technology-based phosphorus limits of 2.0 mg/L average monthly and 4.0 mg/L instantaneous maximum were applied by the original 1998 protection report. The limits will remain in the proposed permit. Recent DMR data and inspection reports indicate consistent achievement.

Average monthly mass limit: 2.0 mg/L x 0.300 MGD x 8.34 = 5.0 lbs/day

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.

303d LISTED STREAMS

This discharge is not located on a 303d listed stream segment.

Class A Wild Trout Fisheries

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

Additional Considerations

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

Monitoring Frequency and Sample Type
The facility currently is required to collect daily effluent grab samples for D.O., and pH; daily record UV Intensity (µw/cm²); one per week effluent 8-hr composite samples of $CBOD_5$, and TSS; one per week effluent grab samples of fecal coliform; one per week influent 8-hr composite samples of BOD_5 and TSS; one per week effluent 8-hr composite samples of Ammonia-Nitrogen, and TP; one per week effluent 8-hr composite samples of Ammonia---N, Kjeldahl---N, Nitrate-Nitrite as N, and Total Phosphorus; and one per month effluent calculation samples of TN. Based on the best professional judgement of the author, the existing monitoring frequencies are sufficient and necessary. Therefore, the existing monitoring frequencies will remain the same as those specified in the proposed permit.

WQM 7.0:

The two nodes were incorporated in the modeling effort.

Node 1: Outfall 001 on UNT Pine Run (08796)

Elevation:	530 ft (USGS National Map Viewer)
Drainage Area:	0.75 $mi.^2$ (USGS PA StreamStats)
River Mile Index:	0.75 (PA DEP eMapPA)
Low Flow Yield:	0.081 $cfs/mi.^2$
Discharge Flow:	0.300 MGD (NPDES Application)

Node 2: Just before confluence with Pine Run (08789)

Elevation:	488 ft (USGS National Map Viewer)
Drainage Area:	1.61 $mi.^2$ (USGS PA StreamStats)
River Mile Index:	0.001 (PA DEP eMapPA)
Low Flow Yield:	0.081 $cfs/mi.^2$
Discharge Flow:	0.000 MGD

Attachment is the WQM 7.0 data.

Berwick WQM 7.0 data.pdf

Existing Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
$CBOD_5$	25.0	37.5 Wkly Avg	XXX	10	15	20	1/week	8-Hr Composite
BOD_5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Total Suspended Solids	25.0	37.5 Wkly Avg	XXX	10	15	20	1/week	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
UV Intensity ($\mu w/cm^2$)	XXX	XXX	Report	Report	XXX	XXX	1/day	Recorded
Ammonia-Nitrogen May 1 - Oct 31	3.8	XXX	XXX	1.5	XXX	3.0	1/week	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	11.3	XXX	XXX	4.5	XXX	9.0	1/week	8-Hr Composite
Total Phosphorus	5.0	XXX	XXX	2.0	XXX	4.0	1/week	8-Hr Composite

Existing Effluent Limitations and Monitoring Requirements

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

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	Minimum	Monthly Average	Maximum		
Ammonia---N	Report	Report	XXX	Report	XXX	1/week	8-Hr Composite
Kjeldahl---N	Report	XXX	XXX	Report	XXX	1/week	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	1/week	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	1/week	8-Hr Composite

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	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 Intensity (µw/cm²)	XXX	XXX	Report	Report	XXX	XXX	1/day	Recorded
$CBOD_5$	25.0	37.5 Wkly Avg	XXX	10.0	15.0	20.0	1/week	8-Hr Composite
BOD_5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	25.0	37.5 Wkly Avg	XXX	10.0	15.0	20.0	1/week	8-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
Ammonia Nov 1 - Apr 30	11.3	XXX	XXX	4.5	XXX	9.0	1/week	8-Hr Composite
Ammonia May 1 - Oct 31	3.8	XXX	XXX	1.5	XXX	3.0	1/week	8-Hr Composite
Total Phosphorus	5.0	XXX	XXX	2.0	XXX	4.0	1/week	8-Hr Composite

Compliance Sampling Location:

Other Comments:

Proposed 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, 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	Minimum	Monthly Average	Maximum		
Ammonia---N	Report	Report	XXX	Report	XXX	1/week	8-Hr Composite
Kjeldahl---N	Report	XXX	XXX	Report	XXX	1/week	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	1/week	8-Hr Composite
Total Phosphorus	Report	Report	XXX	Report	XXX	1/week	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	1/month	Calculation

Compliance Sampling Location:

Other Comments:

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☐	PENTOXSD for Windows Model (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Toxics Screening Analysis Spreadsheet (see Attachment)
☒	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☒	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☒	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 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, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 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, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☒	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other: