pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0057819**
Facility Type	**Municipal**	APS ID	**1005295**
Major / Minor	**Major**	Authorization ID	**1294703**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**New Hanover Township Authority Montgomery County**	Facility Name	**New Hanover Township STP & Sewer System**
Applicant Address	2990 Fagleysville Road	Facility Address	2990 Fagleysville Road
	Gilbertsville, PA 19525-9747		Gilbertsville, PA 19525-9747
Applicant Contact	Thomas Miskiewicz	Facility Contact	Gregory Rapp
Applicant Phone	(610) 754-6432	Facility Phone	(610) 323-1008
Client ID	227996	Site ID	446201
Ch 94 Load Status	Not Overloaded	Municipality	New Hanover Township
Connection Status		County	Montgomery
Date Application Received	October 28, 2019	EPA Waived?	No
Date Application Accepted		If No, Reason	Major Facility

Purpose of Application: Permit Renewal.

Summary of Review

The applicant requested a permit renewal for PA0057819 New Hanover Township Sewer Treatment Plant. The permit is to discharge 1.925 million gallons per day (MGD) to Swam Creek (Trout Stocking Fishes, Migratory Fishes). Outfall 001 is treated sewage and Outfalls 002, 003, 004, and 005 are stormwater outfalls. The hydraulic design capacity of the plant is 3.08 MGD. The annual average flows for 2015, 2016, and 2017 were 0.623 MGD, 0.629 MGD, and 0.68 MGD, respectively.

The Total Dissolved Solids (TDS) average monthly limit was changed from 1,000 mg/l to 1,200 mg/l (as were the corresponding average weekly and instantaneous maximum (IMAX) limits) per DRBC Docket No. D-1999-040 CP-4 approved September 13, 2018 (expiration October 31, 2020). The permittee has been complying with TDS limits during 2019. All other parameters and monitoring frequencies remain the same in this renewal as in the current permit. WET testing was added to Part A for easier reporting but did not change the monitoring requirements or frequencies (Part C of the permit). Based on new analyses/information WET testing dilution series is 14%, 28%, 55%, 78%, 100% with the TIWC at 55%.

Public Participation

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

Approve	Deny	Signatures	Date
X		Harmonie Hawley, PhD, PE / Environmental Engineering Specialist /s/	November 14, 2019
X		Pravin C. Patel, P.E. / Environmental Engineer Manager /s/	November 15, 2019

Summary of Review
The treatment plant consists of an influent mechanical bar screen, grit removal system, four (4) oxidation ditches, four (4) clarifiers, ultraviolet disinfection system, post aeration tank, drop structure for DO, two (2) aerobic digesters, two (2) sludge holding tanks, sludge thickening, and dewatering through belt filter press. The sludge cake is hauled off site. Aluminum sulfate is used for phosphorus reduction and polymer and lime are used to coagulate and stabilize sludge. Act 14 Notifications: Received August 26, 2019 Montgomery County Received August 26, 2019 New Hanover Township

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	1.925
Latitude	40º 16' 45.04"	Longitude	-75º 32' 50.32"
Quad Name	Sassamansville	Quad Code	1641
Wastewater Description:	Sewage Effluent		

Receiving Waters	Swamp Creek (TSF, MF)	Stream Code	01309
NHD Com ID	25994272	RMI	4.75 miles
Drainage Area	39.7	Yield (cfs/mi^2)	0.06
Q_{7-10} Flow (cfs)	2.42	Q_{7-10} Basis	PA Stream Stats
Elevation (ft)	0.06260	Slope (ft/ft)	0.036
Watershed No.	3-E	Chapter 93 Class.	TSF, MF
Existing Use	Ch. 93 designated use	Existing Use Qualifier	Not Applicable
Exceptions to Use	Not Applicable	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	Not Applicable		
Source(s) of Impairment	Not Applicable		
TMDL Status	No TMDL	Name	

Nearest Downstream Public Water Supply Intake	Aqua PA		
PWS Waters	Perkiomen Creek near Wetherill Dam	Flow at Intake (cfs)	37 (24 MGD eMap Safe Yield)
PWS RMI	0.9	Distance from Outfall (mi)	~18 miles

Changes Since Last Permit Issuance: None

Other Comments: The Swamp Creek flows about 5 miles to the Perkiomen Creek, then the PWS intake is about 13 miles downstream of the confluence of Swamp Creek and Perkiomen Creek.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0
Latitude	40º 16' 48.16"	Longitude	-75º 33' 8.78"
Outfall No.	003	Design Flow (MGD)	0
Latitude	40º 16' 47.54"	Longitude	-75º 32' 49.88"
Outfall No.	004	Design Flow (MGD)	0
Latitude	40º 16' 47.54"	Longitude	-75º 32' 49.88"
Outfall No.	005	Design Flow (MGD)	0
Latitude	40º 16' 46.16"	Longitude	-75º 32' 50.19"

Quad Name	Sassamansville	Quad Code	1641
Wastewater Description:	Stormwater		

Receiving Waters	Unnamed Tributary to Swamp Creek (TSF, MF)	Stream Code	01309
NHD Com ID	25994274	RMI	4.75
Drainage Area	39.7	Yield (cfs/mi^2)	0.06
Q_{7-10} Flow (cfs)	2.42	Q_{7-10} Basis	PA StreamStats
Elevation (ft)	260	Slope (ft/ft)	0.036
Watershed No.	3-E	Chapter 93 Class.	TSF, MF
Existing Use	Ch. 93 designated use	Existing Use Qualifier	Not Applicable
Exceptions to Use	Not Applicable	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	Not Applicable		
Source(s) of Impairment	Not Applicable		
TMDL Status	None	Name	

Nearest Downstream Public Water Supply Intake	Aqua PA		
PWS Waters	Perkiomen Creek near Wetherill Dam	Flow at Intake (cfs)	37 (24 MGD eMap Safe Yield)
PWS RMI	0.9	Distance from Outfall (mi)	~18 miles

Changes Since Last Permit Issuance: None

Other Comments: The Swamp Creek flows about 5 miles to the Perkiomen Creek, then the PWS intake is about 13 miles downstream of the confluence of Swamp Creek and Perkiomen Creek.

Treatment Facility Summary

Treatment Facility Name: New Hanover Township Authority STP

WQM Permit No.	Issuance Date
4699426	04/27/2000
4602401	04/16/2002
4602411	11/08/2002
4699426	12/06/2004
4604420	03/15/2005
4605411	12/15/2005
4699426	09/25/2006
4615410	03/18/2016

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Oxidation Ditch	Ultraviolet	1.925

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
3.08		Not Overloaded	Aerobic Digestion	Landfill

Changes Since Last Permit Issuance: None

Other Comments: None

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	0.597	0.718	0.905	0.827	1.01	0.831	1.056	1.028	0.975	1.059	1.289	0.812
Flow (MGD) Daily Maximum	0.798	1.078	2.226	2.121	2.298	2.106	2.524	1.728	2.488	2.354	2.392	1.23
pH (S.U.) Instantaneous Minimum	7.19	7.32	7.1	7.23	7.06	7.17	7.15	7.01	7.33	7.16	6.48	7.32
pH (S.U.) Instantaneous Maximum	8.44	7.79	7.77	7.69	8.23	7.7	7.72	7.76	7.82	7.89	8.12	7.98
DO (mg/L) Instantaneous Minimum	6.85	7.3	7.15	7.84	9.7	6.8	9.67	9.73	9.23	8.23	7.87	7.95
DO (mg/L) Average Monthly	8.54	8.29	8.37	8.85	9.23	9.68	10.69	11	10.76	10.14	9.42	8.92
CBOD5 (lbs/day) Average Monthly	< 9	< 11	< 15	< 14	< 17	< 21	35	39	28	21	36	13
CBOD5 (lbs/day) Weekly Average	< 11	14	< 21	17	25	30	65	45	41	26	44	15
CBOD5 (mg/L) Average Monthly	< 2	< 2	< 2	< 2	< 2	< 4	4	5	4	< 3	3	< 2
CBOD5 (mg/L) Raw Sewage Influent Average Monthly	189	216	167	181	142.2	151	136	135	121.2	137	80.4	145
CBOD5 (mg/L) Weekly Average	< 2	2	2	3	2	5	6	7	7	4	4	< 2
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	840	1178	1087	1112	867	1072	977	1233	829	898	879	998
BOD5 (mg/L) Raw Sewage Influent Average Monthly	183	223	146.2	172	132.4	175	131	157	129.1	126.3	81.9	157
TSS (lbs/day) Average Monthly	< 18	< 22	< 30	< 26	< 41	< 33	82	77	44	38	65	27
TSS (lbs/day) Weekly Average	< 22	< 24	< 43	31	67	44	110	135	77	59	86	31

TSS (mg/L) Average Monthly	< 4	< 4	< 4	< 4	< 5	< 6	10	11	7	5	< 6	< 4
TSS (mg/L) Raw Sewage Influent Average Monthly	127	157	160	173	111	101.7	105.8	107.4	78	105.9	56.1	153
TSS (mg/L) Weekly Average	4	4	4	4	6	8	11	19	8	8	< 8	4
Total Dissolved Solids (mg/L) Average Monthly	935	1000	817	663	507	764	535	799	615	608	510	742
Total Dissolved Solids (mg/L) Daily Maximum	1030	1070	916	932	766	896	854	1010	876	848	554	817
Fecal Coliform (No./100 ml) Geometric Mean	13	16	28	15	< 5	< 2	2	3	< 2	2	4	3
Fecal Coliform (No./100 ml) Instantaneous Maximum	63	27	120	36	12	8	6	41	3	3	6	9
UV Transmittance (%) Minimum	72	70	65	65	60	66	67	66	63	67	70	68
Total Nitrogen (lbs/day) Average Monthly	126	151	173	132	129	133	124	142	124	109	160	149
Total Nitrogen (mg/L) Average Monthly	27.4	27.8	23.9	20.3	18.35	22.2	16.9	18.5	19.2	16.49	14.55	22.6
Ammonia (lbs/day) Average Monthly	< 0.2	< 0.4	< 0.3	< 0.3	< 0.8	< 0.6	< 0.8	< 0.8	< 0.7	0.7	< 2	< 0.7
Ammonia (mg/L) Average Monthly	< 0.04	< 0.1	< 0.04	< 0.04	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1
Total Phosphorus (lbs/day) Average Monthly	2	3	4	4	4	4	4	4	3	3	4	3
Total Phosphorus (mg/L) Average Monthly	0.5	0.5	0.6	0.5	0.5	0.6	0.5	0.5	0.4	0.5	0.3	0.5
Sulfate (mg/L) Average Monthly	161	139	127	142	50.4	120	100	112	98.1	64.8	75.8	104
Chloride (mg/L) Average Monthly	347	308	266	334	129	323	458	127	197	151	162	287
Bromide (mg/L) Average Monthly	< 0.21	0.42	< 1	< 0.21	< 1	< 1.0	< 1	1	< 1	< 1	< 1	< 1

DMR Data for Outfall 005 (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
pH (S.U.) Daily Maximum										7.06		
CBOD5 (mg/L) Daily Maximum										4.8		
COD (mg/L) Daily Maximum										21.2		
TSS (mg/L) Daily Maximum										42		
Oil and Grease (mg/L) Daily Maximum										< 5.0		
Fecal Coliform (CFU/100 ml) Daily Maximum										16200		
TKN (mg/L) Daily Maximum										2.7		
Total Phosphorus (mg/L) Daily Maximum										0.21		
Dissolved Iron (mg/L) Daily Maximum										0.567		

Compliance History

Effluent Violations for Outfall 001, from: November 1, 2018 To: September 30, 2019

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	02/28/19	Avg Mo	11	mg/L	10	mg/L
TSS	02/28/19	Wkly Avg	19	mg/L	15	mg/L

Summary of Inspections: The most recent inspection was October 2, 2019. The facility had no operational violations, but there were 2 eDMR reported so far for 2019 (shown in the table above). Previous inspection was held on August 20, 2019 and no operational violations were observed.

Other Comments: None

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 1.925
Latitude 40º 16' 45.00" **Longitude** -75º 32' 50.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

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

Comments: The above limits were evaluated during this renewal. The pH will remain 6.0 to 9.0 SU. The current permit, and water-quality effluent based limitations were stricter than the above limits and therefore retained from the current permit to this renewal.

Fecal coliform limits were carried over into this renewal and are 200 colonies (geometric mean)/100 ml and 1,000 colonies/100 ml as an IMAX for the entire year [based on Chapter 92a.47(a)(4) and the Delaware River Basin Commission (DRBC)]. The same conditions apply to this permit renewal as are in the current permit. The IMAX of 1,000 col/100 ml applies from May 1 to September 31 at all times; however, the remainder of the year (October 1 to April 30) the limit of 1,000/100 ml can be exceeded in 10 percent of the samples as stated in the current permit.

The plant does not use chlorine for disinfection or algal control, nor does the facility store chlorine on-site. The plant uses UV-disinfection, thus UV monitoring will continue to be in the permit limitations.

WQM modeling was conducted (Attachment A). For the conventional pollutants (CBOD5, NH3-N and DO), current permit limits were carried over into this renewal, including the seasonal variations.

The permittee has a limit set for Total Phosphorus (TP) which will be retained in this permit renewal. The limit was based on concerns of excessive nutrients in the down-stream Perkiomen Creek. While neither Swamp Creek or the down-stream section of Perkiomen Creek are listed as impaired, the TP limit will remain. The current permit requires monitoring of TN, which is consistent with standard practices (SOP No. BCW-PMT-033) and will remain in this renewal.

The Total Dissolved Solids (TDS) average monthly limit was changed from 1,000 mg/l to 1,200 mg/l (as were the corresponding average weekly and instantaneous maximum (IMAX) limits) per DRBC Docket No. D-1999-040 CP-4 approved September 13, 2018 (expiration October 31, 2020). The permittee has been complying with TDS limits during 2019. The DRBC suspects that the influent TDS may be originating from private wells with hard water that use water softeners.

While the monthly average TDS was at, or below, 1,000 mg/l during the past year, there were daily maximums reported over 1,000 mg/l. Standard practice is to monitor sulfate, chloride and bromide if the discharge exceeds 1,000 mg/l (SOP

No. BCW-PMT-033). The three aforementioned parameters are in the current permit and will be retained, as monitor, in the permit renewal.

The plant is currently achieving the above limits (with two exceedances this year for TSS).

The monitoring frequencies remain the same in this renewal as those in the current permit. Per standard practice if there is no history of non-compliance with effluent limits over the past two years and existing monitoring frequencies are less stringent than Table 6-3, those frequencies can continue in the renewed permit (SOP for New and Reissuance Sewage Individual NPDES Permit Applications, Section IV. E.4)

Water Quality-Based Limitations

A "Reasonable Potential Analysis" (Attachments B and C) determined the following parameters were candidates for limitations: Total Dissolved Solids (TDS), Chloride, Bromide, and Bis (2-Ethylhexyl) Phthalate.

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Total Dissolved Solids	Monitor	N/A	PentOx/Toxics Screening
Chloride	Monitor	N/A	PentOx/Toxics Screening
Bromide	Monitor	N/A	PentOx/Toxics Screening
Sulfate	Monitor	N/A	PentOx/Toxics Screening

Comments:
Bis (2-Ethylhexyl) Phthalate was run through the PentOx and the Toxics Screening Analysis spreadsheet with the result of a most stringent WQBEL of 7.682 µg/l, which resulted in a screening recommendation of No Limits/Monitoring. The reported maximum concentration in the application for renewal was 1.56 µg/l, which is less than 50% of the WQBEL, thus no limits are established (SOP No. BCW-PMT-037).

As the TDS in the DRBC Docket is stricter than the limit (i.e. monitoring) obtained from the Reasonable Potential Analysis, the DRBC value of 1,200 mg/l will be used in the permit renewal. The remaining three parameters are in the current permit as monitor and will be retained in this renewal.

Best Professional Judgment (BPJ) Limitations

Comments: None

Anti-Backsliding

No comments. The TDS limit was revised due to a change in DRBC requirements; the TDS limits still meet the standard practices of the DEP for TDS monitoring. In addition, the TDS was meeting the limits for 2019.

Attachment A Attachment B Attachment C

Development of Effluent Limitations

Outfall No.	002	**Design Flow (MGD)**	0
Latitude	40º 16' 49.00"	**Longitude**	-75º 33' 10.00"
Wastewater Description:	Stormwater		

Outfall No.	003	**Design Flow (MGD)**	0
Latitude	40º 16' 51.00"	**Longitude**	-75º 33' 3.00"
Wastewater Description:	Stormwater		

Outfall No.	004	**Design Flow (MGD)**	0
Latitude	40º 16' 50.00"	**Longitude**	-75º 32' 59.00"
Wastewater Description:	Stormwater		

Outfall No.	005	**Design Flow (MGD)**	0
Latitude	40º 16' 48.00"	**Longitude**	-75º 33' 0.00"
Wastewater Description:	Stormwater		

For stormwater discharges, requirements are unchanged from the current permit. Monitoring is only required at Outfall 005, since it was previously determined to be representative of Outfalls 002, 003 and 004. In addition to monitoring, an annual site stormwater inspection is required.

Anti-Backsliding

The permit requirements are in the current permit and will be retained in this renewal.

Whole Effluent Toxicity (WET)

For Outfall 001, ☐ **Acute** ☒ **Chronic** WET Testing was completed:

☒ For the permit renewal application (4 tests).
☐ Quarterly throughout the permit term.
☐ Quarterly throughout the permit term and a TIE/TRE was conducted.
☐ Other:

The dilution series used for the tests was: 100%, 72%, 43%, 22%, and 11%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 43.

Summary of Four Most Recent Test Results

(NOTE – Enter results into one table, depending on which data analysis method was used).

NOEC/LC50 Data Analysis

Test Date	*Ceriodaphnia* Results (% Effluent)			*Pimephales* Results (% Effluent)			Pass? *
	NOEC Survival	NOEC Reproduction	LC50	NOEC Survival	NOEC Growth	LC50	

***** *A "passing" result is that which is greater than or equal to the TIWC value.*

TST Data Analysis

(NOTE – In lieu of recording information below, the application manager may attach the DEP WET Analysis Spreadsheet).

Test Date	*Ceriodaphnia* Results (Pass/Fail)		*Pimephales* Results (Pass/Fail)	
	Survival	Reproduction	Survival	Growth
3/4/2016	Pass	Pass	Pass	Pass
10/17/2017	Pass	Pass	Pass	Pass
8/27/2018	Pass	Pass	Pass	Pass
7/16/2019	Pass	Pass	Pass	Pass

***** *A "passing" result is that in which the replicate data for the TIWC is not statistically significant from the control condition. This is exhibited when the calculated t value ("T-Test Result") is greater than the critical t value. A "failing" result is exhibited when the calculated t value ("T-Test Result") is less than the critical t value.*

Is there reasonable potential for an excursion above water quality standards based on the results of these tests? (*NOTE – In general, reasonable potential is determined anytime there is at least one test failure in the previous four tests).*

☐ **YES** ☒ **NO**

Comments: Used the WET Analysis Spreadsheet

Evaluation of Test Type, IWC and Dilution Series for Renewed Permit

Acute Partial Mix Factor (PMFa): **1** Chronic Partial Mix Factor (PMFc): **1**

1. Determine IWC – Acute (IWCa):

$(Q_d \times 1.547) / ((Q_{7\text{-}10} \times PMFa) + (Q_d \times 1.547))$

[(1.925 MGD x 1.547) / ((2.42 cfs x 1) + (1.925 MGD x 1.547))] x 100 = **55%**

Is IWCa < 1%? ☐ **YES** ☒ **NO (YES - Acute Tests Required OR NO - Chronic Tests Required)**

If the discharge is to the tidal portion of the Delaware River, indicate how the type of test was determined:

Not Applicable - not in the tidal portion.

Type of Test for Permit Renewal: **Chronic**

2a. Determine Target IWCa (If Acute Tests Required)

TIWCa = IWCa / 0.3 = **%**

2b. Determine Target IWCc (If Chronic Tests Required)

(Q_d x 1.547) / (Q_{7-10} x PMFc) + (Q_d x 1.547)

[(1.925 MGD x 1.547) / ((2.42 cfs x 1) + (1.925 MGD x 1.547))] x 100 = **55%**

3. Determine Dilution Series

(NOTE – check Attachment C of WET SOP for dilution series based on TIWCa or TIWCc, whichever applies).

Dilution Series = 100%, 78%, 55%, 28%, and 14%.

WET Limits

Has reasonable potential been determined? ☐ YES ☒ NO

Will WET limits be established in the permit? ☐ YES ☒ NO

If WET limits will be established, identify the species and the limit values for the permit (TU).

Not Applicable – no limits established.

If WET limits will not be established, but reasonable potential was determined, indicate the rationale for not establishing WET limits:

Not Applicable – reasonable potential was not determined.

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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	Report	XXX	XXX	1/day	Grab
CBOD5 Nov 1 - Apr 30	241	361	XXX	15	23	30	1/week	24-Hr Composite
CBOD5 Raw Sewage Influent	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
CBOD5 May 1 - Oct 31	160	241	XXX	10	15	20	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS Raw Sewage Influent	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	160	241	XXX	10	15	20	1/week	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	1200.0	2400.0 Daily Max	3000	1/week	24-Hr Composite
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1000*	1/week	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Metered
Total Nitrogen	Report	XXX	XXX	Report	XXX	Report	1/week	24-Hr Composite

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ammonia Nov 1 - Apr 30	48	XXX	XXX	3.0	XXX	6	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	24	XXX	XXX	1.5	XXX	3	1/week	24-Hr Composite
Total Phosphorus	14	XXX	XXX	0.9	XXX	1.8	1/week	24-Hr Composite
Sulfate	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Chloride	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Bromide	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite

*Not to exceed 1,000 /100 ml as an instantaneous maximum from May 1 through September 30. Not to exceed 1,000 /100 ml in greater than 10 percent of samples tested from October 1 through April 30.

Compliance Sampling Location: Outfall 001

Other Comments: The TDS was changed from 1,000 mg/l to 1,200 mg/l; the weekly average and IMAX were also updated per standard practice (2 and 2.5 times the average monthly limit, respectively). All other parameters and monitoring frequencies remain the same as the existing permit.

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	Average Weekly	Minimum	Daily Maximum	Maximum	Instant. Maximum		
Chronic WET - Ceriodaphnia Survival (TUc)	XXX	XXX	XXX	Report	XXX	XXX	See Permit	24-Hr Composite
Chronic WET - Ceriodaphnia Reproduction (TUc)	XXX	XXX	XXX	Report	XXX	XXX	See Permit	24-Hr Composite
Chronic WET - Pimephales Survival (TUc)	XXX	XXX	XXX	Report	XXX	XXX	See Permit	24-Hr Composite
Chronic WET - Pimephales Growth (TUc)	XXX	XXX	XXX	Report	XXX	XXX	See Permit	24-Hr Composite

Compliance Sampling Location: Outfall 001

Other Comments: WET testing (Part C of current permit) is retained in this permit. The four parameters are being added to the table in Part A of the permit for easy reference. In addition, the four parameters were added to the eDMRs as reporting 1/quarter (monitoring is See Permit and is described in Part C; monitoring frequencies are dependent on WET testing results).

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 005, 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	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
CBOD5	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
COD	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Fecal Coliform (CFU/100 ml)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
TKN	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Dissolved Iron	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Compliance Sampling Location: Outfall 005

Other Comments: No monitoring is conducted at Outfalls 002, 003 and 004 as Outfall 005 was previously determined to be representative of all stormwater outfalls.

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment **A**)
☒	PENTOXSD for Windows Model (see Attachment **B**)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Toxics Screening Analysis Spreadsheet (see Attachment **C**)
☐	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 No. BCW-PMT-033 "Establishing Effluent Limitations for Individual Sewage Permits" (Final November 9, 2012; Revised January 10, 2019; Version 1.6) SOP for New and Reissuance Sewage Individual NPDES Permit Applications (Final November 9, 2012; Revised October 11, 2013; Version 1.8) SOP No. BCW-PMT-037 Establishing Water Quality Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants in NPDES Permits for Existing Dischargers (Final January 10, 2019; Revised July 30, 2019; Version 1.2)

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☐	Other: