pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0026867**
Facility Type	**Municipal**	APS ID	**1050892**
Major / Minor	**Major**	Authorization ID	**1374867**

Applicant and Facility Information

Applicant Name	**Abington Township**	Facility Name	**Abington Township STP**
Applicant Address	1176 Old York Road	Facility Address	1000 Fitzwatertown Road
	Abington, PA 19001-3731		Roslyn, PA 19001-4008
Applicant Contact	George Wrigley	Facility Contact	George Wrigley
Applicant Phone	(215) 884-8329	Facility Phone	(215) 884-8329
Client ID	87533	Site ID	445741
Ch 94 Load Status	Not Overloaded	Municipality	Upper Dublin Township
Connection Status	No Limitations	County	Montgomery
Date Application Received	November 1, 2021	EPA Waived?	No
Date Application Accepted		If No, Reason	Major Facility

Purpose of Application: Permit Renewal

Summary of Review

The applicant requests renewal of an NPDES permit to discharge treated sewage effluent from Abington Township STP. The facility is located at 1000 Fitzwatertown Road in Upper Dublin Township, Montgomery County along the Sandy Run Creek on approximately 11 acres of land.

The facility serves the following Municipalities: Abington Township, Upper Dublin Township, Upper Moreland Township, Cheltenham Township and Springfield Township.

The facility design includes screening; grit removal; primary settling with rectangular settling tanks; activated sludge anaerobic, anoxic and aerobic zones with internal recycle; alum addition, secondary settling with circular clarifiers followed by cloth media disc filtration, UV disinfection, and post aeration. Sludge treatment includes dissolved Air Flotation (DAF) thickening of mixed primary and waste secondary sludges, anaerobic thermal sludge stabilization, centrifuge dewatering, and biosolids agricultural land application. Off - line equalization is provided for centrifuge centrate return and for wet weather excess flow diversion and temporary storage. There are no bypasses, nor overflows at this facility.

No upgrades are proposed at this time.

Hydrated Lime (pH control and alkalinity stabilization) and Aluminum Chloride (enhance final effluent for TSS and Phosphorus removal) are the wastewater chemicals reported in the application.

There are no industrial users connected to the system.

Based on the review of the eDMRs, discharge is in compliance with the effluent limitations in the existing permit most of the times.

Approve	Deny	Signatures	Date
X		*Sara Abraham* Sara Reji Abraham, E.I.T. / Project Manager	January 5, 2022
X		*Pravin Patel* Pravin C. Patel, P.E. / Environmental Engineer Manager	07/05/2022

Summary of Review

The effluent requirements recommended for the draft permit are mostly similar to the existing permit requirements.

The following are the new requirements recommended for the draft permit:

(i) Monitoring for E. Coli and Cyanide, Free.
(ii) Effluent limit for Copper, Total

The existing WET limits are eliminated based on the new WET testing reports.

Influent monitoring requirements for CBOD5, TSS and BOD5 are continued in the draft permit to check compliance with the 85% removal requirement and Chapter 94 requirement.

Sludge use and disposal description and location(s): Biosolids are used in agricultural applications at various locations in Berks, Carbon, Lebanon, Lehigh, Monroe and Northampton Counties.

Act 14 Notifications:

Upper Dublin Township - October 13, 2021
Montgomery County - October 13, 2021

Permit Conditions:

A. No Stormwater
B. Acquire Necessary Property Rights
C. Proper Sludge Disposal
D. Chlorine Optimization
E. Small Stream Discharge
F. Operator Notification
G. Fecal Coliform Reporting
H. Solids Management
I. WET Condition
J. Stormwater Outfalls Requirement

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)	3.91
Latitude	40º 7' 47.25"	Longitude	-75º 9' 32.41"
Quad Name	Ambler	Quad Code	1744
Wastewater Description:	Treated Sewage Effluent		
Receiving Waters	Sandy Run (TSF, MF)	Stream Code	0859
NHD Com ID	25960198	RMI	4.3
Drainage Area	3.0	Yield (cfs/mi^2)	0.035
Q_{7-10} Flow (cfs)	0.105	Q_{7-10} Basis	Previous fact sheet*
Elevation (ft)	209.7		
Watershed No.	3-F	Chapter 93 Class.	TSF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	biochemical oxygen demand (bod), cause unknown, flow regime modification, habitat alterations, nutrients, pathogens, siltation		
Source(s) of Impairment	habitat modification - other than hydromodification, municipal point source discharges, source unknown, urban runoff/storm sewers		
TMDL Status	Final	Name	Sandy Run, Wissahickon TMDL

* Low-Flow (Q7-10) and Harmonic Mean Flow

Based on the Wissahickon TMDL, the Q_{7-10} flow for this facility was calculated as 0.105-cfs. The Q_{7-10} flow for the Wissahickon watershed was calculated by subtracting average permitted discharge flows of all facilities in the watershed reported during the critical dry summer period of 2002 (combined discharge flow of 14.9 cfs), from the Q_{7-10} flow calculated at the mouth of Wissahickon Creek (16.3 cfs), resulting in a base-flow of 1.4-cfs for the entire watershed. A prorated Q_{7-10} flow of 0.105-cfs was allocated to Sandy Run at the Abington Township STP. The permitted discharge flow from Abington Township facility represents 98.3% of Sandy Run's flow at Q_{7-10} flow conditions. (Reference: Modeling Report for Wissahickon Creek, Pennsylvania Nutrient TMDL Development, October 2003, Figure 4-1)

The harmonic mean flow for this facility was calculated at 2.39-cfs. The harmonic mean flow is based on the flow calculated at the mouth of the Wissahickon, adjusted proportionally based on the relative size of the drainage areas: Harmonic Mean Flow (HMF) = (3.0 mi^2 / 64 mi^2) * 51 cfs = 2.39 cfs

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	003	Design Flow (MGD)	0
Latitude	40º 7' 47.31"	Longitude	-75º 9' 32.23"
Quad Name	Ambler	Quad Code	1744
Wastewater Description:	Stormwater		
Receiving Waters	Sandy Run (TSF, MF)	Stream Code	0859

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	002	Design Flow (MGD)	0
Latitude	40º 7' 47.31"	Longitude	-75º 9' 32.23"
Quad Name	Ambler	Quad Code	1744
Wastewater Description:	Stormwater		
Receiving Waters	Sandy Run (TSF, MF)	Stream Code	0859

Treatment Facility Summary

Treatment Facility Name: Abington Township STP

WQM Permit No.	Issuance Date
4612401	08/06/2012
4603404	05/20/2011

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Ultraviolet	3.91

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
3.91	7729	Not Overloaded	Aneaerobic sludge stabilization & Centrifuge dewatering	Land Application

Compliance History

DMR Data for Outfall 001 (from November 1, 2020 to October 31, 2021)

Parameter	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20
Flow (MGD) Average Monthly	3.014	3.221	2.862	2.981	3.124	2.919	3.216	4.145	4.244	3.624	3.731	3.153
Flow (MGD) Daily Maximum	4.274	6.027	3.626	3.691	3.538	3.513	3.991	6.701	5.673	4.393	6.181	3.965
pH (S.U.) Minimum	6.97	7.38	7.42	7.46	7.15	7.37	7.19	6.92	7.16	7.34	7.05	7.53
pH (S.U.) Maximum	7.90	7.97	7.99	7.91	7.84	7.85	7.67	7.73	7.55	7.67	7.79	7.92
DO (mg/L) Minimum	8.4	8.0	7.7	7.22	7.6	8.4	8.8	8.1	9.8	9.6	7.2	9.2
CBOD5 (lbs/day) Average Monthly	53	70	46	33	35	48	32	54	54	15	59	52
CBOD5 (lbs/day) Raw Sewage Influent Average Monthly	5319	5949	4870	5075	4936	4784	4863	5879	6336	4261	3770	4672
CBOD5 (lbs/day) Weekly Average	56	102	70	53	54	49	37	69	74	16	63	52.5
CBOD5 (mg/L) Average Monthly	2.3	2.8	2.5	1.39	2.0	2.0	2.0	2.2	2.1	< 2.0	< 2.0	< 2.0
CBOD5 (mg/L) Raw Sewage Influent Average Monthly	217	243	208	203	210	200	179	181	179	145	131	179
CBOD5 (mg/L) Weekly Average	2.95	3.85	3.00	2.55	2.05	2.00	3.0	2.5	2.2	< 2.0	2.2	< 2.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	8050	4892	4772	4797	6092	5144	6281	7260	9155	6988	6064	7577
BOD5 (mg/L) Raw Sewage Influent Average Monthly	330	192	198	184	217	226	247	214	308	225	219	256
TSS (lbs/day) Average Monthly	30	50	30	25	41	43	116	85	43	59	68	86

TSS (lbs/day) Raw Sewage Influent Average Monthly	4517	6126	5155	5299	5836	5418	5949	6362	5911	6693	6663	5389
TSS (lbs/day) Weekly Average	47	60	44	25.5	82	59	175	238	63	100	119	155
TSS (mg/L) Average Monthly	1.2	2.0	1.3	< 1.0	1.6	1.8	4.2	2.6	1.2	2.0	2.3	3.3
TSS (mg/L) Raw Sewage Influent Average Monthly	184	248	221	210	244	226	219	197	167	227	233	208
TSS (mg/L) Weekly Average	2.0	2.0	2.0	1.0	3.0	2.5	6.5	7.0	1.5	3.5	4.0	6.0
Total Dissolved Solids (lbs/day) Average Monthly	12795	6662	14011	14096	14538	12756	13974	17699	29838	13480	15807	13645
Total Dissolved Solids (mg/L) Average Monthly	509	518	587	567	558	524	521	512	843	446	508	461
Fecal Coliform (CFU/100 ml) Geometric Mean	22	11	32	5	11	29	25	8	57	18	15	24
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	160	27	400	85	35	140	300	26	700	80	48	100
UV Transmittance (%) Minimum	70.8	70.0	66.9	68.6	73.9	75.7	72.1	64.3	67.9	77.3	78.2	74.6
Nitrate-Nitrite (lbs/day) Average Monthly	186	201	232	258	68	366	282	434	467	398	88	408
Nitrate-Nitrite (mg/L) Average Monthly	7.03	7.9	9.61	9.9	2.4	16.1	10.7	12.8	15.7	12.8	10.6	13.8
Total Nitrogen (lbs/day) Average Monthly	201	214	249	277	324	380	297	455	502	425	653	450
Total Nitrogen (mg/L) Average Monthly	7.59	8.4	10.3	10.6	11.6	16.7	11.3	13.4	16.9	13.7	21	15.2
Ammonia (lbs/day) Average Monthly	12	2.0	4.2	3.6	39	10.6	2.7	3.3	8.3	2.9	15.7	2.9
Ammonia (mg/L) Average Monthly	0.49	0.08	0.18	0.15	1.50	0.44	< 0.10	0.10	0.20	< 0.10	0.56	0.11
TKN (lbs/day) Average Monthly	14	12.7	14.7	16	143	11.4	13.2	17	34	24.5	173	37.3

TKN (mg/L) Average Monthly	0.53	0.5	0.61	0.62	5.1	0.50	0.50	0.50	1.14	0.79	6.3	1.26
Total Phosphorus (lbs/day) Average Monthly	34	34.6	37	35	30	32	50	40	42	52	29	30
Total Phosphorus (mg/L) Average Monthly	1.40	1.4	1.6	1.4	1.2	1.36	1.81	1.2	1.3	1.8	1.0	1.1
Total Phosphorus (mg/L) Daily Maximum	1.80	1.7	1.9	1.9	2.0	1.65	2.8	1.7	2.1	2.3	1.5	1.5
Orthophosphate (lbs/day) Average Monthly	33	34	34	32	27	29	46	34	36	41	23	21
Orthophosphate (mg/L) Average Monthly	1.34	1.38	1.47	1.29	1.10	1.21	1.67	1.07	1.10	1.42	0.80	0.80
Total Aluminum (mg/L) Average Monthly	0.04	0.11	0.04	0.035	0.07	0.11	0.08	0.11	0.16	0.11	< 0.10	0.48
Total Copper (mg/L) Average Monthly	0.014	0.012	0.009	0.011	0.004	0.014	0.010	0.009	0.013	0.014	0.008	0.011
Total Hardness (mg/L) Average Monthly	204	200	224	228	236	248	224	228	272	236	212	208
Chronic WET - Ceriodaphnia Survival (TUc) Daily Maximum		1.00			GG			GG			GG	
Chronic WET - Ceriodaphnia Reproduction (TUc) Daily Maximum		1.00			GG			GG			GG	
Chronic WET - Pimephales Survival (TUc) Daily Maximum		1.00			GG			GG			GG	
Chronic WET - Pimephales Growth (TUc) Daily Maximum		1.00			GG			GG			GG	

DMR Data for Outfall 002 (from November 1, 2020 to October 31, 2021)

Parameter	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20
pH (S.U.) Minimum											6.52	
pH (S.U.) Maximum											6.52	
CBOD5 (mg/L) Annual Average											3	
CBOD5 (mg/L) Daily Maximum											3	
COD (mg/L) Annual Average											46	
COD (mg/L) Daily Maximum											46	
TSS (mg/L) Annual Average											56	
TSS (mg/L) Daily Maximum											56	
Oil and Grease (mg/L) Annual Average											< 5	
Oil and Grease (mg/L) Daily Maximum											< 5	
Fecal Coliform (CFU/100 ml) Annual Average											840	
Fecal Coliform (CFU/100 ml) Daily Maximum											840	
TKN (mg/L) Annual Average											0.78	
TKN (mg/L) Daily Maximum											0.78	
Total Phosphorus (mg/L) Annual Average											0.27	
Total Phosphorus (mg/L) Daily Maximum											0.27	
Dissolved Iron (mg/L) Annual Average											0.02	
Dissolved Iron (mg/L) Daily Maximum											0.02	

DMR Data for Outfall 003 (from November 1, 2020 to October 31, 2021)

Parameter	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20
pH (S.U.) Minimum											6.55	
pH (S.U.) Maximum											6.55	
CBOD5 (mg/L) Annual Average											2	
CBOD5 (mg/L) Daily Maximum											2	
COD (mg/L) Annual Average											30	
COD (mg/L) Daily Maximum											30	
TSS (mg/L) Annual Average											31	
TSS (mg/L) Daily Maximum											31	
Oil and Grease (mg/L) Annual Average											< 5	
Oil and Grease (mg/L) Daily Maximum											< 5	
Fecal Coliform (CFU/100 ml) Annual Average											1500	
Fecal Coliform (CFU/100 ml) Daily Maximum											1500	
TKN (mg/L) Annual Average											0.52	
TKN (mg/L) Daily Maximum											0.52	
Total Phosphorus (mg/L) Annual Average											0.43	
Total Phosphorus (mg/L) Daily Maximum											0.43	
Dissolved Iron (mg/L) Annual Average											< 0.02	

Dissolved Iron (mg/L) Daily Maximum											< 0.02	

Compliance History

Effluent Violations for Outfall 001, from: December 1, 2020 To: October 31, 2021

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Ammonia	06/30/21	Avg Mo	39	lbs/day	23	lbs/day
Ammonia	06/30/21	Avg Mo	1.50	mg/L	.72	mg/L

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 3.91
Latitude 40º 7' 47.00" **Longitude** -75º 9' 32.00"
Wastewater Description: Treated Sewage Effluent

Technology-Based Limitations

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

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

Water Quality-Based Limitations

TMDL Limits: $CBOD_5$, Ammonia-nitrogen (NH_3-N), Nitrite-Nitrate as N, Dissolved Oxygen, orthophosphate**,** phosphorus

The watershed was listed by the Department as impaired due to excessive nutrients and sediments (see the 305(b) and 303(d) reports). On October 9, 2003, the Environmental Protection Agency (EPA) issued the Wissahickon TMDL that includes wasteload allocations (WLAs) for five POTWs located in the watershed. The TMDL includes WLA limits for: $CBOD_5$, ammonia-nitrogen, nitrites-nitrates, orthophosphate, and dissolved oxygen.

The Department had not yet finalized in-stream criteria for total-phosphorus. Therefore, the EPA developed the TMDL using the in-stream dissolved oxygen standard for a trout stocking fishery (TSF) (e.g. 7.0 mg/l minimum) as the target standard. The Department anticipates establishing numerical nutrient criteria (e.g. phosphorus) sometime in the future. At such a time, the TMDL may be revised to incorporate the promulgated nutrient limits.

Table 4-3 of the Wissahickon TMDL includes the following effluent limits:

Parameter	Summer
$CBOD_5$	7.5 mg/l
NH_3-N	0.72 mg/l
Nitrite-Nitrate	30.27 mg/l
Orthophosphate-P	1.85 mg/l

Dissolved Oxygen: 7.0 mg/l is continued in the permit based on the TMDL

Nitrite-Nitrate: The permit contains a monitoring requirement for Nitrite + Nitrate as Nitrogen, in lieu of the WLA listed in the Wissahickon Creek TMDL. The Environmental Protection Agency (EPA) determined that the nitrite-nitrate levels listed in the TMDL, in addition to protecting the dissolved oxygen standard, would also be protective of the nearest downstream

potable water supply. Based on Table 4-3 of the TMDL, the allowable nitrate-nitrate concentration for Abington is 30.27 mg/l and a 0% reduction is required. Based on the past one year of data, the average nitrite-nitrate effluent concentration from Abington Township was 10.78 mg/l. The monitoring requirement is continued in the permit to collect data for future analysis to determine compliance with the TMDL.

Phosphorus: In addition to the orthophosphate limit listed in the Wissahickon TMDL, the existing permit includes a monitoring requirement for total phosphorous. It is recommended to continue the Phosphorous Total monitoring requirement.

Total Nitrogen: Reporting for total nitrogen and TKN are in the existing permit and are recommended to continue.

Seasonal Multipliers: Consistent with the DEP guidance document "Determining Water Quality-Based Effluent Limits" (391-2000-003, May 9, 2003, Page 32, Table 8), seasonal multipliers are applied to effluent limits: $CBOD_5$ = 2X, NH_3-N = 3X, Phosphorus = 2X

Total Dissolved Solids (TDS)

The TDS concentrations listed in the permit application were 682 mg/l (average) and 792 mg/l (maximum). DRBC Regulation 3.10.4.D.2 includes TDS limit of 1,000 mg/l. The Department has a statewide osmotic pressure criterion of 50 milliosmoles per kilogram (approximately 1,500 mg/l TDS). The existing TDS limits: 1,000 mg/l (average monthly), and 1,500 mg/l (instantaneous maximum) are recommended to continue.

E. Coli: Monitoring is included in the draft permit according to the DEP SOP guidance (Chapter 92.a.61). This is a new requirement and is consistent with the requirements of other similar discharges in the area.

TRC / UV: Since chlorine is not used at the facility, no TRC limit is needed. UV monitoring is continued.

A "Reasonable Potential Analysis" determined the following parameters were candidates for limitations or monitoring requirements:

Parameter	Limit (mg/l)	SBC	Model
Total Aluminum	Report	Average Monthly	Toxic Management Spreadsheet (TMS)
Total Boron	Report	Average Monthly	TMS
Total Copper *	19.4	Average Monthly	TMS
Free Cyanide**	4.07	Average Monthly	TMS
Total Zinc	Report	Average Monthly	TMS

* Existing permit has a copper Monitoring requirement. The maximum discharge concentration for Copper Total is reported as 14 ug/l in the eDMR and is used in the TMS model run. The WQBEL recommended by TMS is 19.4 ug/l.
The review of the last year's eDMR data shows compliance with the proposed WQBEL 100 % of the time.
The new Average Monthly effluent limit for Copper is included in the draft permit.

The existing permit has a Part C condition requiring the permittee to conduct a scientific study during the permit term to develop site specific criterion (SSC) for Copper. Based on the records the study was never conducted.
Since the facility is able to meet the proposed limit, the permittee is not pursuing any site-specific studies at this time.

**For Free Cyanide, only 3 sample results are available, and they all are non-detect results using a QL of 4 ug/l.
According to the permittee, there are no sources for this parameter in their discharge. A monthly monitoring requirement is included to collect more data to reevaluate the reasonable potential at the next permit renewal.
We suggest conducting the sample analysis using the TQL recommended in the application instructions in the future.

See the below attached TMS report:

Discharge Information

Instructions | Discharge | Stream

Facility: **Abington Twp STP** NPDES Permit No.: **PA0026867** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Treated Sewage Effluent**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
3.91	233	7.84						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		792									
	Chloride (PWS)	mg/L		152									
	Bromide	mg/L	<	1									
	Sulfate (PWS)	mg/L		42.8									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		130									
	Total Antimony	µg/L		0.4									
	Total Arsenic	µg/L	<	1									
	Total Barium	µg/L		27									
	Total Beryllium	µg/L	<	1									
	Total Boron	µg/L		300									
	Total Cadmium	µg/L	<	0.1									
	Total Chromium (III)	µg/L		1.4									
	Hexavalent Chromium	µg/L	<	0.25									
	Total Cobalt	µg/L	<	0.5									
	Total Copper	µg/L		14									
	Free Cyanide	µg/L	<	4									
	Total Cyanide	µg/L	<	4									
	Dissolved Iron	µg/L		25									
	Total Iron	µg/L		30									
	Total Lead	µg/L	<	1									
	Total Manganese	µg/L		22									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		2.2									
	Total Phenols (Phenolics) (PWS)	µg/L	<	2									
	Total Selenium	µg/L	<	1									
	Total Silver	µg/L	<	1									
	Total Thallium	µg/L	<	0.2									
	Total Zinc	µg/L		44									
	Total Molybdenum	µg/L	<	3									

	Acrolein	µg/L	<	2									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	2									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L	<	0.5									

Group 3	Carbon Tetrachloride	µg/L	<	0.5									
	Chlorobenzene	µg/L		0.5									
	Chlorodibromomethane	µg/L	<	0.5									
	Chloroethane	µg/L	<	0.5									
	2-Chloroethyl Vinyl Ether	µg/L	<	5									
	Chloroform	µg/L	<	0.5									
	Dichlorobromomethane	µg/L	<	0.5									
	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	<	50									
	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	<	0.5										
	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										

	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												

Stream / Surface Water Information

Abington Twp STP, NPDES Permit No. PA0026867, 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 (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	000859	4.3	209.7	3			Yes
End of Reach 1	000859	1.204	156.42	5.57			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	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	4.3	0.1	0.105									100	7		
End of Reach 1	1.204	0.1	0.195												

Q_h

Location	RMI	LFY (cfs/mi^2)	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	4.3														
End of Reach 1	1.204														

Model Results

Abington Twp STP, NPDES Permit No. PA0026867, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.006 PMF: 1 Analysis Hardness (mg/l): 230.73 Analysis pH: 7.80

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	750	750	763	
Total Antimony	0	0		0	1,100	1,100	1,119	
Total Arsenic	0	0		0	340	340	346	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	21,365	
Total Boron	0	0		0	8,100	8,100	8,241	
Total Cadmium	0	0		0	4.537	4.99	5.08	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	1129.998	3,576	3,638	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	16.6	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	96.6	
Total Copper	0	0		0	29.545	30.8	31.3	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	22.4	
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	158.381	237	241	Chem Translator of 0.669 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	1.68	Chem Translator of 0.85 applied
Total Nickel	0	0		0	949.843	952	968	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	13.551	15.9	16.2	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	66.1	
Total Zinc	0	0		0	237.966	243	248	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	3.05	

Model Results 1/3/2022 Page 5

Acrylonitrile	0	0		0	650	650	661	
Benzene	0	0		0	640	640	651	
Bromoform	0	0		0	1,800	1,800	1,831	
Carbon Tetrachloride	0	0		0	2,800	2,800	2,849	
Chlorobenzene	0	0		0	1,200	1,200	1,221	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	18,312	
Chloroform	0	0		0	1,900	1,900	1,933	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	15,260	
1,1-Dichloroethylene	0	0		0	7,500	7,500	7,630	
1,2-Dichloropropane	0	0		0	11,000	11,000	11,191	
1,3-Dichloropropylene	0	0		0	310	310	315	
Ethylbenzene	0	0		0	2,900	2,900	2,950	
Methyl Bromide	0	0		0	550	550	560	
Methyl Chloride	0	0		0	28,000	28,000	28,486	
Methylene Chloride	0	0		0	12,000	12,000	12,208	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,017	
Tetrachloroethylene	0	0		0	700	700	712	
Toluene	0	0		0	1,700	1,700	1,730	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	6,918	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	3,052	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	3,459	
Trichloroethylene	0	0		0	2,300	2,300	2,340	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	570	
2,4-Dichlorophenol	0	0		0	1,700	1,700	1,730	
2,4-Dimethylphenol	0	0		0	660	660	671	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	81.4	
2,4-Dinitrophenol	0	0		0	660	660	671	
2-Nitrophenol	0	0		0	8,000	8,000	8,139	
4-Nitrophenol	0	0		0	2,300	2,300	2,340	
p-Chloro-m-Cresol	0	0		0	160	160	163	
Pentachlorophenol	0	0		0	19.457	19.5	19.8	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	468	
Acenaphthene	0	0		0	83	83.0	84.4	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	305	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.51	
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	30,521	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	4,578	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	275	
Butyl Benzyl Phthalate	0	0		0	140	140	142	

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	834	
1,3-Dichlorobenzene	0	0		0	350	350	356	
1,4-Dichlorobenzene	0	0		0	730	730	743	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	4,069	
Dimethyl Phthalate	0	0		0	2,500	2,500	2,543	
Di-n-Butyl Phthalate	0	0		0	110	110	112	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	1,628	
2,6-Dinitrotoluene	0	0		0	990	990	1,007	
1,2-Diphenylhydrazine	0	0		0	15	15.0	15.3	
Fluoranthene	0	0		0	200	200	203	
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	10.2	
Hexachlorocyclopentadiene	0	0		0	5	5.0	5.09	
Hexachloroethane	0	0		0	60	60.0	61.0	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	10,174	
Naphthalene	0	0		0	140	140	142	
Nitrobenzene	0	0		0	4,000	4,000	4,069	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	17,295	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	305	
Phenanthrene	0	0		0	5	5.0	5.09	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	132	

☑ *CFC* CCT (min): 0.006 PMF: 1 Analysis Hardness (mg/l): 230.73 Analysis pH: 7.80

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	220	220	224	
Total Arsenic	0	0		0	150	150	153	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	4,171	
Total Boron	0	0		0	1,600	1,600	1,628	
Total Cadmium	0	0		0	0.439	0.5	0.51	Chem Translator of 0.874 applied
Total Chromium (III)	0	0		0	146.990	171	174	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	10.6	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	19.3	
Total Copper	0	0		0	18.297	19.1	19.4	Chem Translator of 0.96 applied

Free Cyanide	0	0		0	5.2	5.2	5.29	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	1,526	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	6.172	9.22	9.38	Chem Translator of 0.669 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	0.92	Chem Translator of 0.85 applied
Total Nickel	0	0		0	105.498	106	108	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	5.08	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	13.2	
Total Zinc	0	0		0	239.912	243	248	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	3.05	
Acrylonitrile	0	0		0	130	130	132	
Benzene	0	0		0	130	130	132	
Bromoform	0	0		0	370	370	376	
Carbon Tetrachloride	0	0		0	560	560	570	
Chlorobenzene	0	0		0	240	240	244	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	3,561	
Chloroform	0	0		0	390	390	397	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	3,154	
1,1-Dichloroethylene	0	0		0	1,500	1,500	1,526	
1,2-Dichloropropane	0	0		0	2,200	2,200	2,238	
1,3-Dichloropropylene	0	0		0	61	61.0	62.1	
Ethylbenzene	0	0		0	580	580	590	
Methyl Bromide	0	0		0	110	110	112	
Methyl Chloride	0	0		0	5,500	5,500	5,595	
Methylene Chloride	0	0		0	2,400	2,400	2,442	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	214	
Tetrachloroethylene	0	0		0	140	140	142	
Toluene	0	0		0	330	330	336	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	1,424	
1,1,1-Trichloroethane	0	0		0	610	610	621	
1,1,2-Trichloroethane	0	0		0	680	680	692	
Trichloroethylene	0	0		0	450	450	458	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	112	
2,4-Dichlorophenol	0	0		0	340	340	346	
2,4-Dimethylphenol	0	0		0	130	130	132	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	16.3	
2,4-Dinitrophenol	0	0		0	130	130	132	
2-Nitrophenol	0	0		0	1,600	1,600	1,628	
4-Nitrophenol	0	0		0	470	470	478	

p-Chloro-m-Cresol	0	0		0	500	500	509	
Pentachlorophenol	0	0		0	14.928	14.9	15.2	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	92.6	
Acenaphthene	0	0		0	17	17.0	17.3	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	60.0	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.1	
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	6,104	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	926	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	54.9	
Butyl Benzyl Phthalate	0	0		0	35	35.0	35.6	
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	163	
1,3-Dichlorobenzene	0	0		0	69	69.0	70.2	
1,4-Dichlorobenzene	0	0		0	150	150	153	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	814	
Dimethyl Phthalate	0	0		0	500	500	509	
Di-n-Butyl Phthalate	0	0		0	21	21.0	21.4	
2,4-Dinitrotoluene	0	0		0	320	320	326	
2,6-Dinitrotoluene	0	0		0	200	200	203	
1,2-Diphenylhydrazine	0	0		0	3	3.0	3.05	
Fluoranthene	0	0		0	40	40.0	40.7	
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	2.03	
Hexachlorocyclopentadiene	0	0		0	1	1.0	1.02	
Hexachloroethane	0	0		0	12	12.0	12.2	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	2,136	
Naphthalene	0	0		0	43	43.0	43.7	
Nitrobenzene	0	0		0	810	810	824	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	3,459	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	60.0	
Phenanthrene	0	0		0	1	1.0	1.02	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	26.5	

☑ *THH* CCT (min): 0.006 PMF: 1 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	5.7	
Total Arsenic	0	0		0	10	10.0	10.2	
Total Barium	0	0		0	2,400	2,400	2,442	
Total Boron	0	0		0	3,100	3,100	3,154	
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	4.07	
Dissolved Iron	0	0		0	300	300	305	
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	1,017	
Total Mercury	0	0		0	0.050	0.05	0.051	
Total Nickel	0	0		0	610	610	621	
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	0.24	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	3.05	
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	102	
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	33.6	
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	69.2	

Methyl Bromide	0	0		0	100	100.0	102	
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	58.0	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	102	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	10,174	
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	30.5	
2,4-Dichlorophenol	0	0		0	10	10.0	10.2	
2,4-Dimethylphenol	0	0		0	100	100.0	102	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	2.03	
2,4-Dinitrophenol	0	0		0	10	10.0	10.2	
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	4,069	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	71.2	
Anthracene	0	0		0	300	300	305	
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	203	
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	0.1	
2-Chloronaphthalene	0	0		0	800	800	814	
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	1,017	
1,3-Dichlorobenzene	0	0		0	7	7.0	7.12	
1,4-Dichlorobenzene	0	0		0	300	300	305	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	610	
Dimethyl Phthalate	0	0		0	2,000	2,000	2,035	
Di-n-Butyl Phthalate	0	0		0	20	20.0	20.3	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	

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	20.3	
Fluorene	0	0		0	50	50.0	50.9	
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	4.07	
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	34.6	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	10.2	
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	20.3	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.071	

☑ *CRL* CCT (min): 0.389 PMF: 1 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	0.07	
Benzene	0	0		0	0.58	0.58	0.68	
Bromoform	0	0		0	7	7.0	8.2	
Carbon Tetrachloride	0	0		0	0.4	0.4	0.47	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	0.94	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	6.68	
Dichlorobromomethane	0	0		0	0.95	0.95	1.11	
1,2-Dichloroethane	0	0		0	9.9	9.9	11.6	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	1.05	
1,3-Dichloropropylene	0	0		0	0.27	0.27	0.32	
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	23.4	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	0.23	
Tetrachloroethylene	0	0		0	10	10.0	11.7	
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	0.64	
Trichloroethylene	0	0		0	0.6	0.6	0.7	
Vinyl Chloride	0	0		0	0.02	0.02	0.023	
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	0.035	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	1.76	
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	0.0001	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.001	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.0001	

3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.001	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.012	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.035	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	0.37	
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	0.14	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.0001	
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	0.059	
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	0.059	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.059	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.035	
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	0.00009	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.012	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	0.12	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.001	
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	0.0008	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.006	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	3.87	
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	750	AFC	Discharge Conc > 10% WQBEL (no RP)

Total Boron	Report	Report	Report	Report	Report	µg/L	1,628	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	0.63	0.99	19.4	30.3	48.5	µg/L	19.4	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Free Cyanide	0.13	0.21	4.07	6.35	10.2	µg/L	4.07	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	243	AFC	Discharge Conc > 10% WQBEL (no 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	5.7	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	2,442	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Cadmium	0.51	µg/L	Discharge Conc < TQL
Total Chromium (III)	174	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	10.6	µg/L	Discharge Conc < TQL
Total Cobalt	19.3	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	305	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	1,526	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	9.38	µg/L	Discharge Conc < TQL
Total Manganese	1,017	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.051	µg/L	Discharge Conc < TQL
Total Nickel	108	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	5.08	µg/L	Discharge Conc < TQL
Total Silver	15.9	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	0.24	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.0	µg/L	Discharge Conc < TQL
Acrylonitrile	0.07	µg/L	Discharge Conc < TQL
Benzene	0.68	µg/L	Discharge Conc < TQL
Bromoform	8.2	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	0.47	µg/L	Discharge Conc < TQL
Chlorobenzene	102	µg/L	Discharge Conc ≤ 25% WQBEL

Chlorodibromomethane	0.94	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	3,561	µg/L	Discharge Conc < TQL
Chloroform	6.68	µg/L	Discharge Conc < TQL
Dichlorobromomethane	1.11	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	11.6	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	33.6	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	1.05	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	0.32	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	69.2	µg/L	Discharge Conc < TQL
Methyl Bromide	102	µg/L	Discharge Conc < TQL
Methyl Chloride	5,595	µg/L	Discharge Conc < TQL
Methylene Chloride	23.4	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	0.23	µg/L	Discharge Conc < TQL
Tetrachloroethylene	11.7	µg/L	Discharge Conc < TQL
Toluene	58.0	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	102	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	621	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	0.64	µg/L	Discharge Conc < TQL
Trichloroethylene	0.7	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.023	µg/L	Discharge Conc < TQL
2-Chlorophenol	30.5	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	10.2	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	102	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	2.03	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	10.2	µg/L	Discharge Conc < TQL
2-Nitrophenol	1,628	µg/L	Discharge Conc < TQL
4-Nitrophenol	478	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	160	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.035	µg/L	Discharge Conc < TQL
Phenol	4,069	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	1.76	µg/L	Discharge Conc < TQL
Acenaphthene	17.3	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	305	µg/L	Discharge Conc < TQL
Benzidine	0.0001	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.001	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0001	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.001	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.012	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.035	µg/L	Discharge Conc < TQL

Bis(2-Chloroisopropyl)Ether	203	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	0.37	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	54.9	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.1	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	814	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.14	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.0001	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	163	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	7.12	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	153	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	0.059	µg/L	Discharge Conc < TQL
Diethyl Phthalate	610	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	509	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	20.3	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.059	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.059	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.035	µg/L	Discharge Conc < TQL
Fluoranthene	20.3	µg/L	Discharge Conc < TQL
Fluorene	50.9	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.00009	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.012	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.02	µg/L	Discharge Conc < TQL
Hexachloroethane	0.12	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.001	µg/L	Discharge Conc < TQL
Isophorone	34.6	µg/L	Discharge Conc < TQL
Naphthalene	43.7	µg/L	Discharge Conc < TQL
Nitrobenzene	10.2	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.0008	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.006	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	3.87	µg/L	Discharge Conc < TQL
Phenanthrene	1.02	µg/L	Discharge Conc < TQL
Pyrene	20.3	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.071	µg/L	Discharge Conc < TQL

Anti-Backsliding

The current WET limits are eliminated based on the review of the submitted WET reports.
New monitoring data constitutes new information and RP is not demonstrated and hence the anti-backsliding exception applies here.

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** 0
Latitude 40º 7' 47.00" **Longitude** -75º 9' 32.00"
Wastewater Description: Stormwater

Outfall No. 003 **Design Flow (MGD)** 0
Latitude 40º 7' 47.00" **Longitude** -75º 9' 32.00"
Wastewater Description: Stormwater

The existing stormwater parameters; pH, CBOD5, COD, TSS, Oil and Grease, Fecal Coliform, TKN, Total Phosphorus, and Iron Dissolved are recommended to continue in the permit. For TSS and COD, benchmark values are incorporated in Part C condition in the draft permit.

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: Annual testing throughout permit term

The dilution series used for the tests was: 100%, 98%, 73%, 49%, and 25%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is:98%.

WET Summary and Evaluation

Facility Name	Abington Twp STP
Permit No.	PA0026867
Design Flow (MGD)	3.91
Q_{7-10} Flow (cfs)	0.105
PMF_a	1
PMF_c	1

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	12/10/18	5/14/19	8/8/20	7/27/21
Pimephales	Growth	Pass	Pass	Pass	Pass

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	12/10/18	5/14/19	8/8/20	7/27/21
Pimephales	Survival	Pass	Pass	Pass	Pass

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	12/10/18	5/13/19	8/17/20	7/26/21
Ceriodaphnia	Survival	Pass	Pass	Pass	Pass

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	12/10/18	5/13/19	8/17/20	7/26/21
Ceriodaphnia	Reproduction	Pass	Pass	Pass	Pass

Reasonable Potential? NO

Permit Recommendations

Test Type	**Chronic**
TIWC	**98** % Effluent
Dilution Series	**25, 49, 73, 98, 100** % Effluent
Permit Limit	**None**
Permit Limit Species	

Based on the review of the WET test reports, test of significant toxicity (TST) was performed using DEP's WET Analysis Spreadsheet. There is no reasonable potential, and no WET limits are recommended. The standard WET condition based on the DEP WET SOP is incorporated in Part C of the draft permit.

Proposed Effluent Limitations and Monitoring Requirements

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	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	7.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) Nov 1 - Apr 30	489	734	XXX	15	22.5	30	2/week	24-Hr Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) May 1 - Oct 31	245	376	XXX	7.5	11.25	15	2/week	24-Hr Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Suspended Solids	978	1467	XXX	30	45	60	2/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Dissolved Solids	32609	XXX	XXX	1000	XXX	1500	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab

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	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ultraviolet light transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	70	XXX	XXX	2.16	XXX	4.32	2/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	23	XXX	XXX	0.72	XXX	1.44	2/week	24-Hr Composite
Total Kjeldahl Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Phosphorus	Report	XXX	XXX	Report	Report Daily Max	XXX	2/week	24-Hr Composite
Orthophosphate	60	XXX	XXX	1.85	XXX	3.7	2/week	24-Hr Composite
Aluminum, Total	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Boron, Total	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Copper, Total	0.63	0.99 Daily Max	XXX	0.019	0.030 Daily Max	0.049	1/week	24-Hr Composite
Cyanide, Free	Report	XXX	XXX	Report	XXX	XXX	1/month	Grab
Zinc, Total	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Hardness, Total (as CaCO3)	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Toxicity, Chronic - Ceriodaphnia Survival (TUc)	XXX	XXX	XXX	Report Daily Max	XXX	XXX	See Permit	24-Hr Composite
Toxicity, Chronic - Ceriodaphnia Reproduction (TUc)	XXX	XXX	XXX	Report Daily Max	XXX	XXX	See Permit	24-Hr Composite
Toxicity, Chronic - Pimephales Survival (TUc)	XXX	XXX	XXX	Report Daily Max	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)	Required
	Average Monthly	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum	Measurement Frequency	Sample Type
Toxicity, Chronic - Pimephales Growth (TUc)	XXX	XXX	XXX	Report Daily Max	XXX	XXX	See Permit	24-Hr Composite

Proposed Effluent Limitations and Monitoring Requirements

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
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Chemical Oxygen Demand (COD)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Suspended Solids	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
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Iron, Dissolved	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Proposed Effluent Limitations and Monitoring Requirements

Outfall 003, 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
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Chemical Oxygen Demand (COD)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Suspended Solids	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
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Iron, Dissolved	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab