pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0081647**
Facility Type	**Municipal**	APS ID	**310016**
Major / Minor	**Minor**	Authorization ID	**1297308**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**White Run Region Municipal Authority**	Facility Name	**White Run STP**
Applicant Address	2001 Baltimore Pike	Facility Address	2001 Baltimore Pike
	Gettysburg, PA 17325-7015		Gettysburg, PA 17325-7015
Applicant Contact	David Kelly	Facility Contact	David Kelly
Applicant Phone	(717) 334-7476	Facility Phone	(717) 334-7476
Client ID	77706	Site ID	253436
Ch 94 Load Status	Not Overloaded	Municipality	Mount Joy Township
Connection Status	No Limitations	County	Adams
Date Application Received	November 22, 2019	EPA Waived?	Yes
Date Application Accepted	December 3, 2019	If No, Reason	

Purpose of Application: NPDES permit Renewal.

Summary of Review

White Run Regional Municipal Authority has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on May 14, 2015 and became effective on June 1, 2015. The permit expired on May 31, 2020.

The WWTP currently has an average annual design flow of 0.330 MGD, a hydraulic capacity of 0.390 MGD, and an organic design capacity of 740 lbs BOD/day. The application states the following flow contribution sources: Mount Joy Township (55%), Straban Township (21%), and Mount Pleasant Township (24%).

WQM Part II permit No. 0100407 original was issued on December 26, 2000.

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

Based on the review outline in this fact sheet, it is recommended that the permit be drafted and published in the Pennsylvania Bulletin for public comments for 30 days.

Approve	Deny	Signatures	Date
X		Hilary H. Le / Environmental Engineering Specialist	April 17, 2020
		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)	0.33
Latitude	39º 47' 21.74"	Longitude	-77º 11' 56.29"
Quad Name	Gettysburg	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	White Run (WWF)	Stream Code	59099
NHD Com ID	53320632	RMI	0.52 mile
Drainage Area	12.8 mi.^{2}	Yield (cfs/mi^2)	0.03
Q_{7-10} Flow (cfs)	0.39	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	409.18	Slope (ft/ft)	
Watershed No.	13-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Flow Regime Modification, Nutrients, Siltation		
Source(s) of Impairment	Dam or Impoundment, Rural (Residential Areas), Rural (Residential Areas)		
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 38 miles

Changes Since Last Permit Issuance: none

Drainage Area

The discharge is to Little Juniata River at RMI 0.52 mile. A drainage area upstream of the discharge is estimated to be 12.8 mi.^{2}, according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Slow Flow

According to StreamStats, the point of first use has a Q_{7-10} of 0.39 cfs and a drainage area of 12.8 mi.^{2}, which results in a Q_{7-10} low flow yield of 0.030 cfs/mi.^{2}. This is a relatively low Q_{7-10}, but it is consistent with the known geologic features of the area. 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} = 0.39 cfs
Low Flow Yield = 0.39 cfs / 12.8 mi.^{2} = 0.030 cfs/mi.^{2}
Q_{30-10} = 1.36 * 0.39 cfs = 0.53 cfs
Q_{1-10} = 0.64 * 0.39 cfs = 0.25 cfs

The resulting Q_{7-10} dilution ratio is: Q_{stream} / $Q_{discharge}$ = 0.39 cfs / [0.330 MGD * (1.547 cfs/MGD)] = 0.76:1

Public Water Supply

The nearest downstream public water supply intake is the City of Frederick, Maryland on the Monocacy River, approximately 38 miles downstream of this discharge. Given the nature and dilution, the discharge is not expected to significantly impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: White Run Regional STP				
WQM Permit No.	**Issuance Date**			
0100407	12/26/2000			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Ammonia And Phosphorus	Sequencing Batch Reactor	Ultraviolet	0.33
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.39	740	Not Overloaded	Aerobic Digestion	Land Application

Changes Since Last Permit Issuance: none

The existing WWTP train is as follows:

Mechanical Bar Screen (1) ⇒ Pre-React Chamber (2) ⇒ Sequencing Batch Reactor (2) ⇒ Ultraviolet Disinfection Unit (1) ⇒ Discharge

The system incorporates the addition of aluminum sulfate (for coagulation and phosphorus removal). Six aerated sludge digesters are on-site.

Residual solids are held in 2 aerobic digesters prior to liquid application on farm fields.

Compliance History	
Summary of DMRs:	DMRs reported last 12 months from February 1, 2019 to January 31, 2020 are summarized in the Table below (Pages 5 & 6).
Summary of Inspections:	2/16/2018: Mr. Bowen, DEP WQS, conducted a compliance elevation inspection. There were violations noted during the inspection such as failure to analyze samples weekly for TKN and NO_2 + NO_3. The decant appeared clear. Field test results were within the permitted limits. White Run Municipal Authority land applies waste sludge as class B biosolids to 3 farms: Winefred Chesney Farm, Bruce Stair Farm # 1, and Bruce Stair Farm # 2. 5/26/2016: Mr. Haines, DEP WQS, conducted a compliance elevation inspection. There were no violations noted during the inspection. There were recommendations such as include < (less than) qualifier on DMR in addition to supplemental form when reporting non-detect results, and document composite sampling to include date, times, and person sampling. Effluent was clear, field test results were within the permitted limits.
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)	340 mg/L	187 mg/L	pH (minimum)	6.3 S.U.	
BOD_5 (lbs/day)	742 lbs/day	358 lbs/day	pH (maximum)	7.6 S.U.	
TSS (mg/L)	348 mg/L	141 mg/L	D.O (minimum)	5.1 mg/L	7.5 mg/L
TSS (lbs/day)	981 lbs/day	280 lbs/day	TRC	N/A mg/L	N/A mg/L
TN (mg/L)	80.9 mg/L	80.9 mg/L	Fecal Coliform	211 No./100mL	4 No./100mL
TN (lbs/day)	109.3 lbs/day	109.3 lbs/day	$CBOD_5$	6.0 mg/L	3.0 mg/L
TP (mg/L)	9.5 mg/L	9.5 mg/L	TSS	30 mg/L	7.0 mg/L
TP (lbs/day)	12.8 lbs/day	12.8 lbs/day	NH3-N	0.7 mg/L	0.1 mg/L
NH_3-N (mg/L)	54.0 mg/L	54.0 mg/L	TN	23.9 mg/L	13.5 mg/L
NH_3-N (lbs/day)	73.0 lbs/day	73.0 lbs/day	TP	2.2 mg/L	1.5 mg/L
TDS (mg/L)	948 mg/L	948 mg/L	Temp	74 F	74 F
TDS (lbs/day)	1281 lbs/day	1281 lbs/day	TKN	2.5 mg/L	0.7 mg/L
TKN	80.0 mg/L	80.0 mg/L	NO2-N + NO3-N	23.4 mg/L	12.7 mg/L
NO_2-N + NO_3-N	< 0.9 mg/L	< 0.9 mg/L	TDS	912 mg/L	901 mg/L
			Chloride	240 mg/L	240 mg/L
			Bromide	< 0.5 mg/L	< 0.5 mg/L
			Sulfate	14 mg/L	14 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	0.13 mg/L	0.13 mg/L

Compliance History

DMR Data for Outfall 001 (from February 1, 2019 to January 31, 2020)

Parameter	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19
Flow (MGD) Average Monthly	0.209	0.204	0.175	0.150	0.144	0.152	0.197	0.173	0.218			
Flow (MGD) Daily Maximum	0.444	0.403	0.441	0.268	0.191	0.180	0.467	0.252	0.558			
pH (S.U.) Minimum	6.7	6.6	6.4	6.9	6.4	7.0	6.9	6.9	6.8			
pH (S.U.) Maximum	7.4	7.3	7.3	7.3	7.3	7.4	7.3	7.3	7.3			
DO (mg/L) Minimum	7.4	7.3	6.7	5.6	5.3	5.2	5.3	5.1	5.3			
CBOD5 (lbs/day) Average Monthly	6.7	5.0	5.4	5.7	4.0	4.2	5.8	4.4	34.8			
CBOD5 (lbs/day) Weekly Average	9.2	6.4	8.9	6.7	4.7	4.5	11.6	4.8	8.5			
CBOD5 (mg/L) Average Monthly	3	3	3.2	3.7	3	3	3	3	3			
CBOD5 (mg/L) Weekly Average	3	3	4	5	3	3	3	3	3			
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	336	358	331	365	386	336	392	297	462			
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	355	418	422	509	522	406	693	317	477			
BOD5 (mg/L) Raw Sewage Influent Average Monthly	158	217	203	242	282	238	207	200	225			
TSS (lbs/day) Average Monthly	17.8	18.4	7.9	18.1	8.7	10.3	12.3	10.7	51.1			
TSS (lbs/day) Raw Sewage Influent Average Monthly	179	231	152	280	213	222	198	116	222			
TSS (lbs/day) Raw Sewage Influent Daily Maximum	210	289	196	418	299	310	373	136	426			
TSS (lbs/day) Weekly Average	30.8	10.8	17.2	31.2	15.2	15.6	18.7	12.9	12.7			
TSS (mg/L) Average Monthly	7.5	3.4	4.7	11	6.4	7.2	7.6	7.5	5			
TSS (mg/L) Raw Sewage Influent Average Monthly	83	137	94	184	156	157	102	79	103			

TSS (mg/L) Weekly Average	10	6	10	14	12	11	12	13	7			
Fecal Coliform (CFU/100 ml) Geometric Mean	2.4	1.9	2.4	19	5.1	6.9	5.6	10.1	2.8			
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	9	5	6	29	54	66	20	60	5			
UV Intensity (mW/cm²) Minimum	33.93	33.33	31.77	28.29	25.51	28.10	28.72	29.08	29.82			
UV Intensity (mW/cm²) Average Monthly	35.17	34.60	33.48	29.62	31.31	31.30	30.20	30.33	31.80			
Nitrate-Nitrite (mg/L) Average Monthly	12.1	12.7	14.10	15.10	13.1	12.1	11.9	12	9.1			
Nitrate-Nitrite (lbs) Total Monthly	26.9	654	675	790	534	533	697	534	775			
Total Nitrogen (mg/L) Average Monthly	12.6	13.2	10.90	16.6	13.6	12.7	12.6	12.6	10.0			
Total Nitrogen (lbs) Total Monthly	28.0	682	699	815	552	588	750	564	868			
Total Nitrogen (lbs) Total Annual					9289							
Ammonia (lbs/day) Average Monthly	0.35	0.18	0.15	0.2	0.2	0.12	0.18	0.15	0.72			
Ammonia (mg/L) Average Monthly	0.15	0.11	0.10	0.14	0.15	0.10	0.10	0.10	0.21			
Ammonia (lbs) Total Monthly	10.8	5.5	4.5	24	6.0	3.8	5.6	4.5	22			
Ammonia (lbs) Total Annual					105							
TKN (mg/L) Average Monthly	0.50	0.50	0.50	0.50	0.50	0.50	0.67	0.65	0.9			
TKN (lbs) Total Monthly	1.1	26.0	24.6	248	20.4	24.8	49.6	30	80			
Total Phosphorus (lbs/day) Average Monthly	2.7	2.3	2.5	3.3	1.7	2.5	3	2.8	3.7			
Total Phosphorus (mg/L) Average Monthly	1.2	1.4	1.4	2.1	1.3	1.8	1.5	1.8	1.8			
Total Phosphorus (lbs) Total Monthly	2.7	71	75	102	51	79	93	84	114			
Total Phosphorus (lbs) Total Annual					1051							

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.33
Latitude 39º 47' 22.01" **Longitude** -77º 11' 56.56"
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 ($CBOD_5$):
The attached computer printout of the WQM 7.0 stream model indicates that a monthly average limit of 25 mg/L, or secondary treatment, is adequate to protect the water quality of the stream. Recent DMRs and inspection reports show that the facility has been consistently achieving concentrations well below this existing limit. Mass limits are calculated as follows:

Average monthly mass limit: 25 mg/L x 0.330 MGD x 8.34 = 68.0 lbs/day
Average weekly mass limit: 40 mg/L x 0.330 MGD x 8.34 = 110.0 lbs/day

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 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 0.330 MGD, limits (rounded according to the NPDES Technical Guidance 362-0400-001) of 2.7 mg/L NH_3-N as a monthly average and 5.4 mg/L NH_3-N instantaneous maximum are necessary to protect the aquatic life from toxicity effects. The more stringent summer in existing limits of 2.5 mg/L monthly average & 5.0 mg/L IMAX will remain in the proposed permit due to anti-backsliding requirements. The winter effluent limit will be set at three-times the summer limits. Recent DMRs and inspection reports indicate that the facility has been consistently achieving these limits. Mass limits are calculated as follows:

Summer average monthly mass limit: 2.5 mg/L x 0.330 MGD x 8.34 = 6.9 lbs/day
Winter average monthly mass limit: 7.5 mg/L x 0.330 MGD x 8.34 = 20.0 lbs/day

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

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.

Total Suspended Solids (TSS):
The existing limits of 30 mg/L average monthly and 60 mg/L instantaneous maximum will remain in the 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 concentrations well below these limits. Mass limits are calculated as follows:

Average monthly mass limit: 30 mg/L x 0.330 MGD x 8.34 = 82 lbs/day
Average weekly mass limit: 45 mg/L x 0.330 MGD x 8.34 = 123 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.

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.

Toxics:
Review of the permit application revealed no toxic parameters of concern. The application states that there are no industrial wastewater contributions.

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. Mass limits are calculated as follows:

Average monthly mass limit: 2.0 mg/L x 0.330 MGD x 8.34 = 5.5 lbs/day

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

Total Dissolved Solids (TDS) / Sulfate / Chloride / Bromide / 1,4-Dioxane:
Total Dissolved Solids (TDS) and its major constituents including sulfate, chloride, and bromide have emerged as pollutants of concern in several major watersheds in the Commonwealth. The conservative nature of these solids allows them to accumulate in surface waters and they may remain a concern even if the immediate downstream public water supply is not directly impacted. Under the authority of § 92a.61, statewide guidance distributed by the Department's Central Office on January 23, 2014 stated the following:

For point source discharges and upon issuance or reissuance of an individual NPDES permit:

- *Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.*
- *Where the concentration of bromide in a discharge exceeds 1 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.*
- *Where the concentration of 1,4-dioxane (CAS 123-91-1) in a discharge exceeds 10 µg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for 1,4-dioxane. Discharges of 0.1 MGD or less should monitor and report for 1,4-dioxane if the concentration of 1,4-dioxane in the discharge exceeds 100 µg/L.*

The table below compares the above thresholds for monitoring requirements with the concentrations documented in the current application:

Table 5. Department Monitoring Thresholds and Expected Discharge Concentrations for TDS and Related Parameters

Parameter	Threshold for Discharges >0.1 MGD	Threshold for Discharges ≤0.1 MGD	Max. Concentration in Application
TDS	1,000 mg/L or 20,000 lbs/day	5,000 mg/L	588 mg/L
Sulfate	NA	NA	100 mg/L
Chloride	NA	NA	160 mg/L
Bromide	1 mg/L	10 mg/L	<0.50 mg/L
1,4-Dioxane	10 µg/L	100 µg/L	(Not Expected to be Present)

Based on the sampling results in the application, no monitoring will be required for the above parameters of concern.

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.

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.

303(d) Listed Streams:
eMapPA lists White Run as impaired (non-attaining) at the discharge point for nutrients and siltation due to small residential runoff and for flow alterations due to an upstream impoundment, which was created on March 29, 1999. Approximately 0.52 river miles downstream, Rock Creek is listed as impaired (non-attaining) for nutrients due to agriculture and a municipal point source, which was created on May 19, 2009. A TMDL has not yet been written for these impairments.

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

WQM 7.0 Data:

Node 1:	Outfall 001 on White Run (59099)	
	Elevation:	409.18 ft (USGS National Map Viewer)
	Drainage Area:	12.8 $mi.^2$ (USGS PA StreamStats)
	River Mile Index:	0.52 (PA DEP eMapPA)
	Q_{7-10} Low Flow Yield:	0.030 $cfs/mi.^2$
	Discharge Flow:	0.330 MGD (NPDES permit)
Node 2:	Just before confluence with Rock Creek	
	Elevation:	402.13 ft (USGS National Map Viewer)
	Drainage Area:	13.1 $mi.^2$ (USGS PA StreamStats)
	River Mile Index:	0.01 (PA DEP eMapPA)
	Q_{7-10} Low Flow Yield:	0.030 $cfs/mi.^2$
	Discharge Flow:	0.000 MGD

WQM 7.0 data is attached.

White Run WQM 7.0 data.pdf

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	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
UV Intensity (mW/cm²)	XXX	XXX	Report	Report	XXX	XXX	1/day	Recorded
$CBOD_5$	68	110 Wkly Avg	XXX	25	40	50	1/week	8-Hr Composite
Total Suspended Solids	82	123 Wkly Avg	XXX	30	45	60	1/week	8-Hr Composite
BOD_5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Ammonia-Nitrogen May 1 - Oct 31	6.9	XXX	XXX	2.5	XXX	5.0	1/week	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	20	XXX	XXX	7.5	XXX	15	1/week	8-Hr Composite
Total Phosphorus	5.5	XXX	XXX	2.0	XXX	4.0	1/week	8-Hr Composite

Existing Effluent Limitations and Monitoring Requirements

Parameter (1)	Effluent Limitations					Monitoring Requirements	
	Mass Units (lbs)		Concentrations (mg/L)			Minimum (2) 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	Daily 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 (mW/cm²)	XXX	XXX	Report	Report	XXX	XXX	1/day	Recorded
$CBOD_5$	68.0	110.0 Wkly Avg	XXX	25.0	40.0	50.0	1/week	8-Hr Composite
TSS	82.0	123.0 Wkly Avg	XXX	30.0	45.0	60.0	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
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Ammonia May 1 - Oct 31	6.9	XXX	XXX	2.5	XXX	5.0	1/week	8-Hr Composite
Ammonia Nov 1 - Apr 30	20.0	XXX	XXX	7.5	XXX	15.0	1/week	8-Hr Composite
Total Phosphorus	5.5	XXX	XXX	2.0	XXX	4.0	1/week	8-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" (362-0400-001), SOPs and/or BPJ.

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

Parameter [1]	Effluent Limitations					Monitoring Requirements	
	Mass Units (lbs)		Concentrations (mg/L)			Minimum [2] 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

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: