pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0026786**
Facility Type	**Municipal**	APS ID	**1040105**
Major / Minor	**Major**	Authorization ID	**1356616**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Pottstown Borough Authority Montgomery County**	Facility Name	**Pottstown Borough Sewer System & STP**
Applicant Address	100 East High Street	Facility Address	1269 Industrial Highway
	Pottstown, PA 19464		Pottstown, PA 19464
Applicant Contact	Brent Wagner	Facility Contact	Brent Wagner
Applicant Phone	(610) 970-6540	Facility Phone	(610) 970-6540
Client ID	52334	Site ID	237350
Ch 94 Load Status	Not Overloaded	Municipality	Pottstown Borough
Connection Status	No Limitations	County	Montgomery
Date Application Received	June 3, 2021	EPA Waived?	No
Date Application Accepted	Not Applicable	If No, Reason	Major Facility, Pretreatment

Purpose of Application: NPDES permit renewal.

Summary of Review

An application was received to renew the National Pollutant Discharge Elimination System (NPDES) permit number PA0026786. The facility permitted annual average flow is 12.85 million gallons per day (mgd).

Treatment units consist of a mechanical bar screen with back-up comminutor, two pre-aeration/grit removal tanks, eight aeration tanks, two final clarifiers, a dechlorination trough, and two dechlorination tanks. Waste activated sludge is treated by two rotary drum thickeners, two aerobic digesters, one of two dewatering centrifuges and a thermal dryer, producing Class A (land applied) and Class B (landfilled) biosolids. The treatment plant serves the Borough of Pottstown, Lower Pottsgrove Township, West Pottsgrove Township, and Upper Pottsgrove Township. The facility receives both municipal and residual hauled-in waste.

The facility has a pre-treatment plan. The following industrial users were noted on the renewal application:

A&L Handles, Inc (screwdriver handles) 125 gpd
American Key (stainless steel kegs) 2,733.33 gpd
Best Weld, Inc. (bend metal pipes) 3,169 gpd
Dana Driveshaft Products, LLC (driveline parts) 24,741 gpd
Hammond Lead Product (manufacture lead oxide) 761 gpd
Innochem Inc. (manufacture tin oxide and tin sulfate) 8 gpd
Pottstown Memorial Medical Center (hospital) 105,532 gpd
Sly Fox Brewing Co. (brewery) 8,334 gpd
Glen Springs Holdings, Inc. (GW remediation), goes direct to Schuylkill 0 gpd
Delaware County Solid Waste Authority (landfill leachate) 111,199 gpd
Pottstown Landfill, Waste Management (landfill) 31,194 gpd
Western Berks Community Landfill & Recycling Center (landfill leachate) 17,778 gpd

Approve	Deny	Signatures	Date
X		Harmonie Hawley, PhD, PE / Environmental Engineering Specialist /s/	August 13, 2021
X		Pravin C. Patel, P.E. / Environmental Engineer Manager /s/	08/16/2021

Summary of Review

Act 14 Notifications:
Montgomery County Received May 14, 2021
Lower Pottsgrove Received May 5, 2021
Upper Pottsgrove Received May 5, 2021
West Pottsgrove Received May 6, 2021
Pottstown Received June 3, 2021

Sludge use and disposal description and location(s): The facility has two biosolids permits (PAG08-0005 and PAG07-011); in addition, biosolids are hauled to a landfill.

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	12.85
Latitude	40º 14' 09"	Longitude	-75º 37' 30"
Quad Name	Pottstown	Quad Code	1740
Wastewater Description:	Treated Sewage Effluent with industrial contributions		

Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	00833
NHD Com ID	25990598	RMI	52.45
Drainage Area	1148.47	Yield (cfs/mi^2)	0/245
Q_{7-10} Flow (cfs)	281	Q_{7-10} Basis	PA StreamStats
Elevation (ft)	115.8	Slope (ft/ft)	0.00028
Watershed No.	3-D	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93	Existing Use Qualifier	N/A
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Schuylkill River PCB TMDL

Background/Ambient Data		Data Source
pH (SU)	7	TRG WQM (391-2000-007 default data)
Temperature (°F)	68 (20 °C)	TRG WQM (391-2000-007 default data)
Hardness (mg/L)	100	Toxics Analysis Spreadsheet default
Other:	N/A	None

Nearest Downstream Public Water Supply Intake		PA American Royersford (3.7 mgd)	
PWS Waters	Schuylkill River	Flow at Intake (cfs)	~291
PWS RMI	45.95	Distance from Outfall (mi)	6.5

Changes Since Last Permit Issuance: None

Other Comments: Last Fact Sheet used *Water Resources Investigations Report 99-4068 “Comparison of Methods for Computing Streamflow Statistics for Pennsylvania Streams” (1999), Appendix 1. From 1935-1996, Q7-10 = 281 cfs at USGS01472000, where DA = 1147 mi2; this information is barely changed in the renewal.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	002	Design Flow (MGD)	0
Latitude	40º 14' 04"	Longitude	-75º 37' 44"
Quad Name	Pottstown	Quad Code	1740
Wastewater Description:	Stormwater		
Receiving Waters	Schuylkill River (WWF, MF)	Stream Code	00833
Assessment Status	Impaired		
Cause(s) of Impairment	Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Schuylkill River PCB TMDL

Changes Since Last Permit Issuance: None – same information as Outfall 001

Other Comments: None

Treatment Facility Summary

Treatment Facility Name: Pottstown Borough STP

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Activated Sludge	Chlorine With Dechlorination	12.85

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
15.6	23000	Not Overloaded	Permit/Hauled off	Permit/Hauled off

Changes Since Last Permit Issuance: the facility removed the grit removal tanks with the scum handling equipment (permit 4621401 issued 5/6/2021). The mechanical screens and comminutors were replaced (permit 4618407 issued 9/26/2018). The sludge dryer system was replaced (permit 4617406 issued 3/12/2018)

Other Comments: None

Compliance History

DMR Data for Outfall 001 (from July 1, 2020 to June 30, 2021)

Parameter	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20
Flow (MGD) Average Monthly	4.619	4.327	4.647	7.598	7.965	5.243	8.240	4.655	3.953	3.337	4.491	3.939
Flow (MGD) Daily Maximum	13.767	16.009	8.695	25.543	20.945	16.074	31.825	11.008	11.008	8.321	22.317	12.864
pH (S.U.) Instantaneous Minimum	6.9	6.1	6.2	6.0	6.0	6.3	6.5	6.6	6.8	6.2	6.7	6.1
pH (S.U.) Instantaneous Maximum	7.4	7.3	7.5	7.4	7.2	7.4	7.1	7.4	7.2	7.3	7.0	7.5
DO (mg/L) Instantaneous Minimum	7.6	7.8	7.9	8.7	9.2	9.1	8.9	8.4	8.1	7.8	7.7	7.7
DO (mg/L) Average Monthly	8.0	8.2	8.5	9.2	9.6	9.5	9.5	8.8	8.4	10.4	7.9	7.9
TRC (mg/L) Average Monthly	0.07	0.1	0.08	0.19	0.15	0.11	0.2	0.14	0.1	0.07	0.10	0.04
TRC (mg/L) Instantaneous Maximum	0.22	0.9	0.43	0.76	0.83	0.47	1.3	0.90	0.6	0.6	1.5	0.12
CBOD5 (lbs/day) Average Monthly	221	254	254	636	534	275	500	268	163	133	285	168
CBOD5 (lbs/day) Weekly Average	394	212	287	1182	934	502	1171	188	169	158	900	322
CBOD5 (mg/L) Average Monthly	6	7	7	8.3	7.1	6	5.6	6	5	4.7	5	4.7
CBOD5 (mg/L) Weekly Average	7	7	7	9.7	8.0	7	7.5	5	5	5.8	8	6.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	16872	12630	11549	11723	11093	8413	14431	8893	7299	9184	8833	11615
BOD5 (mg/L) Raw Sewage Influent Average Monthly	438	350	314	185	167	229	210	243	237	330	271	347
TSS (lbs/day) Average Monthly	313	402	337	1066	936	619	988	519	415	314	703	351

TSS (lbs/day) Weekly Average	564	321	464	1884	1704	1143	2399	380	500	330	1990	800
TSS (mg/L) Average Monthly	8	10	9	14	12.0	14	11	11	13	11	13	9.0
TSS (mg/L) Raw Sewage Influent Average Monthly	787	525	337	207	182	390	287	264	373	460	663	328
TSS (mg/L) Weekly Average	9	11	10	21	13.3	19	15	9	15	13	20	13.1
Total Dissolved Solids (lbs/day) Average Monthly	62848	56376	61352	71406	92080	60797	68715	47824	52827	58468	57524	57204
Total Dissolved Solids (lbs/day) Special Effluent Gross Average Monthly	GG	GG	GG	1	1	1	1	1	1	1	1	1
Total Dissolved Solids (lbs/day) Daily Maximum	150835	84750	173897	156282	201169	138118	133439	91248	146650	103013	201014	203843
Total Dissolved Solids (lbs/day) Special Effluent Gross Daily Maximum	GG	GG	GG	1	1	1	1	1	1	1	1	1
Total Dissolved Solids (mg/L) Average Monthly	1741	1793	1660	1250	1534	1613	1118	1297	2980	2129	1712	1802
Total Dissolved Solids (mg/L) Special Effluent Gross Average Monthly	GG	GG	GG	1	1	1	1	1	1	1	1	1
Total Dissolved Solids (mg/L) Daily Maximum	2952	2676	5752	2066	2422	2654	1672	1992	1704	3100	2680	2920
Total Dissolved Solids (mg/L) Special Effluent Gross Daily Maximum	GG	GG	GG	1	1	1	1	1	1	1	1	1
Fecal Coliform (No./100 ml) Geometric Mean	42	49	98	16	14	50	34	15	31	31	26	38
Fecal Coliform (No./100 ml) Instantaneous Maximum	921	186	1986	93	146	196	276	125	136	249	128	308

Total Nitrogen (lbs/day) Average Monthly	963	1371	995	1394	1728	1224	1148	811	1173	2428	749	803
Total Nitrogen (mg/L) Average Monthly	25	38	25.63	22	26.94	28	16.7	21	35.6	35.6	20	24.46
Ammonia (lbs/day) Average Monthly	154	105	252	634	473	221	284	159	104	94	91	815
Ammonia (mg/L) Average Monthly	4.3	3.2	6.5	10.0	6.7	6.2	4.1	3.5	2.6	3.4	1.9	2.4
Total Phosphorus (lbs/day) Average Monthly	46	54.1	50	106	214.6	61	41.2	74	92	70	86	99
Total Phosphorus (mg/L) Average Monthly	1.2	1.5	1.3	1.4	3.23	1.4	0.6	1.9	2.8	2.5	2.3	3.0
Total Aluminum (mg/L) Daily Maximum	0.15			0.12			0.89			0.05		
Total Copper (mg/L) Average Monthly	0.012	0.014	0.012	0.022	0.013	0.011	0.012	0.019	0.021	0.019	0.010	0.025
Free Cyanide (mg/L) Daily Maximum	0.006			< 0.004			0.010			0.012		
Total Mercury (mg/L) Daily Maximum	< 0.0002			< 0.0002			< 0.0002			< 0.0002		
Sulfate (mg/L) Daily Maximum	58	74	61	67	59	72	38	61	92.4	80	78.6	95
Total Tritium (pCi/L) Daily Maximum	1380			940			760			900		
Total Zinc (mg/L) Daily Maximum	0.041			0.034			0.059			0.041		
Benzidine (mg/L) Daily Maximum	< 0.05			< 0.05			< 0.05			< 0.050		
Chloride (mg/L) Daily Maximum	780	1030	859	815	490	1020	519	737	1180	1100	559	1240
Bromide (mg/L) Daily Maximum	7	10	8.5	8.8	2.5	9.4	6.1	7.7	12	11	4.67	13
Total Phenolics (mg/L) Daily Maximum	< 0.002			0.026			0.024			0.012		
PCBs (Dry Weather) (pg/L) Daily Maximum							FF					
PCBs (Wet Weather) (pg/L) Daily Maximum							2810					

Chronic WET - Ceriodaphnia Survival (TUc) Daily Maximum							14.29					
Chronic WET - Ceriodaphnia Reproduction (TUc) Daily Maximum							14.29					
Chronic WET - Pimephales Survival (TUc) Daily Maximum							14.29					
Chronic WET - Pimephales Growth (TUc) Daily Maximum							14.29					

DMR Data for Outfall 002 (from July 1, 2020 to June 30, 2021)

Parameter	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20
pH (S.U.) Daily Maximum							7.7					
CBOD5 (mg/L) Daily Maximum							39					
COD (mg/L) Daily Maximum							148					
TSS (mg/L) Daily Maximum							98					
Oil and Grease (mg/L) Daily Maximum							14					
Fecal Coliform (No./100 ml) Daily Maximum							365					
TKN (mg/L) Daily Maximum							2.8					
Total Phosphorus (mg/L) Daily Maximum							0.8					
Dissolved Iron (mg/L) Daily Maximum							0.06					

Compliance History

Effluent Violations for Outfall 001, from: August 1, 2020 To: June 30, 2021

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Total Dissolved Solids	08/31/20	Daily Max	201014	lbs/day	200290	lbs/day
Total Dissolved Solids	02/28/21	Daily Max	201169	lbs/day	200290	lbs/day
Total Dissolved Solids	02/28/21	Daily Max	201169	lbs/day	200290	lbs/day
Total Dissolved Solids	08/31/20	Daily Max	201014	lbs/day	200290	lbs/day
Total Dissolved Solids	04/30/21	Daily Max	5752	mg/L	3000	mg/L
Total Dissolved Solids	04/30/21	Daily Max	5752	mg/L	3000	mg/L
Total Dissolved Solids	09/30/20	Daily Max	3100	mg/L	3000	mg/L
Fecal Coliform	04/30/21	IMAX	1986	No./100 ml	1000	No./100 ml
Fecal Coliform	04/30/21	IMAX	1986	No./100 ml	1000	No./100 ml

Summary of Inspections: An inspection was conducted on 10/16/2020 by Water Quality Specialist Paul Jardel and no violations were noted. There were complaint inspections conducted on 3/25/2021, 03/04/2021 and 02/17/2021.

Other Comments: An Open Violations Report was run on 6/8/2021 and there are open violations. There are 4 open violations by Safe Drinking Water on the water authority. There are 4 open violations on the Biosolids permit (PAG080005) on 04/26/2021. There are 4 open violations for the STP on 04/15/2020, 05/05/2020, and 02/17/2020.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 12.85
Latitude 40º 14' 9.00" **Longitude** -75º 37' 30.00"
Wastewater Description: Treated Sewage Effluent with industrial contributions

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 minimum dissolved oxygen (DO) concentration is 5.0 mg/l (Chapter 93.7). The pH range 6 to 9 is retained in this permit and is based on Chapter 95.2. Total Suspended Solids (TSS) is retained in this permit renewal and is based on Chapter 92a.47(a)(1 and 2). CBOD5, fecal coliform, and TRC are retained in the permit but are based on more stringent limitations then those found in the above table.

Effluent monitoring and frequency of monitoring for Total Nitrogen (TN) and Total Phosphorous (TP) will not be changed for this renewal. TN and TP monitoring is consistent with the Standard Operating Procedure (SOP) for “Establishing Effluent Limitations for Individual Sewage Permits” (Final November 9, 2012; Revised January 10, 2019; Version 1.6). As the Schuylkill River is not impaired for nutrients and the plant is meeting requirements for these parameters, a monitoring frequency lower than those listed in Table 6-3 from a Technical Guidance for the Development and Specification of Effluent Limitations (362-0400-001) is allowed. The frequency of 1/week will remain unchanged.

E. coli was added to the permit with a sampling frequency of once per month per SOP No. BCW-PMT-033 based on Chapter 92a.61.

Water Quality-Based Limitations

A “Reasonable Potential Analysis” was conducted using the DEP TMS spreadsheet (Attachment A) and the following limitations were determined through water quality modeling:

Parameter	Limit (mg/l)	Model
Total Aluminum	Report	TMS
Total Arsenic	Report	TMS
Total Boron	Report	TMS
Total Copper	Report	TMS
Free Cyanide	0.0249	TMS
Total Manganese	Report	TMS
Total Selenium	0.0315	TMS
Total Zinc	0.325	TMS
Bromoform	Report	TMS

Chlorodibromomethane	0.0231	TMS

The above limitations are included in the permit with the exception of Total Copper. Total Copper has a limit of 0.04 mg/l monthly average and 0.074 mg/l instantaneous maximum and these will be retained in the permit renewal. Based on the new information run on the TMS model Total Mercury, Benzidine and Total Phenolics were not retained in the permit renewal. The three aforementioned parameters were monitor only in the existing permit.

A new limitation for Chlorodibromomethane is added to this permit. As the facility may not be able to meet this new limitation a 3-year Compliance Schedule is being implemented for the permittee to determine the source and how the limitation will be met. The limitations will take effect 3-years after permit issuance.

The WQM model was run for the conventional parameters and the results were the same limitations as the existing permit for CBOD5, NH3-N and DO (Attachment B).

The TRC spreadsheet was run and the results were the same limitations as the existing permit and the limitations noted in 92a.48(b)(2) (Attachment C).

PCBs will continue to be monitored for compliance with the Schuylkill River PCB TMDL (Final PCB TMDL Development for the Schuylkill River, Pennsylvania, Established on 4/7/2007 by the US Environmental Protection Agency). No numerical permit limit is listed (Appendix B, Table B-1) for this permit and plant; however, monitoring is required. A waste-load allocation (WLA) is listed for this plant as 2.14E-4 g/day (Appendix D, Table B-1), but the plant is not required to meet that WLA at this time. The WLA was based on a water quality criterion of 0.044 ng/L (PCB TMDL and a Delaware River Basin Commission, 2003 study). A requirement is included in Part C of the permit to conduct annual sampling for dry and wet weather and implement a Pollutant Minimization Plan (this is the same requirement as the previous permit issued in 2016 and the permit prior to the 2016 issued permit).

The Delaware River Basin Commission (DRBC) revised the Total Dissolved Solids (TDS) in Docket D-1989-055 CP-4. The current NPDES permit has daily maximum effluent limits of 3,000 mg/l and 200,290 lbs/day when the average monthly flow <= 8.935 mgd and daily maximum effluent limits of 2,238 mg/l and 240,000 lbs/day when the average monthly flow > 8.935 mgd. The TDS requirements in Effluent Table C-2 is an average monthly limit of 200,290 lb/d and daily maximum values of 3,000 mg/l and 240,000 lb/d with a monitoring of monthly. It is noted in Docket D-1989-055 CP-4 that “The revisions to the limits will not result in an increase in the allowable TDS load for the WWTP discharge and are therefore approved by this docket”. Based on this new information, the same TDS limitations as Docket D-1989-055 CP-4 are in the permit renewal.

Best Professional Judgment (BPJ) Limitations

Comments: Chloride, Bromide and Total Sulfate monitoring are retained in the permit renewal due to the high TDS which is consistent with DEP guidance.

Influent monitoring of BOD5 and TSS are retained in the permit. The frequency for influent BOD5 monitoring is reduced from 1/day to 1/week; reporting of BOD5 is required by Chapter 94. CBOD5 influent monitoring is added to the permit at a frequency of 1/day (the same frequency of CBOD5 effluent monitoring). This parameter is included to meet the 85% removal requirement in the existing, and the renewed, permit. While the facility has already been monitoring influent CBOD5 to meet the fomented requirement, the parameter is added to the Part A limitations for simplicity. These are consistent with DEP SOP for New and Reissuance Sewage Individual NPDES Permit Applications.

Total tritium is a radioactive isotope that may be present in landfill leachate. The parameter is retained in the permit renewal as a “monitor only” parameter.

Oil and grease monitoring are added to the permit due to a potential to be present in the wastewater from the industrial sources listed in the permit application. In addition, oil and grease can be found in the Additional Requirements section of the Part A limitations of the current permit.

Anti-Backsliding

Total Copper limitations were retained in the permit renewal. The TDS was modified based on new information that became available.

Development of Effluent Limitations

Outfall No.	002	**Design Flow (MGD)**	0
Latitude	40º 14' 4.00"	**Longitude**	-75º 37' 44.00"
Wastewater Description:	Stormwater		

This is a stormwater outfall. The same monitoring requirements as the current permit are retained in this permit 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: N/A

The dilution series used for the tests was: 100%, 56%, 12%, 6%, and 3%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 12%.

Summary of Four Most Recent Test Results

TST Data Analysis

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

	***Ceriodaphnia* Results (Pass/Fail)**		***Pimephales* Results (Pass/Fail)**	
Test Date	**Survival**	**Reproduction**	**Survival**	**Growth**
7/18/2017	Pass	Pass	Pass	Pass
10/6/2018	Pass	Pass	Pass	Pass
7/26/2019	Pass	Pass	Pass	Pass
7/17/2020	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: None

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

Acute Partial Mix Factor (PMFa): **0.054** Chronic Partial Mix Factor (PMFc): **0.539**

1. Determine IWC – Acute (IWCa):

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

[(12.85 MGD x 1.547) / ((281 cfs x 0.054) + (12.85 MGD x 1.547))] x 100 = **56.7%**

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

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

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

TIWCa = IWC_a / 0.3 = N/A**%**

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

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

[(12.85 MGD x 1.547) / ((281 cfs x 0.539) + (12.85 MGD x 1.547))] x 100 = **11.6% = 12%**

3. Determine Dilution Series

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

Dilution Series = 100%, 56%, 12%, 6%, and 3%.

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

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

Not Applicable

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: Phase 1 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
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5 Nov 1 - Apr 30	2679	4287	XXX	25	40	50	1/day	24-Hr Composite
CBOD5 May 1 - Oct 31	2143	3215	XXX	20	30	40	1/day	24-Hr Composite
TSS	3215	4823	XXX	30	45	60	1/day	24-Hr Composite
Total Dissolved Solids	200290	240000 Daily Max	XXX	Report	3000.0 Daily Max	XXX	1/week	24-Hr Composite
Oil and Grease	XXX	XXX	XXX	Report	XXX	XXX	1/month	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/day	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	1714	XXX	XXX	16.0	XXX	32	1/day	24-Hr Composite
Ammonia May 1 - Oct 31	857	XXX	XXX	8.0	XXX	16	1/day	24-Hr Composite

Outfall 001, Continued (from Phase 1 through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Copper	XXX	XXX	XXX	0.040	XXX	0.074	1/month	24-Hr Composite
Free Cyanide	XXX	XXX	XXX	0.0249	XXX	0.0389	1/month	Grab
Total Selenium	XXX	XXX	XXX	0.0315	XXX	0.049	1/week	24-Hr Composite
Sulfate	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/month	24-Hr Composite
Total Zinc	XXX	XXX	XXX	0.325	XXX	0.507	1/week	24-Hr Composite
Chloride	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/month	24-Hr Composite
Bromide	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/month	24-Hr Composite
Chlorodibromo-methane	XXX	XXX	XXX	0.0231	XXX	0.036	1/week	Grab

Compliance Sampling Location: Outfall 001

Other Comments: There is a 3-year compliance schedule on Chlorodibromomethane.

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 Phase 1.

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
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5 Nov 1 - Apr 30	2679	4287	XXX	25	40	50	1/day	24-Hr Composite
CBOD5 May 1 - Oct 31	2143	3215	XXX	20	30	40	1/day	24-Hr Composite
TSS	3215	4823	XXX	30	45	60	1/day	24-Hr Composite
Total Dissolved Solids	200290	240000 Daily Max	XXX	Report	3000.0 Daily Max	XXX	1/week	24-Hr Composite
Oil and Grease	XXX	XXX	XXX	Report	XXX	XXX	1/month	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/day	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	1714	XXX	XXX	16.0	XXX	32	1/day	24-Hr Composite
Ammonia May 1 - Oct 31	857	XXX	XXX	8.0	XXX	16	1/day	24-Hr Composite

Outfall 001, Continued (from Permit Effective Date through Phase 1)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Copper	XXX	XXX	XXX	0.040	XXX	0.074	1/month	24-Hr Composite
Free Cyanide	XXX	XXX	XXX	0.0249	XXX	0.0389	1/month	Grab
Total Selenium	XXX	XXX	XXX	0.0315	XXX	0.049	1/week	24-Hr Composite
Sulfate	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/month	24-Hr Composite
Total Zinc	XXX	XXX	XXX	0.325	XXX	0.507	1/week	24-Hr Composite
Chloride	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/month	24-Hr Composite
Bromide	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/month	24-Hr Composite
Chlorodibromo-methane	XXX	XXX	XXX	Report	XXX	Report	1/week	Grab

Compliance Sampling Location: 001

Other Comments: There is a 3-year compliance schedule on Chlorodibromomethane.

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	Daily Maximum	Instant. Maximum		
CBOD5 Raw Sewage Influent	XXX	XXX	XXX	Report Avg Mo	XXX	XXX	1/day	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report Avg Mo	XXX	XXX	1/week	24-Hr Composite
TSS Raw Sewage Influent	XXX	XXX	XXX	Report Avg Mo	XXX	XXX	1/day	24-Hr Composite
Total Aluminum	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite
Total Arsenic	XXX	XXX	XXX	Report Avg Qrtly	Report	XXX	1/quarter	24-Hr Composite
Total Boron	XXX	XXX	XXX	Report Avg Qrtly	Report	XXX	1/quarter	24-Hr Composite
Total Manganese	XXX	XXX	XXX	Report Avg Qrtly	Report	XXX	1/quarter	24-Hr Composite
Total Tritium (pCi/L)	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	Calculation
Bromoform	XXX	XXX	XXX	Report Avg Qrtly	XXX	Report	1/quarter	Grab
PCBs (Dry Weather) (pg/L)	XXX	XXX	XXX	Report	XXX	XXX	1/year	24-Hr Composite
PCBs (Wet Weather) (pg/L)	XXX	XXX	XXX	Report	XXX	XXX	1/year	24-Hr Composite
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

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

Compliance Sampling Location: 001

Other Comments: None

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 002, 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 (No./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: 002

Other Comments: Stormwater

Attachment A TMS Spreadsheet

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: Pottstown STP | NPDES Permit No.: PA0026786 | Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste | Wastewater Description: Sewage

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{1-10}	Q_h
12.85	419	7						

	Discharge Pollutant	Units	Max Discharge Conc		0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
					Trib Conc	Stream Conc	Daily CV	Hourly CV	Strea m CV	Fate Coeff	FOS	Criteri a Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		2730									
	Chloride (PWS)	mg/L		1160									
	Bromide	mg/L		14									
	Sulfate (PWS)	mg/L		80.4									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		180									
	Total Antimony	µg/L		2									
	Total Arsenic	µg/L		11									
	Total Barium	µg/L		404									
	Total Beryllium	µg/L	<	0.3									
	Total Boron	µg/L		1000									
	Total Cadmium	µg/L	<	0.2									
	Total Chromium (III)	µg/L		2.1									
	Hexavalent Chromium	µg/L	<	0.25									
	Total Cobalt	µg/L		2									
	Total Copper	µg/L		12									
	Free Cyanide	µg/L		17									
	Total Cyanide	µg/L		19									
	Dissolved Iron	µg/L		180									
	Total Iron	µg/L		680									
	Total Lead	µg/L	<	1									
	Total Manganese	µg/L		732									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		20.7									
	Total Phenols (Phenolics) (PWS)	µg/L		5									
	Total Selenium	µg/L		30									
	Total Silver	µg/L	<	0.3									
	Total Thallium	µg/L	<	0.4									
	Total Zinc	µg/L		175									
	Total Molybdenum	µg/L		4									
	Acrolein	µg/L	<	2									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	2									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L		68.8									

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Group 3	Carbon Tetrachloride	µg/L	<	0.5									
	Chlorobenzene	µg/L	<	0.5									
	Chlorodibromomethane	µg/L		22.2									
	Chloroethane	µg/L	<	0.5									
	2-Chloroethyl Vinyl Ether	µg/L	<	5									
	Chloroform	µg/L		0.9									
	Dichlorobromomethane	µg/L		3.2									
	1,1-Dichloroethane	µg/L	<	0.5									
	1,2-Dichloroethane	µg/L	<	0.5									
	1,1-Dichloroethylene	µg/L	<	0.5									
	1,2-Dichloropropane	µg/L	<	0.5									
	1,3-Dichloropropylene	µg/L	<	0.5									
	1,4-Dioxane	µg/L	<	5									
	Ethylbenzene	µg/L	<	0.5									
	Methyl Bromide	µg/L	<	0.5									
	Methyl Chloride	µg/L	<	0.5									
	Methylene Chloride	µg/L	<	0.5									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5									
	Tetrachloroethylene	µg/L	<	0.5									
	Toluene	µg/L	<	0.5									
	1,2-trans-Dichloroethylene	µg/L	<	0.5									
	1,1,1-Trichloroethane	µg/L	<	0.5									
	1,1,2-Trichloroethane	µg/L	<	0.5									
	Trichloroethylene	µg/L	<	0.5									
	Vinyl Chloride	µg/L	<	0.5									
Group 4	2-Chlorophenol	µg/L	<	10									
	2,4-Dichlorophenol	µg/L	<	10									
	2,4-Dimethylphenol	µg/L	<	10									
	4,6-Dinitro-o-Cresol	µg/L	<	10									
	2,4-Dinitrophenol	µg/L	<	10									
	2-Nitrophenol	µg/L	<	10									
	4-Nitrophenol	µg/L	<	10									
	p-Chloro-m-Cresol	µg/L	<	10									
	Pentachlorophenol	µg/L	<	10									
	Phenol	µg/L	<	10									
	2,4,6-Trichlorophenol	µg/L	<	10									
Group 5	Acenaphthene	µg/L	<	2.5									
	Acenaphthylene	µg/L	<	2.5									
	Anthracene	µg/L	<	2.5									
	Benzidine	µg/L	<	50									
	Benzo(a)Anthracene	µg/L	<	2.5									
	Benzo(a)Pyrene	µg/L	<	2.5									
	3,4-Benzofluoranthene	µg/L	<	2.5									
	Benzo(ghi)Perylene	µg/L	<	2.5									
	Benzo(k)Fluoranthene	µg/L	<	2.5									
	Bis(2-Chloroethoxy)Methane	µg/L	<	5									
	Bis(2-Chloroethyl)Ether	µg/L	<	5									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	5									
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	5									
	4-Bromophenyl Phenyl Ether	µg/L	<	5									
	Butyl Benzyl Phthalate	µg/L	<	5									
	2-Chloronaphthalene	µg/L	<	5									
	4-Chlorophenyl Phenyl Ether	µg/L	<	5									
	Chrysene	µg/L	<	2.5									
	Dibenzo(a,h)Anthrancene	µg/L	<	2.5									
	1,2-Dichlorobenzene	µg/L	<	0.5									
	1,3-Dichlorobenzene	µg/L	<	0.5									
	1,4-Dichlorobenzene	µg/L		0.7									
	3,3-Dichlorobenzidine	µg/L	<	5									
	Diethyl Phthalate	µg/L	<	5									
	Dimethyl Phthalate	µg/L	<	5									
	Di-n-Butyl Phthalate	µg/L	<	5									
	2,4-Dinitrotoluene	µg/L	<	5									

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	2,6-Dinitrotoluene	µg/L	<	5									
	Di-n-Octyl Phthalate	µg/L	<	5									
	1,2-Diphenylhydrazine	µg/L	<	5									
	Fluoranthene	µg/L	<	2.5									
	Fluorene	µg/L	<	2.5									
	Hexachlorobenzene	µg/L	<	5									
	Hexachlorobutadiene	µg/L	<	0.5									
	Hexachlorocyclopentadiene	µg/L	<	5									
	Hexachloroethane	µg/L	<	5									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	2.5									
	Isophorone	µg/L	<	5									
	Naphthalene	µg/L	<	0.5									
	Nitrobenzene	µg/L	<	5									
	n-Nitrosodimethylamine	µg/L	<	5									
	n-Nitrosodi-n-Propylamine	µg/L	<	5									
	n-Nitrosodiphenylamine	µg/L	<	5									
	Phenanthrene	µg/L	<	2.5									
	Pyrene	µg/L	<	2.5									
	1,2,4-Trichlorobenzene	µg/L	<	0.5									
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											

Permit No. PA0026786

Stream / Surface Water Information

Pottstown STP, NPDES Permit No. PA0026786, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: _____ No. Reaches to Model: 1

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	000833	52.45	115.8	1148.47			Yes
End of Reach 1	000833	51.9	115	1150.47			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	52.45	0.1	281									100	7		
End of Reach 1	51.9	0.1	281.9												

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	52.45														
End of Reach 1	51.9														

Model Results

Pottstown STP, NPDES Permit No. PA0026786, Outfall 001

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

☐ *Hydrodynamics*

☑ *Wasteload Allocations*

☑ *AFC* CCT (min): 15 PMF: 0.054 Analysis Hardness (mg/l): 280.61 Analysis pH: 7.00

Pollutants	Background Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	1,325	
Total Antimony	0	0		0	1,100	1,100	1,943	
Total Arsenic	0	0		0	340	340	601	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	37,092	
Total Boron	0	0		0	8,100	8,100	14,307	
Total Cadmium	0	0		0	5.485	6.09	10.8	Chem Translator of 0.901 applied
Total Chromium (III)	0	0		0	1326.432	4,198	7,414	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	28.8	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	168	
Total Copper	0	0		0	35.528	37.0	65.4	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	38.9	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	194.528	304	536	Chem Translator of 0.641 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	2.91	Chem Translator of 0.85 applied
Total Nickel	0	0		0	1120.865	1,123	1,984	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	18.973	22.3	39.4	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	115	
Total Zinc	0	0		0	280.884	287	507	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	5.3	

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Acrylonitrile	0	0		0	650	650	1,148	
Benzene	0	0		0	640	640	1,130	
Bromoform	0	0		0	1,800	1,800	3,179	
Carbon Tetrachloride	0	0		0	2,800	2,800	4,946	
Chlorobenzene	0	0		0	1,200	1,200	2,120	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	31,793	
Chloroform	0	0		0	1,900	1,900	3,356	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	26,494	
1,1-Dichloroethylene	0	0		0	7,500	7,500	13,247	
1,2-Dichloropropane	0	0		0	11,000	11,000	19,429	
1,3-Dichloropropylene	0	0		0	310	310	548	
Ethylbenzene	0	0		0	2,900	2,900	5,122	
Methyl Bromide	0	0		0	550	550	971	
Methyl Chloride	0	0		0	28,000	28,000	49,456	
Methylene Chloride	0	0		0	12,000	12,000	21,195	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,766	
Tetrachloroethylene	0	0		0	700	700	1,236	
Toluene	0	0		0	1,700	1,700	3,003	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	12,011	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	5,299	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	6,005	
Trichloroethylene	0	0		0	2,300	2,300	4,062	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	989	
2,4-Dichlorophenol	0	0		0	1,700	1,700	3,003	
2,4-Dimethylphenol	0	0		0	660	660	1,166	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	141	
2,4-Dinitrophenol	0	0		0	660	660	1,166	
2-Nitrophenol	0	0		0	8,000	8,000	14,130	
4-Nitrophenol	0	0		0	2,300	2,300	4,062	
p-Chloro-m-Cresol	0	0		0	160	160	283	
Pentachlorophenol	0	0		0	8.723	8.72	15.4	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	812	
Acenaphthene	0	0		0	83	83.0	147	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	530	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.88	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	52,989	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	7,948	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	477	
Butyl Benzyl Phthalate	0	0		0	140	140	247	

2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	1,448	
1,3-Dichlorobenzene	0	0		0	350	350	618	
1,4-Dichlorobenzene	0	0		0	730	730	1,289	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	7,065	
Dimethyl Phthalate	0	0		0	2,500	2,500	4,416	
Di-n-Butyl Phthalate	0	0		0	110	110	194	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	2,826	
2,6-Dinitrotoluene	0	0		0	990	990	1,749	
1,2-Diphenylhydrazine	0	0		0	15	15.0	26.5	
Fluoranthene	0	0		0	200	200	353	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	17.7	
Hexachlorocyclopentadiene	0	0		0	5	5.0	8.83	
Hexachloroethane	0	0		0	60	60.0	106	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	17,663	
Naphthalene	0	0		0	140	140	247	
Nitrobenzene	0	0		0	4,000	4,000	7,065	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	30,027	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	530	
Phenanthrene	0	0		0	5	5.0	8.83	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	230	

☑ CFC CCT (min): 720 PMF: 0.376 Analysis Hardness (mg/l): 150.56 Analysis pH: 7.00

Pollutants	Stream Conc (ug/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	1,388	
Total Arsenic	0	0		0	150	150	946	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	25,867	
Total Boron	0	0		0	1,600	1,600	10,094	
Total Cadmium	0	0		0	0.327	0.37	2.31	Chem Translator of 0.892 applied
Total Chromium (III)	0	0		0	103.623	120	760	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	65.6	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	120	
Total Copper	0	0		0	12.705	13.2	83.5	Chem Translator of 0.96 applied

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Free Cyanide	0	0		0	5.2	5.2	32.8	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	22,703	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	3.918	5.36	33.8	Chem Translator of 0.731 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	5.72	Chem Translator of 0.85 applied
Total Nickel	0	0		0	73.520	73.7	465	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	31.5	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	82.0	
Total Zinc	0	0		0	167.099	169	1,069	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	18.9	
Acrylonitrile	0	0		0	130	130	820	
Benzene	0	0		0	130	130	820	
Bromoform	0	0		0	370	370	2,334	
Carbon Tetrachloride	0	0		0	560	560	3,533	
Chlorobenzene	0	0		0	240	240	1,514	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	22,081	
Chloroform	0	0		0	390	390	2,461	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	19,558	
1,1-Dichloroethylene	0	0		0	1,500	1,500	9,463	
1,2-Dichloropropane	0	0		0	2,200	2,200	13,880	
1,3-Dichloropropylene	0	0		0	61	61.0	385	
Ethylbenzene	0	0		0	580	580	3,659	
Methyl Bromide	0	0		0	110	110	694	
Methyl Chloride	0	0		0	5,500	5,500	34,699	
Methylene Chloride	0	0		0	2,400	2,400	15,142	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	1,325	
Tetrachloroethylene	0	0		0	140	140	883	
Toluene	0	0		0	330	330	2,082	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	8,833	
1,1,1-Trichloroethane	0	0		0	610	610	3,848	
1,1,2-Trichloroethane	0	0		0	680	680	4,290	
Trichloroethylene	0	0		0	450	450	2,839	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	694	
2,4-Dichlorophenol	0	0		0	340	340	2,145	
2,4-Dimethylphenol	0	0		0	130	130	820	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	101	
2,4-Dinitrophenol	0	0		0	130	130	820	
2-Nitrophenol	0	0		0	1,600	1,600	10,094	
4-Nitrophenol	0	0		0	470	470	2,965	

p-Chloro-m-Cresol	0	0		0	500	500	3,154	
Pentachlorophenol	0	0		0	6.693	6.69	42.2	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	574	
Acenaphthene	0	0		0	17	17.0	107	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	372	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.63	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	37,854	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	5,741	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	341	
Butyl Benzyl Phthalate	0	0		0	35	35.0	221	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	1,009	
1,3-Dichlorobenzene	0	0		0	69	69.0	435	
1,4-Dichlorobenzene	0	0		0	150	150	946	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	5,047	
Dimethyl Phthalate	0	0		0	500	500	3,154	
Di-n-Butyl Phthalate	0	0		0	21	21.0	132	
2,4-Dinitrotoluene	0	0		0	320	320	2,019	
2,6-Dinitrotoluene	0	0		0	200	200	1,262	
1,2-Diphenylhydrazine	0	0		0	3	3.0	18.9	
Fluoranthene	0	0		0	40	40.0	252	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	12.6	
Hexachlorocyclopentadiene	0	0		0	1	1.0	6.31	
Hexachloroethane	0	0		0	12	12.0	75.7	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	13,249	
Naphthalene	0	0		0	43	43.0	271	
Nitrobenzene	0	0		0	810	810	5,110	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	21,451	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	372	
Phenanthrene	0	0		0	1	1.0	6.31	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	164	

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☑ THH CCT (min): 720 PMF: 0.376 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	35.3	
Total Arsenic	0	0		0	10	10.0	63.1	
Total Barium	0	0		0	2,400	2,400	15,142	
Total Boron	0	0		0	3,100	3,100	19,558	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	4	4.0	25.2	
Dissolved Iron	0	0		0	300	300	1,893	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	6,309	
Total Mercury	0	0		0	0.050	0.05	0.32	
Total Nickel	0	0		0	610	610	3,848	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	1.51	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	18.9	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	631	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	208	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	429	
Methyl Bromide	0	0		0	100	100.0	631	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	360	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	631	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	63,090	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	189	
2,4-Dichlorophenol	0	0		0	10	10.0	63.1	
2,4-Dimethylphenol	0	0		0	100	100.0	631	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	12.6	
2,4-Dinitrophenol	0	0		0	10	10.0	63.1	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	25,236	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	442	
Anthracene	0	0		0	300	300	1,893	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	1,262	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	0.63	
2-Chloronaphthalene	0	0		0	800	800	5,047	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	6,309	
1,3-Dichlorobenzene	0	0		0	7	7.0	44.2	
1,4-Dichlorobenzene	0	0		0	300	300	1,893	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	3,785	
Dimethyl Phthalate	0	0		0	2,000	2,000	12,618	
Di-n-Butyl Phthalate	0	0		0	20	20.0	126	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	

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2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	126	
Fluorene	0	0		0	50	50.0	315	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	25.2	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	215	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	63.1	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	126	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.44	

☑ CRL CCT (min): 720 PMF: 0.539 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	1.73	
Benzene	0	0		0	0.58	0.58	16.7	
Bromoform	0	0		0	7	7.0	202	
Carbon Tetrachloride	0	0		0	0.4	0.4	11.5	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	23.1	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	164	
Dichlorobromomethane	0	0		0	0.95	0.95	27.4	
1,2-Dichloroethane	0	0		0	9.9	9.9	286	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	26.0	
1,3-Dichloropropylene	0	0		0	0.27	0.27	7.79	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	577	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	5.77	
Tetrachloroethylene	0	0		0	10	10.0	288	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	15.9	
Trichloroethylene	0	0		0	0.6	0.6	17.3	
Vinyl Chloride	0	0		0	0.02	0.02	0.58	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	0.87	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	43.3	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.003	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.029	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.003	

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3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.029	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.29	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.87	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	9.23	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.12	0.12	3.46	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.003	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	1.44	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	1.44	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	1.44	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.87	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.002	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.29	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	2.88	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.029	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.02	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.14	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	95.2	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	Report	Report	Report	Report	Report	µg/L	849	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Arsenic	Report	Report	Report	Report	Report	µg/L	63.1	THH	Discharge Conc > 10% WQBEL (no RP)
Total Boron	Report	Report	Report	Report	Report	µg/L	9,170	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	41.9	AFC	Discharge Conc > 10% WQBEL (no RP)
Free Cyanide	2.67	4.16	24.9	38.9	62.3	µg/L	24.9	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Manganese	Report	Report	Report	Report	Report	µg/L	6,309	THH	Discharge Conc > 10% WQBEL (no RP)
Total Selenium	3.37	5.26	31.5	49.1	78.7	µg/L	31.5	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	34.8	54.4	325	507	813	µg/L	325	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Bromoform	Report	Report	Report	Report	Report	µg/L	202	CRL	Discharge Conc > 25% WQBEL (no RP)
Chlorodibromomethane	2.47	3.86	23.1	36.0	57.7	µg/L	23.1	CRL	Discharge Conc ≥ 50% WQBEL (RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	35.3	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	15,142	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Cadmium	N/A	N/A	Discharge Conc < TQL
Total Chromium (III)	760	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	18.4	µg/L	Discharge Conc < TQL
Total Cobalt	108	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	1,893	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	22,703	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	33.8	µg/L	Discharge Conc < TQL
Total Mercury	0.32	µg/L	Discharge Conc < TQL
Total Nickel	465	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Silver	25.3	µg/L	Discharge Conc < TQL
Total Thallium	1.51	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.4	µg/L	Discharge Conc < TQL
Acrylonitrile	1.73	µg/L	Discharge Conc < TQL
Benzene	16.7	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	11.5	µg/L	Discharge Conc < TQL
Chlorobenzene	631	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	20,378	µg/L	Discharge Conc < TQL
Chloroform	164	µg/L	Discharge Conc ≤ 25% WQBEL

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Dichlorobromomethane	27.4	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	286	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	208	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	26.0	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	7.79	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	429	µg/L	Discharge Conc < TQL
Methyl Bromide	623	µg/L	Discharge Conc < TQL
Methyl Chloride	31,699	µg/L	Discharge Conc < TQL
Methylene Chloride	577	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	5.77	µg/L	Discharge Conc < TQL
Tetrachloroethylene	288	µg/L	Discharge Conc < TQL
Toluene	360	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	631	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	3,396	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	15.9	µg/L	Discharge Conc < TQL
Trichloroethylene	17.3	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.58	µg/L	Discharge Conc < TQL
2-Chlorophenol	189	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	63.1	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	631	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	12.6	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	63.1	µg/L	Discharge Conc < TQL
2-Nitrophenol	9,057	µg/L	Discharge Conc < TQL
4-Nitrophenol	2,604	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	181	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.87	µg/L	Discharge Conc < TQL
Phenol	25,236	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	43.3	µg/L	Discharge Conc < TQL
Acenaphthene	94.0	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	1,893	µg/L	Discharge Conc < TQL
Benzidine	0.003	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.029	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.003	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.029	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.29	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.87	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	1,262	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	9.23	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	306	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.63	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	5,047	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	3.46	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.003	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	928	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	44.2	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	826	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	1.44	µg/L	Discharge Conc < TQL
Diethyl Phthalate	3,785	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	2,830	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	125	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	1.44	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	1.44	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.87	µg/L	Discharge Conc < TQL
Fluoranthene	126	µg/L	Discharge Conc < TQL
Fluorene	315	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.002	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.29	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	5.66	µg/L	Discharge Conc < TQL
Hexachloroethane	2.88	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.029	µg/L	Discharge Conc < TQL
Isophorone	215	µg/L	Discharge Conc < TQL
Naphthalene	158	µg/L	Discharge Conc < TQL
Nitrobenzene	63.1	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.02	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.14	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	95.2	µg/L	Discharge Conc < TQL
Phenanthrene	5.66	µg/L	Discharge Conc < TQL
Pyrene	126	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.44	µg/L	Discharge Conc < TQL

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Attachment B WQM Model

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
03F	833	SCHUYLKILL RIVER

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Eff. Limit 30-day Ave. (mg/L)	Eff. Limit Maximum (mg/L)	Eff. Limit Minimum (mg/L)
52.450	Pottstown STP	PA0026786	0.000	CBOD5	20		
				NH3-N	8	16	
				Dissolved Oxygen			5

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
03F	833	SCHUYLKILL RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
52.450	12.850	20.330	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
298.012	1.162	256.373	0.869
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
3.19	0.611	0.53	0.718
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.029	1.125	Tsivoglou	6
Reach Travel Time (days)			
0.039			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.004	3.18	0.53	8.02
0.008	3.17	0.53	8.00
0.012	3.17	0.52	7.99
0.015	3.16	0.52	7.98
0.019	3.15	0.52	7.96
0.023	3.14	0.52	7.95
0.027	3.14	0.52	7.94
0.031	3.13	0.52	7.92
0.035	3.12	0.52	7.91
0.039	3.11	0.51	7.90

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
03F	833	SCHUYLKILL RIVER

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												
52.450	281.00	0.00	281.00	19.879	0.00028	1.162	298.01	256.37	0.87	0.039	20.33	7.00
Q1-10 Flow												
52.450	179.84	0.00	179.84	19.879	0.00028	NA	NA	NA	0.69	0.049	20.50	7.00
Q30-10 Flow												
52.450	382.16	0.00	382.16	19.879	0.00028	NA	NA	NA	1.02	0.033	20.25	7.00

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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
03F	833	SCHUYLKILL RIVER	52.450	115.80	1148.47	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	281.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Pottstown STP	PA0026786	0.0000	12.8500	12.8500	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	20.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	8.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
03F	833	SCHUYLKILL RIVER	51.900	115.00	1150.47	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	281.90	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
North Coventry	PA0025437	0.0000	2.0100	2.0100	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	20.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	10.00	0.00	0.00	0.70

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WQM 7.0 Modeling Specifications

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

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
03F	833	SCHUYLKILL RIVER

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
52.450	Pottstown STP	9.33	16	9.33	16	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
52.450	Pottstown STP	1.88	8	1.88	8	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
52.45	Pottstown STP	20	20	8	8	5	5	0	0

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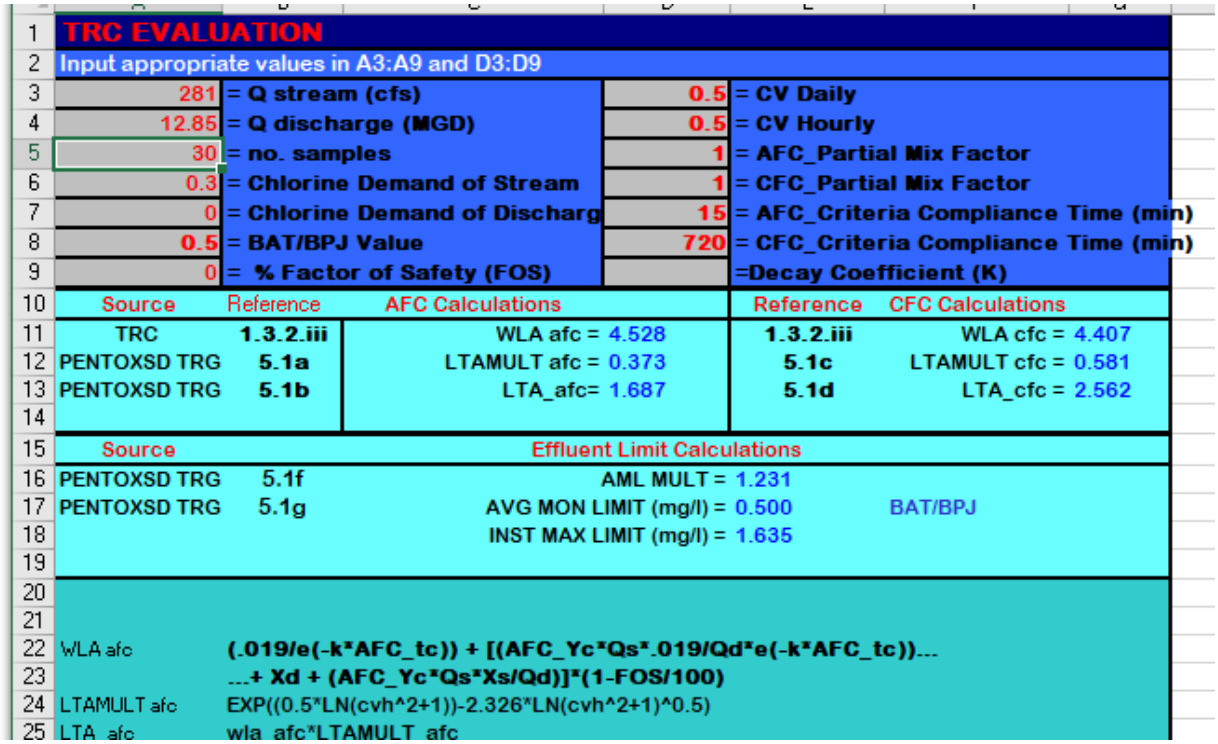
Attachment C TRC Spreadsheet



1	**TRC EVALUATION**					
2	Input appropriate values in A3:A9 and D3:D9					
3	281	= Q stream (cfs)	0.5	= CV Daily		
4	12.85	= Q discharge (MGD)	0.5	= CV Hourly		
5	30	= no. samples	1	= AFC_Partial Mix Factor		
6	0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor		
7	0	= Chlorine Demand of Discharg	15	= AFC_Criteria Compliance Time (min)		
8	0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)		
9	0	= % Factor of Safety (FOS)		=Decay Coefficient (K)		
10	Source	Reference	AFC Calculations	Reference	CFC Calculations	
11	TRC	1.3.2.iii	WLA afc = 4.528	1.3.2.iii	WLA cfc = 4.407	
12	PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581	
13	PENTOXSD TRG	5.1b	LTA_afc= 1.687	5.1d	LTA_cfc = 2.562	
14						
15	Source		Effluent Limit Calculations			
16	PENTOXSD TRG	5.1f	AML MULT = 1.231			
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ		
18			INST MAX LIMIT (mg/l) = 1.635			
19						
20						
21						
22	WLA afc	(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...				
23		...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)				
24	LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)				
25	LTA_afc	wla_afc*LTAMULT_afc				

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Attachment D WET Spreadsheet

WET Summary and Evaluation

Facility Name	Pottstown STP
Permit No.	PA0026786
Design Flow (MGD)	12.85
Q_{7-10} Flow (cfs)	281
PMF_s	0.054
PMF_o	0.539

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	7/18/17	10/6/18	7/26/19	7/17/20
Pimephales	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	7/18/17	10/6/18	7/26/19	7/17/20
Pimephales	Growth	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	7/18/17	10/6/18	7/26/19	7/17/20
Ceriodaphnia	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	7/18/17	10/6/18	7/26/19	7/17/20
Ceriodaphnia	Reproduction	PASS	PASS	PASS	PASS

Reasonable Potential? NO

Permit Recommendations

Test Type	**Chronic**
TIWC	**12** % Effluent
Dilution Series	**3, 6, 12, 56, 100** % Effluent
Permit Limit	**None**
Permit Limit Species	