Pennsylvania
Department of
Environmental Protection

Northcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0027553**
Facility Type	**Municipal**	APS ID	**1070434**
Major / Minor	**Major**	Authorization ID	**1408896**

Applicant and Facility Information

Applicant Name	**Pine Creek Municipal Authority**	Facility Name	**PCMA WWTP**
Applicant Address	P.O. Box 608	Facility Address	429 8th Street
	Avis, PA 17721-0608		Jersey Shore, PA 17740
Applicant Contact	Rod Chambers	Facility Contact	Rod Chambers
Applicant Phone	570-398-7897	Facility Phone	570-398-7897
Client ID	5944	Site ID	246242
Ch 94 Load Status	Not Overloaded	Municipality	Pine Creek Township
Connection Status	No Limitations	County	Clinton
Date Application Received	August 31, 2022	EPA Waived?	No
Date Application Accepted	November 08, 2022	If No, Reason	Major Facility, Significant CB Discharge
Purpose of Application	Renewal of major NPDES pPermit		

Summary of Review

INTRODUCTION

The Pine Creek Municipal Authority (PCMA) has applied to renew its existing major NPDES permit authorizing the discharge of domestic wastewater from its wastewater treatment plant (WWTP) in Pine Creek Township, Clinton County.

APPLICATION

The PCMA submitted the *NPDES Application for Individual Permit to Discharge Sewage Effluent from Major Sewage Facilities* (DEP #3800-PM-BCW0009c). This application was received by the Department on August 31, 2022, and considered administratively complete on November 08, 2022. Rod Chambers, PCMA General Manager, is both the client and site contact. His additional contact information is (FAX) 570-398-3984 and (email) pcmadesk@aol.com. The application consultant is Nina Shappell, Engineering Associate with Larson Design Group of Williamsport, PA. Her contact information is (phone) 570-692-2082 and (email) nschappell@larsondesigngroup.com.

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.

The case-file, permit application package and draft permit will be available for public review at Department's Northcentral Regional Office. The address for this office is 208 West Third Street, Suite 101, Williamsport, PA 17701. An appointment can be made to review these materials during the comment period by calling the file coordinator at 570-327-3636.

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Approve	Return	Deny	Signatures	Date
X			Jeffrey J. Gocek, EIT Project Manager	10/06/2025
X			Nicholas W. Hartranft, PE Environmental Engineer Manager	10/06/2025

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DISCHARGE, RECEIVING WATERS AND WATER SUPPLY INFORMATION

Outfall No.	001	Design Flow (MGD)	1.60
Latitude	41° 10' 25.24"	Longitude	-77° 18' 55.86"
Wastewater Description:	Domestic wastewater with industrial users		
Receiving Waters	~~Queens Run~~UNT to West Branch Susquehanna River	Stream Code	2235032350
NHD Com ID	61116153	RMI	0.3
Drainage Area	1.45	Yield (cfs/mi^2)	0.021
Q_{7-10} Flow (cfs)	0.031	Q_{7-10} Basis	USGS Gage 01549500
Elevation (ft)	536	Slope (ft/ft)	Not Applicable
Watershed No.	9-B	Chapter 93 Class.	CWF, MF
Existing Use	None	Existing Use Qualifier	Not Applicable
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired - Recreation		
Cause(s) of Impairment	Pathogens		
Source(s) of Impairment	Unknown		
TMDL Status	None	Name	Not Applicable
Nearest Downstream Public Water Supply Intake	Pennsylvania-American Water Company at Milton, PA		
PWS Waters	West Branch Susquehanna River	Distance from Outfall (mi)	50

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$Q_{7,10}$ DETERMINATION

The $Q_{7,10}$ is the lowest seven consecutive days of flow in a 10-year period and is used for modeling wastewater treatment plant discharges. 25 PA § 96.1 defines $Q_{7,10}$ as "*the actual or estimated lowest 7 consecutive day average flow that occurs once in 10 years for a stream with unregulated flow, or the estimated minimum flow for a stream with regulated flow*".

A stream gage upstream of the existing discharge, "Blockhouse Creek near English Center, PA" (USGS #01549500) was selected as a reference gage. A $Q_{7,10}$ flow for that gage (0.8 cubic feet per second (CFS)) was obtained from *Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania* (USGS Open Files Report 2011-1070). The drainage area at the point of discharge (37.7 mi^2) was calculated by the *USGS Pennsylvania StreamStats* application. Knowing the drainage area (1.45 mi^2) at the discharge and both the drainage area (37.7 mi^2) and $Q_{7,10}$ (0.8 CFS) at the reference gage, the $Q_{7,10}$ at the discharge was calculated to be 0.031 CFS.

See Attachment 01 for the $Q_{7,10}$ determination.

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This value is significantly more stringent than the previous value of 425.2 CFS. The previous Fact Sheet (2018) utilized a Point of First Use (POFU) at the West Branch Susquehanna River. It was assumed then that the receiving stream, ~~Queens Run~~an Unnamed Tributary to the West Branch Susquehanna River, was an intermittent stream without aquatic life. Department biologists performed POFU survey in 2020 which determined that the POFU is upstream of the PCMA outfall due to existing macroinvertebrate communities. This will result in more stringent effluent limitations.

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See Attachment 02 for the POFU Aquatic Survey.

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COMPLIANCE HISTORY

The WMS Query Open Violations by Client revealed no unresolved violations for the PCMA.

The most recent Department Chesapeake Bay Cap Load Compliance Evaluation inspection was performed December 24, 2024. Both the Total Nitrogen (TN) and Total Phosphorus (TP) cap loads were exceeded by the PCMA during the preceding water year. The PCMA purchased TN and TP credits in order to comply with the permitted cap loads.

The most recent Department Compliance Evaluation Inspection (CEI) was performed January 09, 2025. Numerous violations were noted; including 1. effluent limit exceedances in April, July and November 2024, 2. failure to submit WETT testing results for the 2nd, 3rd and 4th quarters of 2024 and 3. failure to comply with a Department-issued enforcement order (CO&A). All treatment units were online and operational at the time of the inspection. Clear effluent was observed discharging.

The Department and the PCMA entered into a Consent Order & Agreement (CO&A) on May 23, 2024, due to the failure by PCMA to conduct and submit Whole Effluent Toxicity Testing (WETT) in accordance with Part C of the existing permit.

The following are effluent limit exceedances from July 2024 through May 2025.

Parameter	Date	SBC	DMR Value	Limit Value	Units
pH	11/30/2024	Min	5.23	6.0	S.U.
CBOD5	07/31/2024	Wkly Avg	717	530	lbs/day
CBOD5	07/31/2024	Wkly Avg	66.0	40.0	mg/L
CBOD5	05/31/2025	Wkly Avg	44.75	40.0	mg/L
TSS	05/31/2025	Wkly Avg	969	600	lbs/day
TSS	05/31/2025	Wkly Avg	47.0	45.0	mg/L
Fecal Coliform	05/31/2025	IMAX	1553	1000	No./100 ml

The following are Discharge Monitoring Report (DMR) data from June 2024 through May 2025.

Parameter	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24
Flow (MGD) Average Monthly	1.539	0.934	1.00	0.855	0.695	0.961	0.65	0.678	0.679	1.105	0.684	0.624
Flow (MGD) Daily Maximum	2.708	1.229	2.203	1.753	0.903	1.948	1.072	0.936	0.91	2.699	1.302	0.803
pH (S.U.) Minimum	6.46	6.15	6.79	6.83	6.44	6.04	5.23	6.11	6.38	6.48	6.3	6.47
pH (S.U.) Instantaneous Maximum	7.03	7.0	7.09	7.23	7.26	6.71	6.61	6.93	7.22	7.14	7.05	6.94
DO (mg/L) Minimum	2.94	4.31	3.58	4.48	3.33	2.41	2.98	2.88	3.5	3.5	2.98	3.18
CBOD5 (lbs/day) Average Monthly	284	62	51	29	22	40	33	33	39	62	125	21
CBOD5 (lbs/day) Weekly Average	462	75	83	34	29	83	44	48	81	129	717	25
CBOD5 (mg/L) Average Monthly	25.0	9.0	6.0	5.0	4.0	4.0	6.0	6.0	7.0	6.0	14.0	4.0
CBOD5 (mg/L) Weekly Average	44.75	11.3	7.95	6.45	4.95	5.95	7.55	7.30	16.35	9.5	66.0	5.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	1834	1187	1296	1035	1145	1966	1072	1016	949	628	1064	1273
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	3094	1493	1437	1386	1770	4027	2082	1576	2586	953	1978	2152
BOD5 (mg/L) Raw Sewage Influent Average Monthly	138	163	171	158	211	273	202	167	164	66	183	246
TSS (lbs/day) Average Monthly	310	116	135	41	30	122	64	55	31	49	64	33
TSS (lbs/day) Raw Sewage Influent Average Monthly	1956	1417	1361	1008	1419	1769	2747	1666	1472	1046	1870	1506
TSS (lbs/day) Raw Sewage Influent Daily Maximum	2326	1709	1755	1257	2481	2752	3608	2616	2061	1723	3735	2129

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TSS (lbs/day) Weekly Average	969	266	394	61	56	381	90	68	39	105	126	48
TSS (mg/L) Average Monthly	18.0	16.4	13.3	6.4	5.5	11.3	12.0	9.4	5.6	4.9	9.5	6.4
TSS (mg/L) Raw Sewage Influent Average Monthly	161	199	178	169	256	246	516	300	259	123	267	296
TSS (mg/L) Weekly Average	47.0	40.0	34.0	8.0	8.0	26.0	18.0	12.0	8.0	8.0	14.0	9.0
Fecal Coliform (No./100 ml) Geometric Mean	40	108	45	162	11	39	1651	418	6.0	2.0	7.2	1.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	1553	2419.6	2419.6	980.4	111.9	488.4	2419.6	2419.6	126.6	60.9	727	2.0
UV Transmittance (%) Instantaneous Minimum	21	26	32	20	22	31	15	20	37	43	10	39
Nitrate-Nitrite (mg/L) Average Monthly	9.23	24.03	6.28	11.78	8.89	30.3	61.1	32.7	12.81	14.91	15.54	18.4
Nitrate-Nitrite (lbs) Total Monthly	3723.5	5029.9	1499.3	1817.6	1533.2	8232.3	9844.8	5839.9	2241.9	6.7	2945.2	2849
Total Nitrogen (mg/L) Average Monthly	14.46	38.19	37.6	57.31	60.5	34.7	70.20	37.90	16.26	18.3	21.96	22.01
Total Nitrogen (lbs) Effluent Net Total Monthly	6444.1	8046.8	9430.1	9889.2	10056.3	9558.3	11283	6792.3	2820.0	4962.3	4403	3406.5
Total Nitrogen (lbs) Total Monthly	6444.1	8046.8	9430.1	9889.2	10056.3	9558.3	11283	6792.3	2820.0	4962.3	4403	3406.5
Total Nitrogen (lbs) Effluent Net Total Annual									23742			
Total Nitrogen (lbs) Total Annual									58436			
Ammonia (mg/L) Average Monthly	1.98	8.5	27.71	40.98	48.04	1.05	2.12	1.32	0.38	1.1	3.23	0.21
Ammonia (lbs) Total Monthly	1208	1840.9	7017.7	7286.2	7914.6	394	323.4	240.9	64.9	365.4	812	32.6
Ammonia (lbs) Total Annual									17074			
TKN (mg/L) Average Monthly	5.20	14.2	31.3	45.0	47.1	4.5	9.1	5.20	3.50	3.4	6.4	3.6
TKN (lbs) Total Monthly	2720.6	3016.9	7915.1	7968.5	7784.5	1326.1	1438.2	952.4	578.1	965.6	1457.8	557.5
Total Phosphorus (lbs/day) Average Monthly	10.44	8.93	4.64	4.83	2.56	5.05	9.32	4.72	6.22	13.26	16.66	14.82
Total Phosphorus (mg/L) Average Monthly	0.65	1.28	0.51	0.7	0.48	0.5	1.84	0.8	1.11	1.55	2.64	2.86
Total Phosphorus (lbs) Effluent Net Total Monthly	323.6	267.8	143.8	135.4	79.5	156.6	279.7	146.3	186.7	420.3	518.7	444.6
Total Phosphorus (lbs) Total Monthly	323.6	267.8	143.8	135.4	79.5	156.6	279.7	146.3	186.7	420.3	518.7	444.6
Total Phosphorus (lbs) Effluent Net Total Annual									3109			
Total Phosphorus (lbs) Total Annual									4515			
Total Aluminum (lbs/day) Average Monthly	3.76	2.08	3.24	1.17	1.05	3.00	1.47	0.90	0.50	0.50	0.80	0.40
Total Aluminum (lbs/day) Daily Maximum	10.06	3.80	9.81	1.43	1.39	9.88	1.84	1.42	0.60	0.90	1.28	0.50
Total Aluminum (mg/L) Average Monthly	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.1
Total Aluminum (mg/L) Daily Maximum	0.576	0.579	0.82	0.218	0.247	0.608	0.395	0.262	0.109	0.097	0.172	0.095
Total Copper (lbs/day) Average Monthly	0.10	0.07	0.10	0.04	0.05	0.20	0.07	0.05	0.03	0.06	0.04	0.04
Total Copper (lbs/day) Daily Maximum	0.30	0.10	0.30	0.04	0.05	0.50	0.09	0.07	0.03	0.07	0.05	0.05
Total Copper (ug/L) Average Monthly	9.33	10.04	10.38	6.38	8.43	0.01	13.63	8.12	5.00	7.00	6.10	8.00
Total Copper (ug/L) Daily Maximum	19.30	21.00	23.20	7.80	9.10	0.0314	20.00	12.90	6.40	9.60	8.20	9.30
Total Iron (lbs/day) Average Monthly	2.52	1.02	1.84	1.03	0.90	1.39	1.00	0.60	0.30	0.50	0.60	0.50
Total Iron (lbs/day) Daily Maximum	4.23	1.61	4.38	1.18	1.12	3.82	1.07	0.90	0.30	0.70	0.90	0.60
Total Iron (mg/L) Average Monthly	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.10	0.1
Total Iron (mg/L) Daily Maximum	0.347	0.246	0.366	0.212	0.205	0.235	0.229	0.174	0.0554	0.0625	0.12	0.13

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Total Manganese (lbs/day) Average Monthly	0.50	0.40	0.50	0.50	0.40	0.60	0.60	0.50	0.20	0.30	0.30	0.40
Total Manganese (lbs/day) Daily Maximum	0.60	0.40	0.80	0.60	0.50	1.06	0.70	0.80	0.30	0.50	0.30	0.50
Total Manganese (mg/L) Average Monthly	0.04	0.1	0.1	0.1	0.1	0.1	0.1	0.10	0.04	0.04	0.04	0.1
Total Manganese (mg/L) Daily Maximum	0.0438	0.0685	0.0673	0.102	0.085	0.0754	0.154	0.143	0.0528	0.0448	0.0524	0.114
Pentachlorophenol (lbs/day) Average Monthly	0.05	0.02	0.02	0.2	0.02	0.09	0.01	0.02	0.02	0.02	0.02	0.01
Pentachlorophenol (lbs/day) Daily Maximum	0.06	0.02	0.02	0.2	0.02	0.2	0.01	0.02	0.02	0.02	0.02	0.02
Pentachlorophenol (ug/L) Average Monthly	3.2	3.0	3.1	26.40	3.00	0.0113	2.60	3.3	2.83	3.0	3.1	2.8
Pentachlorophenol (ug/L) Daily Maximum	3.3	3.0	3.1	27.2	2.9	0.0287	2.60	3.5	3.0	3.0	3.3	3.4

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TREATMENT FACILITY SUMMARY

The PCMA operates a sewage collection, conveyance and treatment systems in Clinton County, PA. These systems serve portions of Pine Creek Township, Dunnstable Township, Wayne Township, and all of Avis Borough. The flow contribution is as follows; Wayne Township (41%), Pine Creek Township (40%), Avis Borough (17%) and Dunstable Township (2%).

See Attachment ~~02~~ 03 for a map of the ~~wastewater treatment plant (~~WWTP~~)~~ location and extent of collection system.

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The construction of the current treatment facility was completed in May 2012. This facility was designed and constructed to treat nutrients in accordance with the Chesapeake Bay TMDL. The WWTP consists of, a mechanically cleaned bar screen, aerated grit removal, three train ISAM activated sludge process (three constant level anaerobic influent conditioning basins, three surge anoxic mix surge basins, and three sequencing batch reactor (SBR) tanks), one post equalization tanks, cloth media filters, three ultraviolet (UV) disinfection units, a belt filter press and effluent flow monitoring. 13 pump stations convey flow to the WWTP. Avis Borough and Wayne Township own and maintain their own collection systems.

See Attachment 04 for a process flow diagram of the WWTP.
~~See Attachment 03 for the extent of the collection system service area.~~

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ISAM stands for *Integrated Surge Anoxic Mix*. ISAM is a trademark of the Fluidyne Corporation~~, the "experienced leader in wastewater treatment technology" (http://www.fluidynecorp.com)~~. The ISAM is a total treatment system which integrates anoxic and aerobic processes for energy efficient BOD, TSS and nitrogen removal along with sludge reduction. The SAM tank provides flow and nutrient equalization to provide optimal treatment at the full range of flows and loadings.

Total Nitrogen is reduced with biological nutrient removal with supplemental alkalinity for nitrification and supplemental carbon for denitrification.
Total Phosphorus is reduced with chemical phosphorus removal through the addition of aluminum sulfate.

The WWTP data summary is as follows.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary with Nutrient Removal	Sequencing Batch Reactors	Ultraviolet	1.60
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
1.60	3,418	Not Overloaded	Anaerobic Digestion	Landfill

The plant's annual average design flow and hydraulic capacity is 1.60 MGD. The annual average flow for the 12 months prior to application submission was 0.969 MGD. The highest peak instantaneous flow for the 12 months prior to the application was 3.9 MGD. The organic design capacity is 3,418 lb BOD5/day. The PCMA has indicated in the application that this WWTP is currently or expected to be under an **organic overload** condition as defined by 25 PA § 94.1.

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Sludge solids are 1. anaerobically digested in the anaerobic tanks, 2. conditioned with aeration in sludge conditioning tanks, and 3. dewatered with sludge drying beds and a belt filter press. The anaerobic digestion, which reduces pathogens and vector attraction, produces Class B biosolids. The solids are disposed of at the Wayne Township Landfill in McElhattan, PA. In the last year, the PCMA has accepted sludge from the Karthas-Burnside Joint Sewer Authority.

~~Total Nitrogen is reduced with biological nutrient removal with supplemental alkalinity for nitrification and supplemental carbon for denitrification. Total Phosphorus is reduced with chemical phosphorus removal through the addition of aluminum sulfate.~~

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The 2012 WWTP construction project was approved by Water Quality Management (WQM) permit #1809401, issued January 13, 2010. This permit was amended in 2018 to authorize an expanded filter backwash return and a carbon source chemical feed system.

The below table identifies the industrial users within the PCMA collection system. The table includes a breakdown of the wastewater flows (in gallons per day) as presented in the application. The total industrial wastewater is 166,900 gallons per day. Only Nutek Disposables is not considered a significant industrial user. According to the application, Nutek Disposables are included in the EPA-Approved Industrial Pretreatment Program implemented by the PCMA.

Name	Process	NCCW	Sanitary	Other	Total
Brodart Company			900		900
Wayne Township Landfill				30,000	30,000
Nutek Disposables, Inc.	110,000	8,000			118,000
First Quality Products, Inc.		18,000			18,000
				TOTAL	166,900

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OUTFALL 001

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The WWTP discharges to an Unnamed Tributary to the West Branch Susquehanna River (stream code 22350) through Outfall 001. Outfall 001 is located at latitude 41°10'25" and longitude -77°18'55".

See Attachment 05 for a map of the outfall location.

EXISTING LIMITATIONS

The following limitations were established at the permit issuance on February 13, 2018.

Discharge Parameter	Mass Limits (lb/day)		Concentrations (mg/L unless noted)				Monitoring Requirements	
	Monthly Average	Weekly Average	Minimum	Monthly Average	Weekly Average	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	Report Daily Maximum					Continuous	Meter
pH			6.0			9.0	1/Day	Grab
Fecal Coliform (No./100mL) 05/01-09/30				200 Geometric Mean		1,000	2/Week	Grab
Fecal Coliform (No./100mL) 10/01-04/30				2,000 Geometric Mean		10,000	2/Week	Grab
BOD5 Raw Sewage Influent	Report	Report Daily Maximum		Report			1/Week	24 Hour Comp
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Maximum		Report			1/Week	24 Hour Comp
CBOD5	330	530		25	40	50	2/Week	24 Hour Comp
Total Suspended Solids	400	600		30	45	60	2/Week	24 Hour Comp~~24 Hour Comp~~
UV Light Transmittance			Report				1/Day	Grab
Dissolved Oxygen			Report				1/Day	Grab
Aluminum, Total	21.70	43.36 Daily Maximum		2.0	4.0 Daily Maximum		1/Week	24 Hour Comp
Copper, Total (µg/L)	0.68	1.03 Daily Maximum		51.69	77.53 Daily Maximum	103.38	1/Week	24 Hour Comp
Iron, Total	32.55	65.00 Daily Maximum		3.0	6.0 Daily Maximum		1/Week	24 Hour Comp
Manganese, Total	21.70	43.36 Daily Maximum		2.0	4.0 Daily Maximum		1/Week	24 Hour Comp
Pentachlorophenol (µg/L)	Report	Report		Report	Report		2/Month	24 Hour Comp

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Discharge Parameter	Mass Load (lb)		Concentrations (mg/L)			Monitoring Requirements	
	Monthly	Annual	Minimum	Monthly Average	Maximum	Minimum Measurement Frequency	Required Sample Type
Ammonia-N	Report	Report		Report		2/Week	24 Hour Comp
Kjeldahl-N	Report			Report		2/Week	24 Hour Comp
Nitrate-Nitrite as N	Report			Report		2/Week	24 Hour Comp
Total Nitrogen	Report	Report		Report		1/Month	Calculation
Total Phosphorus	Report	Report		Report		2/Week	24 Hour Comp
Net Total Nitrogen	Report	23,744				1/Month	Calculation
Net Total Phosphorus	Report	3,166				1/Month	Calculation

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DEVELOPMENT OF EFFLUENT LIMITATIONS

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

$CBOD_5$, NH_3-N and DO

*WQM 7.0 for Win*dows is a DEP computer model used to determine wasteload allocations and effluent limitations for $CBOD_5$, NH_3-N and DO for single and multiple point source discharge scenarios. This model simulates two basic processes. The NH_3-N module simulates the mixing and degradation of NH_3-N in the stream and compares calculated instream NH_3-N concentrations to the water quality criteria. The DO module simulates the mixing and consumption of DO in the stream due to degradation of $CBOD_5$ and NH_3-N and compares the calculated instream DO concentrations to the water quality criteria. The model then determines the highest pollutant loading the stream can assimilate and still meet water quality criteria under the design conditions.

The model recommended the following:

Parameter	Effluent Limitations (mg/L)

	30 Day Average	Maximum	Minimum
$CBOD_5$	17.25		
NH_3-N	1.4	2.8	
DO			6.0

See Attachment ~~04~~ 06 for the WQM model output.

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Toxics

As a major sewage permit POTW, the PCMA is required to sample for the parameters in Pollutant Groups 1 through 5. The effluent maximum pollutant concentrations and non-detect values were entered into the Department's Toxics Management Spreadsheet (TMS, version 1.4), which is used to determine reasonable potential (RP) and calculate water quality-based effluent limitations (WQBELS) for discharges of toxic pollutants from a single discharge point. The TMS utilizes the following logic to assign either no action, effluent limitation or monitoring:

1. Establish average monthly, daily maximum and IMAX limits in the draft permit where the maximum reported concentration exceeds 50% of the WQBEL (RP is demonstrated).
2. Establish monitoring requirements for non-conservative pollutants where the maximum reported concentrations is between 25% to 50% of the WQBEL. ~~and~~
3. Establish monitoring requirements for conservative pollutants where the maximum reported concentration is between 10% to 50% of the WQBEL.

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The TMS calculated the following monitoring and limitations. Criteria acronyms are as follows; AFC (Acute Fish Criteria), THH (Threshold Human Health), CFC (Chronic Fish Criteria) and CRL (Cancer Risk Level).

See Attachment 07 for the TMS output.

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	Mass Limits		Concentration						
Pollutant	AML (lbs/day)	MDL (lb/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comment
Total Aluminum	10.0	10.1	750	759	759	µg/L	750	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Antimony	0.076	0.12	5.67	8.84	14.2	µg/L	5.67	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Arsenic	0.14	0.21	10.1	15.8	25.3	µg/L	10.1	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Boron	21.6	33.7	1,619	2,527	4,048	µg/L	1,619	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Cadmium	0.0006	0.01	0.47	0.73	1.16	µg/L	0.47	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Hexavalent Chromium	Report	Report	Report	Report	Report	µg/L	10.5	CFC	Discharge Conc ≥ 10% WQBEL (No RP)
Total Cobalt	Report	Report	Report	Report	Report	µg/L	19.2	CFC	Discharge Conc ≥ 10% WQBEL (No RP)
Total Copper	0.23	0.36	0.017	0.027	0.044	mg/L	0.017	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Free Cyanide	0.054	0.084	4.05	6.32	10.1	µg/L	4.05	THH	Discharge Conc ≥ 50% WQBEL (RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	304	THH	Discharge Conc ≥ 10% WQBEL (No RP)
Total Iron	Report	Report	Report	Report	Report	µg/L	1,518	CFC	Discharge Conc ≥ 10% WQBEL (No RP)
Total Lead	0.11	0.17	8.02	12.5	20.0	µg/L	8.02	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Manganese	Report	Report	Report	Report	Report	µg/L	1,012	THH	Discharge Conc ≥ 10% WQBEL (No RP)
Total Mercury	0.0007	0.001	0.00005	0.00008	0.0001	mg/L	0.00005	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Nickel	Report	Report	Report	Report	Report	µg/L	96.8	CFC	Discharge Conc ≥ 10% WQBEL (No RP)
Total Selenium	0.067	0.11	5.05	7.88	12.6	µg/L	5.05	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Silver	Report	Report	Report	Report	Report	µg/L	13.0	AFC	Discharge Conc ≥ 10% WQBEL (No RP)
Total Thallium	0.003	0.005	0.24	0.38	0.61	µg/L	0.24	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	2.93	2.97	0.22	0.22	0.22	mg/L	0.22	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Acrolein	0.04	0.041	3.0	3.04	3.04	µg/L	3.0	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Carbon Tetrachloride	0.006	0.009	0.46	0.71	1.14	µg/L	0.46	CRL	Discharge Conc ≥ 50% WQBEL (RP)
1,3-Dichloropropylene	0004	0.006	0.31	0.48	0.77	µg/L	0.31	CRL	Discharge Conc ≥ 50% WQBEL (RP)
4,6-Dintiro-o-Cresol	0.027	0.042	2.02	3.16	5.06	µg/L	2.02	THH	Discharge Conc ≥ 50% WQBEL (RP)
2,4-Dinitrophenol	0.14	0.21	10.1	15.8	25.3	µg/L	10.1	THH	Discharge Conc ≥ 50% WQBEL (RP)
Pentachlorophenol	0.0005	0.0007	0.034	0.053	0.086	µg/L	0.034	CRL	Discharge Conc ≥ 50% WQBEL (RP)

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Acenaphthene	0.23	036	17.2	26.8	43.0	µg/L	17.2	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Benzidine	0.000002	0.000002	0.0001	0.0002	0.0003	µg/L	0.0001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(a)Anthracene	0.00002	0.00002	0.001	0.002	0.003	µg/L	0.001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(a)Pyrene	0.000002	0.000002	0.0001	0.0002	0.0003	µg/L	0.0001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
3,4-Benzofluoranthene	0.00002	0.00002	0.001	0.002	0.003	µg/L	0.001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(k)Fluoranthene	0.0002	0.0002	0.011	0.018	0.029	µg/L	0.011	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Bis(2-Chloroethyl)Ether	0.0005	0.0007	0.034	0.053	0.086	µg/L	0.011	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Bis(2-Ethylhexyl)Phthalate	0.005	0.008	0.36	0.57	0.91	µg/L	0.36	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Butyl Benzyl Phthalate	0.001	0.002	0.1	0.16	0.25	µg/L	0.1	THH	Discharge Conc ≥ 50% WQBEL (RP)
Chrysene	0.002	0.003	0.14	0.21	0.34	µg/L	0.14	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Dibenzo(a,h)Anthracene	0.000002	0.000002	0.0001	0.0002	0.0003	µg/L	0.0001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
3,3-Dichlorobenzidine	0.0008	0.001	0.057	0.089	0.14	µg/L	0.057	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Di-n-Butyl Phthalate	0.27	0.42	20.2	31.3	50.6	µg/L	20.2	THH	Discharge Conc ≥ 50% WQBEL (RP)
2,4-Dinitrotoluene	0.0008	0.001	0.057	0.089	0.14	µg/L	0.057	CRL	Discharge Conc ≥ 50% WQBEL (RP)
2,6-Dinitrotoluene	0.0008	0.001	0.057	0.089	0.14	µg/L	0.057	CRL	Discharge Conc ≥ 50% WQBEL (RP)
1,2-Diphenylhydrazine	0.0005	0.0007	0.034	0.053	0.086	µg/L	0.034	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Fluoranthene	0.27	0.42	20.2	31.6	50.6	µg/L	20.2	THH	Discharge Conc ≥ 50% WQBEL (RP)
Hexachlorobenzene	0.000001	0.000002	0.00009	0.0001	0.0002	µg/L	0.00009	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Hexachlorobutadiene	0.0002	0.0002	0.011	0.018	0.029	µg/L	0.011	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Hexahlorocyclopentadiene	0.014	0.021	1.01	1.58	2.53	µg/L	1.01	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Hexachloroethane	0.002	0.002	0.11	0.18	0.29	µg/L	0.11	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Indeno(1,2,3-cd)Pyrene	0.00002	0.00002	0.001	0.002	0.003	µg/L	0.001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Isophorone	Report	Report	Report	Report	Report	µg/L	34.4	THH	Discharge Conc ≥ 50% WQBEL (RP)
Nitrobenzene	0.14	0.21	10.1	15.8	25.3	µg/L	10.1	THH	Discharge Conc > 25% WQBEL (RP)
n-Nitrodimethylamine	0.00001	0.00002	0.0008	0.001	0.002	µg/L	0.0008	CRL	Discharge Conc ≥ 50% WQBEL (RP)
n-Nitrosodi-n-Propylamine	0.00008	0.0001	0.006	0.009	0.014	µg/L	0.006	CRL	Discharge Conc ≥ 50% WQBEL (RP)
n-Nitrosodiphenylamine	0.05	0.078	3.76	5.87	9.41	µg/L	3.76	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Phenanthrene	0.014	0.021	1.01	1.58	2.53	µg/L	1.01	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Pyrene	0.27	0.42	20.2	31.6	50.6	µg/L	20.2	THH	Discharge Conc ≥ 50% WQBEL (RP)
1,2,4-Trichlorobenzene	0.0009	0.001	0.071	0.11	0.18	µg/L	0.071	THH	Discharge Conc ≥ 50% WQBEL (RP)

The PCMA and Larson Design Group were notified of the failure to meet the Target Quantitation Limits (QLs) in both 2022 and 2025. No revised sample results have been submitted to the Department.

~~*CONTINUED on the next page.*~~

Many of the parameters proposed for limitations (above) were identified as non-detectable (ND) in the application's pollutant groups and are not typically found in the effluent from *a Publicly Owned Treatment Works* (POTW). Many of the NDs were higher than the Chapter 93 criteria and the QLs identified in the application instructions and are therefore automatically considered parameters of concern. In accordance with the Department SOP #BPNPSM-PMT-033, the PCMA will be offered another opportunity during the 30-day draft permit comment period to demonstrate these pollutants are not in the effluent.

Total Maximum Daily Load ~~– West Branch Susquehanna River-~~ West Branch Susquehanna River

The West Branch Susquehanna River was listed on Pennsylvania 2008 *Integrated Water Quality Monitoring and Assessment Report* (Integrated List) as impaired for aquatic life by metals and pH (pollution causes) due to acid mine drainage (pollution source). A TMDL, approved by the Environmental Protection Agency (EPA) in 2009, was written to address river pollution in Cambria, Centre, Clearfield, Clinton, Lycoming, Northumberland and Union counties. ~~In order to~~To meet water quality standards, the TMDL set allowable loadings for Iron, Manganese, Aluminum and Acidity. Both point and non-point sources were allocated loads.

The following wasteload allocations (WLAs) were assigned to this discharge by the approved TMDL.

Design Flow (MGD)	Parameter	Monthly Average (mg/L)	Allowable Load (lb/day)
1.3	Total Aluminum	2.0	21.70
1.3	Total Iron	3.0	32.55
1.3	Toal Manganese	2.0	21.70

The allowable loads were calculated for the hydraulic design capacity of the previous WWTP. An increase in design capacity will not receive a corresponding increase in allowable load without a formal TMDL amendment.

Total Maximum Daily Load - Chesapeake Bay ~~TMDL~~

Despite 25 years of extensive restoration efforts, the *Chesapeake Bay Total Maximum Daily Loa*d (TMDL) was prompted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries. This TMDL, required by the Clean Water Act, is the largest ever developed by EPA. It identifies the necessary pollution reductions of nitrogen, phosphorus and sediment across Delaware, Maryland, New York, Virginia, West Virginia, District of Columbia and Pennsylvania. It also sets pollution limits necessary to meet applicable water quality standards in the Bay, tidal rivers and embayments.

Pennsylvania explains how and when it will meet its pollution allocations in its *Watershed Implementation Plan* (WIP), which is incorporated into the TMDL. Pennsylvania's permitting strategy for significant sewage dischargers was outlined in the Phase I WIP and incorporated in the Phase III WIP by reference (last updated April 02, 2025). This strategy originally imposed Total Nitrogen (TN) and Total Phosphorus (TP) cap loads. The Phase II WIP calls for the continued monitoring of Ammonia-N, Kjeldahl-N, Nitrate-Nitrite as N, TN and TP. The Phase III WIP also calls for the continued annual cap loads ~~of~~ **23,744 pounds per year TN** ~~for TN~~ and **3,166 pounds per year TP**.~~TP. The last issuance of this permit included annual cap loads of 23,744 pounds per year TN and 3,166 pounds per year TP.~~

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The permit will contain a Part C condition for the Chesapeake Bay Nutrient Requirements.

Best Professional Judgment (BPJ) Limitations

In the absence of applicable effluent guidelines for the discharge or pollutant, permit writers must identify and/or develop needed technology-based effluent limitations (TBELs) TBELs on a case-by-case basis, in accordance with the statutory factors specified in the Clean Water Act.

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Dissolved Oxygen

The Department is establishing a monitoring requirement for Dissolved Oxygen (DO). DO concentrations above 4.0 mg/L ensure that the effluent is well oxygenated at the point of discharge and the instream DO criteria is not violated (25 PA § 93.7).

Anti-Backsliding

In order to comply with 40 CFR § 122.44(l) (anti-backsliding requirements), the Department must issue a renewed permit with limitations as stringent as that the of the previous permit.

None have been proposed.

DEVELOPMENT OF EFFLUENT MONITORING

Ultraviolet Disinfection

In accordance with their UV disinfection system, the PCMA has and will continue to report the Instantaneous Minimum for the UV Light Transmittance as a percentage.

Influent Sampling

In accordance with the Department's *SOP for New and Reissuance Sewage Individual NPDES Permit Applications* (unnumbered), influent sampling for BOD5 and TSS is required for all POTWs with design flows greater than 2,000 gallons per day (gpd). The Department considers the 1/Week proposed minimum measurement frequency adequate for characterizing the influent.

E.coli

The Department is requiring the monitoring of Eschericia coli (E. coli), a pathogenic bacterium normally found in the intestines of healthy people and animals which is used as a fecal contamination indicator in freshwater ecosystems. Section 303(c)(1) of the Clean Water Act requires that Pennsylvania periodically review and revise water quality standards, if necessary. The 2017 triennial review final form rulemaking, published in 2020, has revised the Chapter 93 water quality standards regulations for bacteria to include E. coli. To further characterize fecal contamination of surface waters during the swimming season, the Department is requiring the quarterly reporting of effluent E. coli effluent values. In accordance with 25 PA § 92a.61, the Department may impose reasonable monitoring requirements on pollutants which could have impact on the quality of the Commonwealth's waters or the quality of waters in other states.

Per- and Polyfluoroalkyl Substances

Per- and Polyfluoroalkyl Substances (PFAS) are widely used, long lasting chemicals, components of which break down very slowly over time. Because of their widespread use and their persistence in the environment, many PFAS are found in the blood of people and animals all over the world and are present at low levels in a variety of food products and in the environment. Scientific studies have demonstrated that exposure to some PFAS in the environment may be linked to harmful effects in humans and animals. In an attempt to assist the Environmental Protection Agency (EPA) in studying the effects of PFAS, the Department is requiring the annual monitoring of PFOA, PFOS, HFPO-DA and PFBS. In accordance with 25 PA § 92a.61, the Department may impose reasonable monitoring requirements on pollutants which could have impact on the quality of the Commonwealth's waters or the quality of waters in other states.

Non-Detect Toxic Parameters Above QL

As indicated above, certain parameters with non-detect results were not tested to the Department's QLs. The Department will require the monitoring of certain parameters for the draft permit, as *Best Professional Judgment* (BPJ), if the PCMA chooses not to re-sample during the comment period. This will allow the Department to collect data during the upcoming permit term and then assign limitations at the next renewal if these pollutants are present at levels indicative of reasonable potential.

Industrial Stormwater

Stormwater leaves the WWTP site via outfall 002, located at latitude 41°10'25" and longitude -76°18'58". This outfall drains the runoff from the parking area.

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~~ULTRAVIOLET DISINFECTION~~

~~During the last permit term, the PCMA reported UV Light Transmittance as the disinfection monitoring parameter. Recent values have ranged from 10 to 43%. These values are lower than expected literature values of 55 to 80%.~~

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WHOLE EFFLUENT TOXICITY TESTING

For ~~Outfall~~ 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: ~~as result of COA for missing submissions~~

The dilution series used for the tests was: **100%, ~~, 60%, ~~, 30%, ~~, 3%, ~~and ~~and 1%.**
The Target Instream Waste Concentration (TIWC) to be used for analysis of the results was: ~~: 3.08.

Summary of Four Most Recent Test Results

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

~~NOEC/LC50 Data Analysis~~

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

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

TST Data Analysis

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

Test Date	*Ceriodaphnia* Results (Pass/Fail)		*Pimephales* Results (Pass/Fail)	
	Survival	Reproduction	Survival	Growth
June 2024	PASS	PASS	PASS	PASS
2024 September	INVALID	INVALID	PASS	PASS
2024 October	PASS	PASS		
2024 November	PASS	PASS	PASS	PASS
2025 March	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:** ~~

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

Acute Partial Mix Factor (PMFa): ~~1.0 Chronic Partial Mix Factor (PMFc): ~~1.0

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1. Determine IWC – Acute (IWCa):

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

[(Design Flow 1.60 MGD x 1.547) / ((Q7-10 0.031 cfs x PMFa 1.0) + (Design Flow 1.60 MGD x 1.547))] x 100 = IWCa 98%

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:~~

~~_____~~

Type of Test for Permit Renewal: ~~_____~~**CHRONIC**

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

~~**TIWCa =** IWCa / 0.3 = _____%~~

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

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

[(Design Flow 1.60 MGD x 1.547) / ((Q7-10 0.031 cfs x PMFc 1.0) + (Design Flow 1.60 MGD x 1.547))] x 100 = TIWCc 98%

3. Determine Dilution Series

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

Dilution Series = 100%, ~~__~~%, 98%, ~~__~~%, 73%, ~~__~~%, 49%, ~~and __~~and 25%.

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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).~~

~~__~~

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

See Attachment 08 for the WET Analysis Spreadsheets.

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Stream Characteristics

The receiving stream is an Unnamed Tributary (UNT) to the West Branch Susquehanna River (stream code 22350). According to 25 PA § 93.9l, Unnamed Tributaries of the West Branch Susquehanna River (from Queens Run to Pine Creek) are protected for *Cold Water Fishes* (CWF) and *Migratory Fishes* (MF). These are the streams *Designated Uses*, which are defined in 25 PA § 93.1 as "those uses specified in §§ 93.9a – 93.9z for each waterbody or segment whether or not the use is being attained". Designated uses are regulations promulgated by the Environmental Quality Board (EQB) throughout the rulemaking process. This stream currently has no *Existing Use*, which is defined in 25 PA § 93.1 as "those uses actually attained in the waterbody on or after November 28, 1975 whether or not they are included in the water quality standards". This receiving stream is located in drainage basin L and state water plan 9B (Kettle and McElhattan Creeks).

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In previous permit renewals, a Point of First Use on the West Branch Susquehanna River was employed because it was thought that the UNT to the West Branch Susquehanna River was not a perennial stream. The 2020 POFU Aquatic Survey (See Attachment 02) determined that this stream is perennial and that the point of first use is upstream of the PCMA Outfall 001.

Impairment/TMDL

According to Department data, the UNT to the West Branch Susquehanna River is attaining its designated uses for supporting aquatic life. The UNT to the West Branch Susquehanna River is not attaining its designated uses for recreation. The stream is impaired by pathogens from an unknown source.

There is no Total Maximum Daily Load (TMDL) directly associated with this stream segment.

ADDITIONAL CONSIDERATIONS

Ultraviolet Disinfection

During the last permit term, the PCMA reported UV Light Transmittance as the disinfection monitoring parameter. Recent values have ranged from 10 to 43%. These values are lower than the expected literature ~~values~~range of 55 to 80%.

Hauled-In Wastes

The POTW accepts hauled-in wastes from local haulers of septage, portable toilet wastewater and holding tank sanitary wastewater. The receiving station at the WWTP includes a manually cleaned bar screen. The hauled-in wastewater flows to the site pump station, where it is conveyed for treatment. The PCMA anticipates receiving hauled-in wastes during the upcoming permit term at an average volume of 1,645,000 gallons per year.

Mass Limitations

Mass limitations for CBOD5 and TSS are calculated by multiplying the concentration (mg/L) by the flow (MGD) by the conversion (8.34).

Rounding of Limitations

Limitations have been rounded in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001).

Limit Multipliers

The instantaneous maximum limitations have been calculated using multipliers of 2.0 (for sewage discharges) and 2.5 (for toxic industrial discharges) for determining the IMAX. This practice is in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001).

Sample Frequencies and Types

The sample type and minimum measurement frequencies are in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001). The minimum measurement frequencies of the nutrient parameters are in accordance with the Department's *Phase III Watershed Implementation Plan* of the Chesapeake Bay TMDL.

Due to the last issuance, and the comments received for that draft permit, the required sample type for UV Light Transmittance will be Grab.

CONTINUED on the next page.

Standard Operating Procedures

The review of this permit application was performed in accordance with the Department's *SOP for New and Reissuance Sewage Individual NPDES Permit Applications* and *SOP for Establishing Effluent Limitations for Individual Sewage Permits* (SOP #BPNPSM-PMT-033).

Special Permit Conditions

Chesapeake Bay Nutrient Requirements
Pretreatment Program Implementation
Solids Management

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Whole Effluent Toxicity
Stormwater Requirements for Sewage Facilities >= 1 MGD
WQBELs Below Quantitation Limits
Other Requirements

Supplemental Discharge Monitoring Reports

Daily Effluent Monitoring
Non-Compliance Reporting
Biosolids Production and Disposal
Hauled-in Municipal Waste
Influent and Process Control
Lab Accreditation
Whole Effluent Toxicity

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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

Discharge	Mass Limits (lb/day)	Concentrations (mg/L unless noted)	Monitoring Requirements

Parameter	Monthly Average	Weekly Average	Minimum	Monthly Average	Weekly Average	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Meter
pH	XXX	XXX	6.0 Instant Min	XXX	XXX	9.0	1/Day	Grab
Fecal Coliform (No./100mL) 05/01-09/30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/Week	Grab
Fecal Coliform (No./100mL) 10/01-04/30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/Week	Grab
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/Week	24 Hour Comp
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/Week	24 Hour Comp
CBOD5	225	245	XXX	17	18.5	34	2/Week	24 Hour Comp
Total Suspended Solids	400	600	XXX	30	45	60	2/Week	24 Hour Comp
UV Light Transmittance (%)	XXX	XXX	Report Instant Min	XXX	XXX	XXX	1/Day	Grab
Dissolved Oxygen	XXX	XXX	4.0 Instant Min	XXX	XXX	XXX	1/Day	Grab
Ammonia-N 06/01-10/31	18	37	XXX	1.4	2.8	3.5	2/Week	24 Hour Comp
Ammonia-N 11/01-05/31	56	112	XXX	4.2	8.4	10.5	2/Week	24 Hour Comp
PFOA (ng/L)	Report Ann Avg	Report Daily Max	XXX	Report Ann Avg	Report Daily Max	XXX	1/Year	Grab
PFOS (ng/L)	Report Ann Avg	Report Daily Max	XXX	Report Ann Avg	Report Daily Max	XXX	1/Year	Grab
HFPO-DA (ng/L)	Report Ann Avg	Report Daily Max	XXX	Report Ann Avg	Report Daily Max	XXX	1/Year	Grab
PFBS (ng/L)	Report Ann Avg	Report Daily Max	XXX	Report Ann Avg	Report Daily Max	XXX	1/Year	Grab
E. Coli (No./100mL)	XXX	XXX	XXX	XXX	XXX	Report	1/Year	Grab
Total Aluminum (µg/L)	10.0	10.1 Daily Max	XXX	750	759 Daily Max	759	1/Week	24 Hour Comp
Total Iron	32.55	65.00 Daily Max	XXX	3.0	6.0 Daily Max	7.5	1/Week	24 Hour Comp
Total Manganese	21.70	43.36 Daily Max	XXX	2.0	4.0 Daily Max	5.0	1/Week	24 Hour Comp
Total Antimony (µg/L)	0.076	0.12 Daily Max	XXX	5.67	8.84 Daily Max	14.2	1/Week	24 Hour Comp
Total Arsenic (µg/L)	0.14	0.21 Daily Max	XXX	10.1	15.8 Daily Max	25.3	1/Week	24 Hour Comp
Total Boron (µg/L)	21.6	33.7 Daily Max	XXX	1.61	2.52 Daily Max	4.04	1/Week	24 Hour Comp
Total Cadmium (µg/L)	0.006	0.01 Daily Max	XXX	0.47	0.73 Daily Max	1.16	1/Week	24 Hour Comp
Hexavalent Chromium (µg/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/Week	24 Hour Comp
Total Cobalt (µg/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/Week	24 Hour Comp
Total Copper	0.23	0.36 Daily Max	XXX	0.017	0.027 Daily Max	0.044	1/Week	24 Hour Comp
Free Cyanide (µg/L)	0.054	0.084 Daily Max	XXX	4.05	6.32 Daily Max	10.1	1/Week	24 Hour Comp
Dissolved Iron (µg/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/Week	24 Hour Comp
Total Lead (µg/L)	0.11	0.17 Daily Max	XXX	8.02	12.5 Daily Max	20.0	1/Week	24 Hour Comp
Total Mercury (µg/L)	0.0007	0.001 Daily Max	XXX	0.05	0.08 Daily Max	0.10	1/Week	24 Hour Comp
Total Nickel (µg/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/Week	24 Hour Comp
Total Selenium (µg/L)	0.067	0.11 Daily Max	XXX	5.05	7.88 Daily Max	12.6	1/Week	24 Hour Comp
Total Silver (µg/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/Week	24 Hour Comp
Total Thallium (µg/L)	0.003	0.005 Daily Max	XXX	0.24	0.38 Daily Max	0.61	1/Week	24 Hour Comp
Total Zinc	2.93	2.97 Daily Max	XXX	0.22	0.22 Daily Max	0.22	1/Week	24 Hour Comp
Acrolein (µg/L)	0.04	0.041 Daily Max	XXX	3.00	3.04 Daily Max	3.04	1/Weel	24 Hour Comp

Carbon Tetrachloride (µg/L)	0.006	0.009 Daily Max	XXX	0.46	0.71 Daily Max	1.14	1/Week	24 Hour Comp
1,3-Dichloropropylene (µg/L)	0.004	0.006 Daily Max	XXX	0.31	0.48 Daily Max	0.77	1/Week	24 Hour Comp
4,6-Dinitro-o-Cresol (µg/L)	0.027	0.042 Daily Max	XXX	2.02	3.16 Daily Max	5.06	1/Week	24 Hour Comp
2,4-Dinitrophenol (µg/L)	0.14	0.21 Daily Max	XXX	10.1	15.8 Daily Max	25.3	1/Week	24 Hour Comp
Pentachlorophenol (µg/L)	0.0005	0.0007 Daily Max	XXX	0.034	0.053 Daily Max	0.086	1/Week	24 Hour Comp
Acenaphthene (µg/L)	0.23	0.36 Daily Max	XXX	17.2	26.8 Daily Max	43.0	1/Week	24 Hour Comp
Benzidine (µg/L)	0.000002	0.000002 Daily Max	XXX	0.0001	0.0002 Daily Max	0.0003	1/Week	24 Hour Comp
Benzo(a)Anthracene (µg/L)	0.00002	0.00002 Daily Max	XXX	0.001	0.002 Daily Max	0.003	1/Week	24 Hour Comp
Benzo(a)Pyrene (µg/L)	0.000002	0.000002 Daily Max	XXX	0.0001	0.0002 Daily Max	0.0003	1/Week	24 Hour Comp
3,4-Benzofluoranthene (µg/L)	0.00002	0.00002 Daily Max	XXX	0.001	0.002 Daily Max	0.003	1/Week	24 Hour Comp
Benzo(k)Fluoranthene (µg/L)	0.0002	0.0002 Daily Max	XXX	0.011	0.018 Daily Max	0.029	1/Week	24 Hour Comp
Bis(2-Chloroethyl)Ether (µg/L)	0.0005	0.0007 Daily Max	XXX	0.034	0.053 Daily Max	0.086	1/Week	24 Hour Comp
Bis(2-Ethylhexyl)Phthalate (µg/L)	0.005	0.008 Daily Max	XXX	0.36	0.57 Daily Max	0.91	1/Week	24 Hour Comp
Butyl Benzyl Phthalate (µg/L)	0.001	0.002 Daily Max	XXX	0.10	0.16 Daily Max	0.25	1/Week	24 Hour Comp
Chrysene (µg/L)	0.002	0.003 Daily Max	XXX	0.14	0.21 Daily Max	0.34	1/Week	24 Hour Comp
DiBenzo(a,h)Anthracene (µg/L)	0.000002	0.000002 Daily Max	XXX	0.0001	0.0002 Daily Max	0.0003	1/Week	24 Hour Comp
3,3-Dichlorobenzidene (µg/L)	0.0008	0.001 Daily Max	XXX	0.057	0.089 Daily Max	0.14	1/Week	24 Hour Comp
Di-n-Butyl Phthalate (µg/L)	0.27	0.42 Daily Max	XXX	20.2	31.6 Daily Max	50.6	1/Week	24 Hour Comp
2,4-Dinitrotoluene (µg/L)	0.0008	0.001 Daily Max	XXX	0.057	0.089 Daily Max	0.14	1/Week	24 Hour Comp
2,6-Dinitrotoluene (µg/L)	0.0008	0.001 Daily Max	XXX	0.057	0.089 Daily Max	0.14	1/Week	24 Hour Comp
1,2-Diphenylhydrazine (µg/L)	0.0005	0.0007 Daily Max	XXX	0.034	0.053 Daily Max	0.086	1/Week	24 Hour Comp
Fluoranthene (µg/L)	0.27	0.42 Daily Max	XXX	20.2	31.6 Daily Max	50.6	1/Week	24 Hour Comp
Hexachlorobenzene (ng/L)	0.000001	0.000002 Daily Max	XXX	0.09	0.10 Daily Max	0.20	1/Week	24 Hour Comp
Hexachlorobutadiene (µg/L)	0.0002	0.0002 Daily Max	XXX	0.011	0.018 Daily Max	0.029	1/Week	24 Hour Comp
Hexachlorocyclopentadiene (µg/L)	0.014	0.021 Daily Max	XXX	1.01	1.58 Daily Max	2.53	1/Week	24 Hour Comp
Hexachloroethane (µg/L)	0.002	0.002 Daily Max	XXX	0.11	0.18 Daily Max	0.29	1/Week	24 Hour Comp
Indeno(1,2,3-cd)Pyrene (µg/L)	0.0002	0.0002 Daily Max	XXX	0.001	0.002 Daily Max	0.003	1/Week	24 Hour Comp
Isophorone (µg/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/Week	24 Hour Comp
Nitrobenzene (µg/L)	0.14	0.21 Daily Max	XXX	10.1	15.8 Daily Max	25.3	1/Week	24 Hour Comp
n-Nitrosodimethylamine (ug/L)	0.00001	0.00002 Daily Max	XXX	0.0008	0.001 Daily Max	0.002	1/Week	24 Hour Comp
n-Nitrosodi-n-Propylamine (ug/L)	0.00008	0.0001 Daily Max	XXX	0.006	0.009 Daily Max	0.014	1/Week	24 Hour Comp
n-Nitrosodiphenylamine (ug/L)	0.05	0.078 Daily Max	XXX	3.76	5.87 Daily Max	9.41	1/Week	24 Hour Comp
Phenanthrene (ug/L)	0.014	0.021 Daily Max	XXX	1.01	1.58 Daily Max	2.53	1/Week	24 Hour Comp
Pyrene (ug/L)	0.27	0.42 Daily Max	XXX	20.2	31.6 Daily Max	50.6	1/Week	24 Hour Comp
1,2,4-Trichlorobenzene (ug/L)	0.0009	0.001 Daily Max	XXX	0.071	0.11 Daily Max	0.18	1/Week	24 Hour Comp

Discharge Parameter	Mass Load (lb)		Concentrations (mg/L)			Monitoring Requirements	
	Monthly	Annual	Minimum	Monthly Average	Maximum	Minimum Measurement Frequency	Required Sample Type

Ammonia-N	Report	Report	XXX	Report	XXX	2/Week	24 Hour Comp
Kjeldahl-N	Report	XXX	XXX	Report	XXX	1/Week	24 Hour Comp
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	1/Week	24 Hour Comp
Total Nitrogen	Report	Report	XXX	Report	XXX	1/Month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	1/Week	24 Hour Comp
Net Total Nitrogen	Report	23,744	XXX	XXX	XXX	1/Month	Calculation
Net Total Phosphorus	Report	3,166	XXX	XXX	XXX	1/Month	Calculation

END of Fact Sheet.

ATTACHMENT 01

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Q_{7-10} Analysis	
Facility:	Pine Creek MA
Outfall:	001
NPDES Permit No.:	PA0027553
RMI at 001:	0.30

Reference Stream Gage Information	
Stream Name	Queens Run
Reference Gage	01549500
Station Name	Blockhouse Creek near English Center, PA
Gage Drainage Area (sq. mi.)	37.70
Q_{7-10} at gage (cfs)	0.80
Yield Ratio (cfs/mi^2)	0.0212

Q7-10 at 001	
Drainage Area at 001 (sq. mi.)	1.45
Q7-10 at 001 (cfs)	0.031
Q7-10 at 001 (mgd)	0.0199

Table 1. List of U.S. Geological Survey streamgage locations in and near Pennsylvania with updated streamflow statistics.—Continued

[Latitude and Longitude in decimal degrees; mi², square miles]

Streamgage number	Streamgage name	Latitude	Longitude	Drainage area (mi²)	Regulated[1]
01541303	West Branch Susquehanna River at Hyde, Pa.	41.005	-78.457	474	Y
01541308	Bradley Run near Ashville, Pa.	40.509	-78.584	6.77	N
01541500	Clearfield Creek at Dimeling, Pa.	40.972	-78.406	371	Y
01542000	Moshannon Creek at Osceola Mills, Pa.	40.850	-78.268	68.8	N
01542500	WB Susquehanna River at Karthaus, Pa.	41.118	-78.109	1,462	Y
01542810	Waldy Run near Emporium, Pa.	41.579	-78.293	5.24	N
01543000	Driftwood Branch Sinnemahoning Creek at Sterling Run, Pa.	41.413	-78.197	272	N
01543500	Sinnemahoning Creek at Sinnemahoning, Pa.	41.317	-78.103	685	N
01544000	First Fork Sinnemahoning Creek near Sinnemahoning, Pa.	41.402	-78.024	245	Y
01544500	Kettle Creek at Cross Fork, Pa.	41.476	-77.826	136	N
01545000	Kettle Creek near Westport, Pa.	41.320	-77.874	233	Y
01545500	West Branch Susquehanna River at Renovo, Pa.	41.325	-77.751	2,975	Y
01545600	Young Womans Creek near Renovo, Pa.	41.390	-77.691	46.2	N
01546000	North Bald Eagle Creek at Milesburg, Pa.	40.942	-77.794	119	N
01546400	Spring Creek at Houserville, Pa.	40.834	-77.828	58.5	N
01546500	Spring Creek near Axemann, Pa.	40.890	-77.794	87.2	N
01547100	Spring Creek at Milesburg, Pa.	40.932	-77.786	142	N
01547200	Bald Eagle Creek below Spring Creek at Milesburg, Pa.	40.943	-77.786	265	N
01547500	Bald Eagle Creek at Blanchard, Pa.	41.052	-77.604	339	Y
01547700	Marsh Creek at Blanchard, Pa.	41.060	-77.606	44.1	N
01547800	South Fork Beech Creek near Snow Shoe, Pa.	41.024	-77.904	12.2	N
01547950	Beech Creek at Monument, Pa.	41.112	-77.702	152	N
01548005	Bald Eagle Creek near Beech Creek Station, Pa.	41.081	-77.549	562	Y
01548500	Pine Creek at Cedar Run, Pa.	41.522	-77.447	604	N
01549000	Pine Creek near Waterville, Pa.	41.313	-77.379	750	N
01549500	Blockhouse Creek near English Center, Pa.	41.474	-77.231	37.7	N
01549700	Pine Creek below Little Pine Creek near Waterville, Pa.	41.274	-77.324	944	Y
01550000	Lycoming Creek near Trout Run, Pa.	41.418	-77.033	173	N
01551500	WB Susquehanna River at Williamsport, Pa.	41.236	-76.997	5,682	Y
01552000	Loyalsock Creek at Loyalsockville, Pa.	41.325	-76.912	435	N
01552500	Muncy Creek near Sonestown, Pa.	41.357	-76.535	23.8	N
01553130	Sand Spring Run near White Deer, Pa.	41.059	-77.077	4.93	N
01553500	West Branch Susquehanna River at Lewisburg, Pa.	40.968	-76.876	6,847	Y
01553700	Chillisquaque Creek at Washingtonville, Pa.	41.062	-76.680	51.3	N
01554000	Susquehanna River at Sunbury, Pa.	40.835	-76.827	18,300	Y
01554500	Shamokin Creek near Shamokin, Pa.	40.810	-76.584	54.2	N
01555000	Penns Creek at Penns Creek, Pa.	40.867	-77.048	301	N
01555500	East Mahantango Creek near Dalmatia, Pa.	40.611	-76.912	162	N
01556000	Frankstown Branch Juniata River at Williamsburg, Pa.	40.463	-78.200	291	N
01557500	Bald Eagle Creek at Tyrone, Pa.	40.684	-78.234	44.1	N
01558000	Little Juniata River at Spruce Creek, Pa.	40.613	-78.141	220	N
01559000	Juniata River at Huntingdon, Pa.	40.485	-78.019	816	LF
01559500	Standing Stone Creek near Huntingdon, Pa.	40.524	-77.971	128	N
01559700	Sulphur Springs Creek near Manns Choice, Pa.	39.978	-78.619	5.28	N
01560000	Dunning Creek at Belden, Pa.	40.072	-78.493	172	N

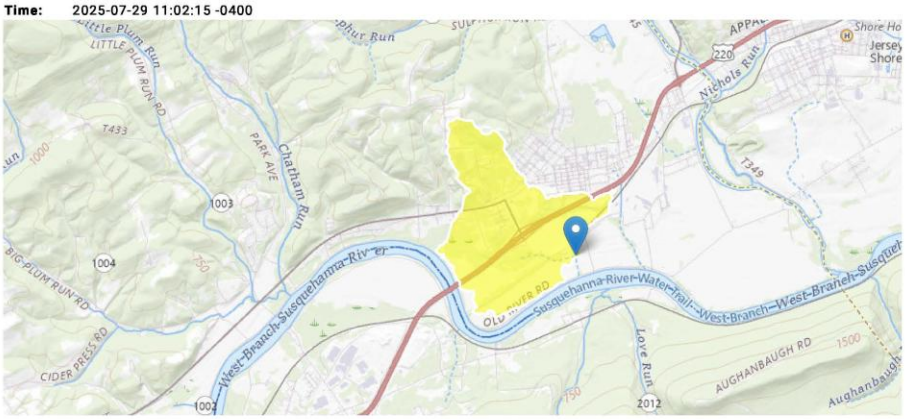
Table 2. Selected low-flow statistics for streamgage locations in and near Pennsylvania.—Continued

[ft^3/s; cubic feet per second; —, statistic not computed; <, less than]

Streamgage number	Period of record used in analysis[1]	Number of years used in analysis	1-day, 10-year (ft^3/s)	7-day, 10-year (ft^3/s)	7-day, 2-year (ft^3/s)	30-day, 10-year (ft^3/s)	30-day, 2-year (ft^3/s)	90-day, 10-year (ft^3/s)
01546000	1912–1934	17	1.8	2.2	6.8	3.7	12.1	11.2
01546400	1986–2008	23	13.5	14.0	19.6	15.4	22.3	18.7
01546500	1942–2008	67	26.8	29.0	41.3	31.2	44.2	33.7
01547100	1969–2008	40	102	105	128	111	133	117
01547200	1957–2008	52	99.4	101	132	106	142	115
01547500	[2]1971–2008	38	28.2	109	151	131	172	153
01547500	[3]1956–1969	14	90.0	94.9	123	98.1	131	105
01547700	1957–2008	52	.5	.6	2.7	1.1	3.9	2.2
01547800	1971–1981	11	1.6	1.8	2.4	2.1	2.9	3.5
01547950	1970–2008	39	12.1	13.6	28.2	17.3	36.4	23.8
01548005	[2]1971–2000	25	142	151	206	178	241	223
01548005	[3]1912–1969	58	105	114	147	125	165	140
01548500	1920–2008	89	21.2	24.2	50.1	33.6	68.6	49.3
01549000	1910–1920	11	26.0	32.9	78.0	46.4	106	89.8
01549500	1942–2008	67	.6	.8	2.5	1.4	3.9	2.6
01549700	1959–2008	50	33.3	37.2	83.8	51.2	117	78.4
01550000	1915–2008	94	6.6	7.6	16.8	11.2	24.6	18.6
01551500	[2]1963–2008	46	520	578	1,020	678	1,330	919
01551500	[3]1901–1961	61	400	439	742	523	943	752
01552000	1927–2008	80	20.5	22.2	49.5	29.2	69.8	49.6
01552500	1942–2008	67	.9	1.2	3.1	1.7	4.4	3.3
01553130	1969–1981	13	1.0	1.1	1.5	1.3	1.8	1.7
01553500	[2]1968–2008	41	760	838	1,440	1,000	1,850	1,470
01553500	[3]1941–1966	26	562	619	880	690	1,090	881
01553700	1981–2008	28	9.1	10.9	15.0	12.6	17.1	15.2
01554000	[2]1981–2008	28	1,830	1,990	3,270	2,320	4,210	3,160
01554000	[3]1939–1979	41	1,560	1,630	2,870	1,880	3,620	2,570
01554500	1941–1993	53	16.2	22.0	31.2	25.9	35.7	31.4
01555000	1931–2008	78	33.5	37.6	58.8	43.4	69.6	54.6
01555500	1931–2008	78	4.9	6.5	18.0	9.4	24.3	16.6
01556000	1918–2008	91	43.3	47.8	66.0	55.1	75.0	63.7
01557500	1946–2008	63	2.8	3.2	6.3	4.2	8.1	5.8
01558000	1940–2008	69	56.3	59.0	79.8	65.7	86.2	73.7
01559000	1943–2008	66	104	177	249	198	279	227
01559500	1931–1958	28	9.3	10.5	15.0	12.4	17.8	15.8
01559700	1963–1978	16	.1	.1	.2	.1	.3	.2
01560000	1941–2008	68	8.5	9.4	15.6	12.0	20.2	16.2
01561000	1932–1958	27	.4	.5	1.6	.8	2.5	1.7
01562000	1913–2008	96	64.1	67.1	106	77.4	122	94.5
01562500	1931–1957	27	1.1	1.6	3.8	2.3	5.4	3.7
01563200	[2]1974–2008	35	—	—	—	112	266	129
01563200	[3]1948–1972	25	10.3	28.2	86.1	64.5	113	95.5
01563500	[2]1974–2008	35	384	415	519	441	580	493
01563500	[3]1939–1972	34	153	242	343	278	399	333
01564500	1940–2008	69	3.6	4.2	10.0	6.2	14.4	10.6

PCMA Outfall 001

Region ID: PA
Workspace ID: PA20250729150153340000
Clicked Point (Latitude, Longitude): 41.17371, -77.31526
Time: 2025-07-29 11:02:15 -0400



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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1.45	square miles
FOREST	Percentage of area covered by forest	27.3859	percent
GLACIATED	Percentage of basin area that was historically covered by glaciers	0	percent
PRECIP	Mean Annual Precipitation	39	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 5]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.45	square miles	4.84	982
FOREST	Percent Forest	27.3859	percent	41	100
GLACIATED	Percent of Glaciation	0	percent	0	100
PRECIP	Mean Annual Precipitation	39	inches	33.1	47.1

ATTACHMENT 02

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
April 14, 2020

MEMO

SUBJECT: Point of First Use Aquatic Survey
Pine Creek Township Municipal Authority (NPDES Permit PA0027553)
Jersey Shore Steel (NPDES Permit PA0027553)
Unnamed Tributary to West Branch Susquehanna River: Stream Code 22350
Pine Creek Township, Lycoming County

TO: Thomas Randis
Environmental Program Manager
Clean Water Program
North Central Region

From: Steven D. Means
Aquatic Biologist 2
Operations Section
Clean Water Program
North Central Region

Through: Anne Hughes
Environmental Group Manager
Operations Section
Clean Water Program
North Central Region

This memo is in response your request to determine where the Point of First Use (POFU) is located on an Unnamed tributary to the West Branch Susquehanna River. The methods for this determination are outlined in guidelines established by the Department in Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers (PA DEP 2008; Appendix B).

The Pine Creek Township Municipal Authority currently has a wastewater treatment plant (WWTP) that discharges to an Unnamed tributary (UNT) to the West Branch Susquehanna River (NPDES Permit: PA 0209678). Jersey Shore Steel also discharges to the same Unnamed Tributary (NPDES Permit: PA0027553). There were no records in the file related to the NPDES permits indicating an aquatic survey had ever been conducted on this stream. The West Branch Susquehanna River has been used as the point of first surface water use based upon previous engineering reports that indicated the stream goes dry.

On March 6, 2019, I investigated the watershed upstream of the Pine Creek Township Municipal Authority discharge to determine if an aquatic community that represented long lived taxa was present. The point of first surface water use establishes where Chapter 93 Water Quality Standards, including criteria developed and applied under Chapter 16, must be attained. It also represents the location where continuous stream flow may be available for treated waste assimilation. A determination is usually limited to well defined stream channels in which flow usually occurs. The presence of flowing water, however, may not be enough evidence to conclude that an aquatic use occurs or is possible at a point. Intermittent flows may preclude the establishment of aquatic uses and additional analyses may be required to identify these situations and to determine the point at which a stream supports a use. The aquatic biologist can only determine whether an aquatic community representing long-lived taxa occurs at a given point in a stream. This may suggest or infer the potential for intermittent or perennial flow, but it is not a definitive answer and should be collaborated and confirmed by a hydrogeologist if a question of intermittent or perennial status is necessary.

Study Area

The Unnamed tributary to the West Branch Susquehanna River (Stream Code 22350) is classified in Chapter 93 as cold water fishes (CWF). The stream is second order and originates from two smaller tributaries that drain western portions of Avis Borough and commercial businesses and housing along SR 150. The two tributaries travel under SR 220 and converge in a wooded wetland area in the floodplain of the West Branch Susquehanna River where it continues under railroad tracks through a culvert before reaching the Pine Creek Township Municipal Authority WWTP outfall. The drainage area of the entire watershed is 1.25 square miles with only 29% of the watershed being forested (USGS Stream Stats; Figure 1). This investigation focused on sections of the stream located upstream of the WWTP discharge and upstream of the railroad culvert. A review of the stream channel downstream of the discharge was not necessary since the flow is dominated by the two discharges.

Methods

Five individual sites were evaluated and sampled for the presence of macroinvertebrates. This included two sites on both the left and right branches of the unnamed tributary and one site on the main stem upstream of the railroad culvert (Figure 1). A combination of rocks picks, D-frame jabs, and/or kicks were used to collect macroinvertebrates at each site. The use of multiple sampling techniques was necessary because the substrate in the stream bed varied from sediment bottom with limited rocks to gravel and rock substrate. All macroinvertebrates and debris collected in the field were preserved in alcohol and were later picked and identified to the lowest taxonomic level in the lab. Once samples were identified, a list of taxa found in perennial streams in North Carolina (NC DWQ 2010) was also used as a secondary indicator of flow.

Results

The five stations established on the UNT West Branch Susquehanna River were Station 1 located on the mainstem, Station 2 and 5 on the right branch and Station 3 and 4 on the left branch (Figure 1). The two stations established on each stream branch represented similar elevation, habitat, and substrate. Stations with lower gradient habitats were Stations 2 (right branch) and 3 (left branch), and stations with a steeper slope were Stations 4 (left branch) and 5 (right branch).

Station 1

Station 1 was located on the mainstem approximately 30-40 feet upstream of a railroad culvert and downstream from a ponded area. The stream bottom was fine silt and clay with small gravel substrate. (Photo 1 and 2). Samples were collected with a D frame kick in gravel areas and net jabs were used in root wads and debris jams.

A total of 14 different taxa were identified from 11 families and two orders (leeches and worms). Most of the taxa identified were long-lived taxa except for a few semi aquatic genera of worms, leeches, and snails (Oligochaeta, Hirudinea, Physidae). Chironomidae (midges) that have a short-lived life cycle were abundant and caddisflies (Hydropsychidae and Limnephillidae), isopods (Crangonycidae), and amphipods (Asellidae) were common. Four families were on the North Carolina list of perennial stream indicators (Table 1).

Station 2

Station 2 was located on the right branch of the unnamed tributary approximately 30 feet downstream from Fritz Lane and 1000 feet west of the intersection to the WWTP access road. This reach of stream was very brushy with scrub shrub vegetation and briars. The stream bottom was hard clay and silt with wood debris and only a few rocks. Rocks and woody vegetation picks were conducted due to limited availability of suitable gravel substrate (Photo 3, 4, and 5).

A total of five different taxa were identified from five families. Four genera from three families of caddisflies and amphipods were long-lived taxa (Hydropsychidae, Thremmatidae, and Asellidae). One family was on the North Carolina list of perennial stream indicators (Table 1).

Station 3

Station 3 was located on the left branch of the unnamed tributary between a farm field access road culvert and the Fritz Lane culvert approximately 1800 feet west of the intersection with the WWTP access road (Photo 6 and 7). The stream channel was mostly hard clay, scattered rocks, and vegetation. Rock and woody debris picks were conducted in the sample reach due to limited availability of suitable gravel substrate.

A total of four different taxa were identified from four families. Two families of caddisflies and amphipods were long-lived taxa (Hydropsychidae and Asellidae). One family was on the North Carolina list of perennial stream indicators (Table 1).

Station 4

Station 4 was located on the left branch of the unnamed tributary at a natural gas pipeline crossing approximately 100 feet upstream of the Claire Road culvert. This section of stream had gravel substrate and clay streambanks. A combination of rock picks and two D-frame kicks were collected at the station.

A total of 11 different taxa were identified from nine families and one order (worms). Four families of caddisflies, stoneflies, and beetles were long-lived taxa and three families were on the North Carolina list of perennial stream indicators (Table 1).

Station 5

Station 5 was located on the right branch of the unnamed tributary in a wooded area downstream of a culvert crossing and behind a commercial building lot that was actively being filled east of SR 150 and Southeast of the Dollar General Store. A more typical well-defined stream channel was present with suitable rock substrate at the station. It was apparent, based upon rock picks, that at least two long lived taxa were present. Data is this report was based upon rock picks, but I also collected a macroinvertebrate sample following the Departments Instream Comprehensive Evaluation (ICE) sampling protocol to assess the aquatic life use of the stream since no sampling stations have been established (Photo 8 and 9).

A total of six different taxa were identified from six families. Three caddisfly families (Hydropsychidae, Philopotamidae, and Thremmatidae) represented long-lived taxa and two families were on the North Carolina list of perennial stream indicators (Table 1).

Discussion

Based upon the macroinvertebrate criteria established in POFU guidance, it is apparent that an aquatic community that represents persistent long-lived taxa was present immediately upstream of the existing Pine Creek Municipal Authority discharge. The list of macroinvertebrates that are indicators of perennial streams referenced in this report (NC DWQ) was not all-inclusive and only identified overlap of taxa that were present in the unnamed tributary. There are many regional and geographical differences in the distribution of macroinvertebrates, so the use of the list was only being applied as a secondary indicator for perennial flow. The macroinvertebrate community in the unnamed tributary appears to be stressed by stormwater runoff from impervious surfaces in the headwaters, based upon heavy erosion and deposition of material. However, despite these stressors long lived taxa were still present. In addition, the abundance of certain taxa is limited by the constraints of instream habitat limitations when the stream loses grade in the floodplain of the West Branch Susquehanna River. Both branches start on a ridge with a gradual slope and receive excess stormwater that destabilizes the streambanks and channel. Once the two branches reach the floodplain of the West Branch Susquehanna River, they transition into a clay bottomed channel surrounded by palustrine forested and scrub shrub wetlands with limited substrate for macroinvertebrate colonization.

The stream channel and flow pattern has been altered significantly by the construction of stream crossings with roads and railroads that run perpendicular to the natural flow pattern of the stream. The surface flow has also been concentrated through multiple culverts under roadways and a railroad. It is unknown how these structures affect hydrology in the watershed, but the macroinvertebrate community appears to respond to changes in habitat by transitioning from riffle dominant genera to a community adapted to standing water and pools in the floodplain.

Conclusion

The point of first surface water use of the Unnamed Tributary to the West Branch Susquehanna River occurred upstream of the Pine Creek Township Municipal Authority discharge. In addition, several families were on the North Carolina list of streams that are indicators of perennial conditions. Typically, all discharges downstream of a point of first surface water use are subject to the requirements found in Chapter 93 of the receiving stream. However, in this case I could not determine if flow would be continuous to the river because there were two active discharges that supplement flow and the stream travels across a broad floodplain with minimal gradient and alluvial soils for an additional 0.5 miles before the West Branch Susquehanna River confluence. Although I am not a hydrogeologist, I suspect that the watercourse may lose most of the surface flow during dry periods in absence of the two discharges. However, I do not have any means in determining whether the potential loss would be significant enough to affect the macroinvertebrate community.

NC Division of Water Quality (NC DWQ). 2010. Methodology for Identification of Intermittent and Perennial Streams and their Origins, Version 4.11 Section 3. North Carolina Department of Environment and Natural Resources, Division of Water Quality. Raleigh, NC.

PA Department of Environmental Protection (PA DEP). 2008. Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers. Document Number 391-2000-014. PA Department of Environmental Protection. Bureau of Water Standards and Facility Regulation. Harrisburg, PA.

United States Geological Survey (USGS) StreamStats. https://streamstats.usgs.gov/ss/

Table 1 – A list of macroinvertebrates identified at sites established on an Unnamed Tributary West Branch Susquehanna River in Pine Creek Township, Lycoming County. Families highlighted in green are on a list developed by NC Division of Water Quality as perennial stream indicators. * = long lived taxa.

		Site #1 Unt. Susq. River	Site #2 Rt. Branch Unt. Susq River	Site #3 Lft. Branch Unt. Susq River	Site #4 Lft. Branch Unt. Susq River	Site #5 Rt. Branch Unt. Susq River
Mayflies						
Baetidae	*Diphetor*				X	
Caddisflies						
Hydrospychidae *	*Cheumatopsyche*	X	X	X	X	X
	Diplectrona	X				
Philopotamidae*	*Chimarra*					X
Limnephillidae*	*Limnephilus*	X				
Thremmatidae*	*Neophylax*		X			X
Stoneflies						
Perlodidae*	*Isoperla*				X	
Nemouridae*	*Soyedina*				X	
True Flies						
Simullidae	*Stegopterna*			X	X	
	Prosimullium				X	X
Tipulidae*	*Hexatoma*	X				
	Tipula	X				
Chironomidae		X	X		X	X
Ceratopogonidae					X	
Miscellaneous Taxa						
Dytiscidae*	*Agabus (L)*	X				
Elmidae*	*Oulimnious (L)*				X	
Collembola					X	
Crustaceans						
Asellidae*	*Caecidotea*	X	X	X		
Crangonycidae*	*Crangonyx*	X				
Non Insect Taxa						
Oligochaeta		X			X	
Hirudinea		X				
Physidae		X	X	X		X
Planorbidae*		X				
Sphaeriidae*		X				
* = Long Lived Taxa						
L = Larvae						

Figure 1 – A map of the sample sites located on an Unnamed Tributary to West Branch Susquehanna River in Pine Creek Township, Lycoming County.

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Photo 1 – A view of Station 1 looking upstream.

Photo 2 – A view of Station 1 looking downstream.

Photo 3 - A view of the right branch at Station 2 looking upstream.

Photo 4 – A view of the right branch at Station 2 looking downstream.

9

Photo 5 – A rock where macroinvertebrates were picked at Station 2.

Photo 6 – A view of the left branch at Station 3 looking upstream towards the Fritz Lane culvert.

10

Photo 7 – A view of the left branch at Station 3 looking downstream from Fritz Road.

Photo 8 – A view of the right branch at Station 5 looking upstream.

11

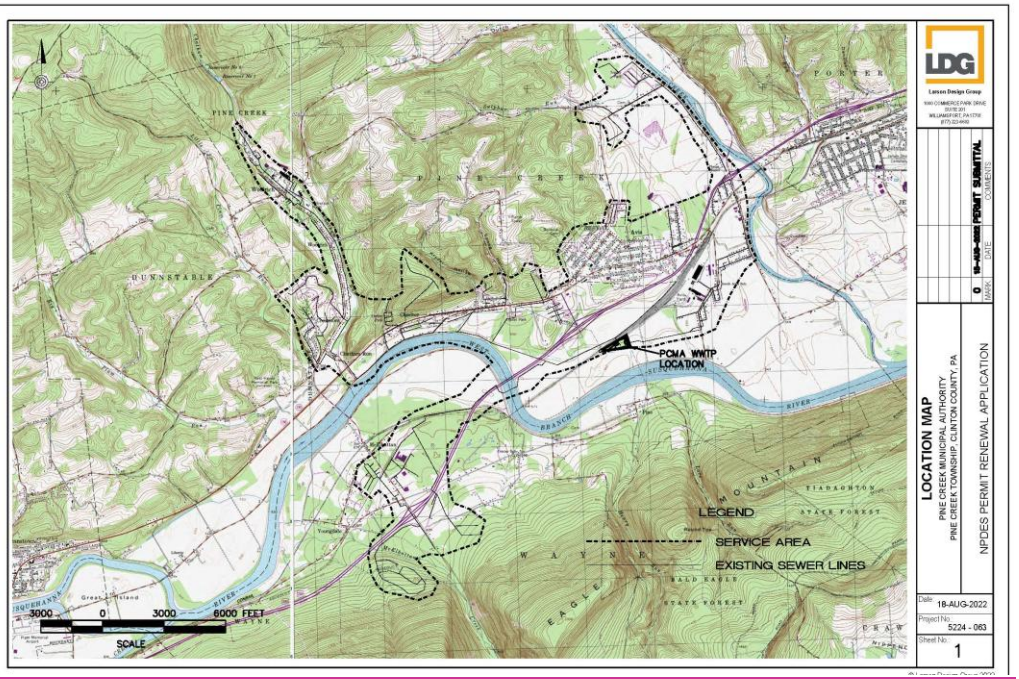
Photo 9 – A view of the right branch at Station 5 looking downstream.

Photo 10 – A view of the flooded wetland area where the two branches come together.

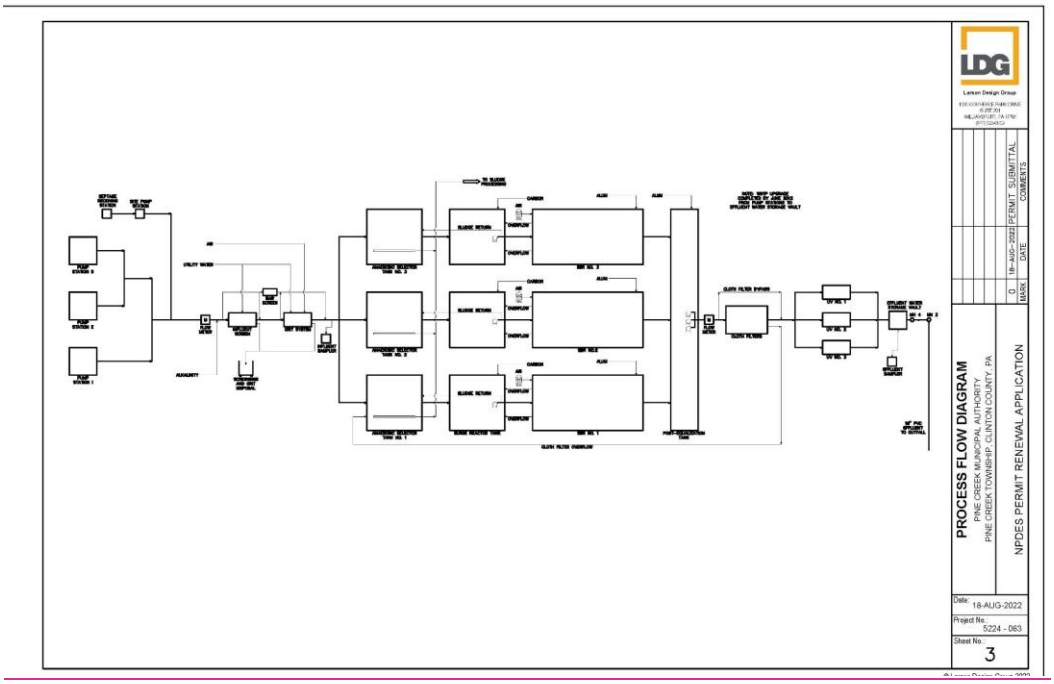
Appendix A – A detailed location where each station was located, and the collection method used at each site.

Station Number	Segment	Location	Sample Method	LAT	LONG
1	Mainstem	Upstream of Railroad Culvert	Jabs and kicks with D Frame	41°10'25.42"N	-77°19'14.02"W
2	Right Branch	Downstream of Fritze Road Crossing	Rock Picks	41°10'25.98"N	-77°19'36.68"W
3	Left Branch	Downstream of Fritz Road Crossing and Upstream of a farm crossing	Rock Picks	41°10'25.98"N	-77°19'36.68"W
4	Left Branch	Gas Pipeline Crossing	2 kicks with D Frame and rock picks	41°10'41.55"N	-77°19'52.51"W
5	Right Branch	Down Slope of Dollar General at an active fill area	Rock Picks	41°10'44.61"N	-77°19'27.30"W

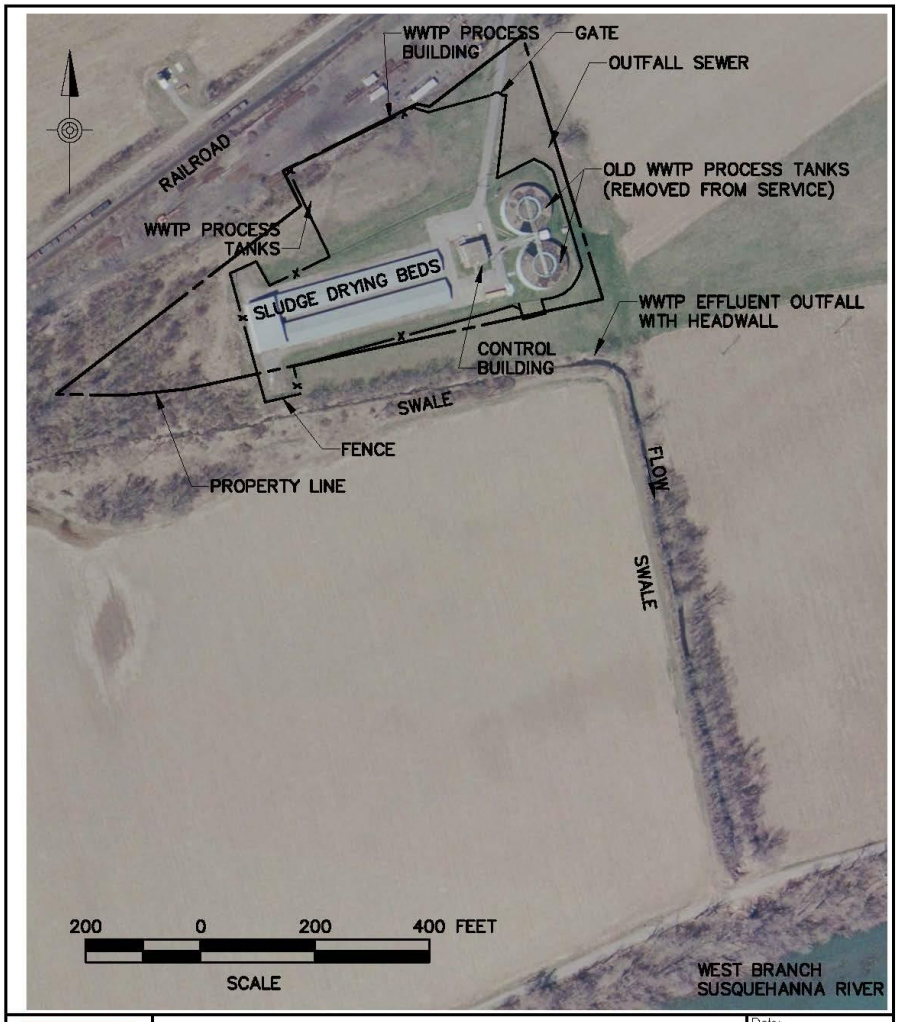
ATTACHMENT 03



ATTACHMENT 04



ATTACHMENT 05



ATTACHMENT 06

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
09B	22350	Trib 22350 to W Br Susquehanna R

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
0.300	PCMA	PA0027553	1.600	CBOD5	17.25		
				NH3-N	1.4	2.8	
				Dissolved Oxygen			6

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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
09B	22350	Trib 22350 to W Br Susquehanna R	**0.300**	536.00	1.45	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	0.03	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
PCMA	PA0027553	1.6000	1.6000	1.6000	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	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	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
09B	22350	Trib 22350 to W Br Susquehanna R	**0.100**	531.00	1.52	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	0.00	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
		0.0000	0.0000	0.0000	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	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
09B	22350	Trib 22350 to W Br Susquehanna R

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												
0.300	0.03	0.00	0.03	2.4752	0.00473	.585	13.29	22.72	0.32	0.038	24.94	7.00
Q1-10 Flow												
0.300	0.02	0.00	0.02	2.4752	0.00473	NA	NA	NA	0.32	0.038	24.96	7.00
Q30-10 Flow												
0.300	0.04	0.00	0.04	2.4752	0.00473	NA	NA	NA	0.32	0.038	24.92	7.00

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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		

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WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
09B	22350	Trib 22350 to W Br Susquehanna R

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
0.300	PCMA	11.11	11.2	11.11	11.2	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
0.300	PCMA	1.37	1.4	1.37	1.4	1	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)		
0.30	PCMA	17.25	17.25	1.4	1.4	6	6	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
09B	22350	Trib 22350 to W Br Susquehanna R

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.300	1.600	24.938	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
13.290	0.585	22.720	0.322
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
17.06	1.033	1.38	1.024
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.028	16.307	Tsivoglou	6
Reach Travel Time (days)			
0.038			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.004	16.98	1.38	6.02
0.008	16.89	1.37	6.02
0.011	16.81	1.36	6.02
0.015	16.73	1.36	6.02
0.019	16.65	1.35	6.02
0.023	16.56	1.35	6.02
0.027	16.48	1.34	6.02
0.030	16.40	1.34	6.02
0.034	16.32	1.33	6.02
0.038	16.24	1.33	6.02

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ATTACHMENT 07

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2025

Discharge Information

Instructions | Discharge | Stream

Facility: **Pine Creek Municipal Authority** NPDES Permit No.: **PA0027553** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **POTW**

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
1.6	206	7.74						

					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		767									
	Chloride (PWS)	mg/L		344									
	Bromide	mg/L		16.8									
	Sulfate (PWS)	mg/L		40.1									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		603									
	Total Antimony	µg/L	<	20									
	Total Arsenic	µg/L	<	20									
	Total Barium	µg/L		38.7									
	Total Beryllium	µg/L	<	1									
	Total Boron	µg/L		882									
	Total Cadmium	µg/L	<	3									
	Total Chromium (III)	µg/L	<	10									
	Hexavalent Chromium	µg/L	<	2									
	Total Cobalt	µg/L		2.1									
	Total Copper	mg/L		51.8									
	Free Cyanide	µg/L		23									
	Total Cyanide	µg/L		23									
	Dissolved Iron	µg/L		57.2									
	Total Iron	µg/L		324									
	Total Lead	µg/L	<	10									
	Total Manganese	µg/L		438									
	Total Mercury	mg/L	<	0.2									
	Total Nickel	µg/L		19.5									
	Total Phenols (Phenolics) (PWS)	µg/L		58									
	Total Selenium	µg/L	<	20									
	Total Silver	µg/L	<	6									
	Total Thallium	µg/L	<	10									
	Total Zinc	mg/L		142									
	Total Molybdenum	µg/L	<	20									
	Acrolein	µg/L	<	4									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	1.4									
	Benzene	µg/L	<	0.41									
	Bromoform	µg/L	<	1.5									

Group 3	Carbon Tetrachloride	µg/L	<	0.52										
	Chlorobenzene	µg/L		0.42										
	Chlorodibromomethane	µg/L	<	0.42										
	Chloroethane	µg/L	<	0.75										
	2-Chloroethyl Vinyl Ether	µg/L	<	0.34										
	Chloroform	µg/L	<	1.2										
	Dichlorobromomethane	µg/L	<	0.39										
	1,1-Dichloroethane	µg/L	<	0.26										
	1,2-Dichloroethane	µg/L	<	0.35										
	1,1-Dichloroethylene	µg/L	<	0.28										
	1,2-Dichloropropane	µg/L	<	0.3										
	1,3-Dichloropropylene	µg/L	<	0.66										
	1,4-Dioxane	µg/L	<	75.3										
	Ethylbenzene	µg/L	<	0.31										
	Methyl Bromide	µg/L	<	2.5										
	Methyl Chloride	µg/L	<	0.34										
	Methylene Chloride	µg/L	<	0.75										
	1,1,2,2-Tetrachloroethane	µg/L	<	0.24										
	Tetrachloroethylene	µg/L	<	0.3										
	Toluene	µg/L	<	0.24										
	1,2-trans-Dichloroethylene	µg/L	<	0.33										
	1,1,1-Trichloroethane	µg/L	<	0.43										
	1,1,2-Trichloroethane	µg/L	<	0.46										
	Trichloroethylene	µg/L	<	0.33										
	Vinyl Chloride	µg/L	<	0.28										
Group 4	2-Chlorophenol	µg/L	<	9.2										
	2,4-Dichlorophenol	µg/L	<	9.5										
	2,4-Dimethylphenol	µg/L	<	10.1										
	4,6-Dinitro-o-Cresol	µg/L	<	27.2										
	2,4-Dinitrophenol	µg/L	<	37.3										
	2-Nitrophenol	µg/L	<	10.5										
	4-Nitrophenol	µg/L	<	5.5										
	p-Chloro-m-Cresol	µg/L	<	13.9										
	Pentachlorophenol	µg/L	<	23.7										
	Phenol	µg/L	<	3.9										
	2,4,6-Trichlorophenol	µg/L	<	9.3										
Group 5	Acenaphthene	µg/L	<	9.4										
	Acenaphthylene	µg/L	<	9.9										
	Anthracene	µg/L	<	10.2										
	Benzidine	µg/L	<	69										
	Benzo(a)Anthracene	µg/L	<	12										
	Benzo(a)Pyrene	µg/L	<	11.9										
	3,4-Benzofluoranthene	µg/L	<	11.7										
	Benzo(ghi)Perylene	µg/L	<	12.4										
	Benzo(k)Fluoranthene	µg/L	<	11.2										
	Bis(2-Chloroethoxy)Methane	µg/L	<	9.1										
	Bis(2-Chloroethyl)Ether	µg/L	<	8.3										
	Bis(2-Chloroisopropyl)Ether	µg/L	<	9.8										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	22.9										
	4-Bromophenyl Phenyl Ether	µg/L	<	10.5										
	Butyl Benzyl Phthalate	µg/L	<	11.1										
	2-Chloronaphthalene	µg/L	<	10.3										
	4-Chlorophenyl Phenyl Ether	µg/L	<	9.3										
	Chrysene	µg/L	<	12.5										
	Dibenzo(a,h)Anthrancene	µg/L	<	11.8										
	1,2-Dichlorobenzene	µg/L	<	0.26										
	1,3-Dichlorobenzene	µg/L	<	0.5										
	1,4-Dichlorobenzene	µg/L	<	0.26										
	3,3-Dichlorobenzidine	µg/L	<	12.7										
	Diethyl Phthalate	µg/L	<	9.9										
	Dimethyl Phthalate	µg/L	<	9.9										
	Di-n-Butyl Phthalate	µg/L	<	12.6										
	2,4-Dinitrotoluene	µg/L	<	7.3										

	2,6-Dinitrotoluene	µg/L	<	8.6									
	Di-n-Octyl Phthalate	µg/L	<	17.3									
	1,2-Diphenylhydrazine	µg/L	<	10.2									
	Fluoranthene	µg/L	<	11.1									
	Fluorene	µg/L	<	9.6									
	Hexachlorobenzene	µg/L	<	10.6									
	Hexachlorobutadiene	µg/L	<	0.98									
	Hexachlorocyclopentadiene	µg/L	<	8.9									
	Hexachloroethane	µg/L	<	8.9									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	10.9									
	Isophorone	µg/L	<	9.5									
	Naphthalene	µg/L	<	2.2									
	Nitrobenzene	µg/L	<	9.2									
	n-Nitrosodimethylamine	µg/L	<	5.3									
	n-Nitrosodi-n-Propylamine	µg/L	<	9									
	n-Nitrosodiphenylamine	µg/L	<	10.6									
	Phenanthrene	µg/L	<	10.3									
	Pyrene	µg/L	<	11.8									
	1,2,4-Trichlorobenzene	µg/L	<	0.76									
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											

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2025

Stream / Surface Water Information

Pine Creek Municipal Authority, NPDES Permit No. PA0027553, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Queens Run** 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	022350	2.6	536	1.45			Yes
End of Reach 1	022350	0.1	531	1.52			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	2.6	0.1	0.03									100	7		
End of Reach 1	0.1	0.1													

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	2.6														
End of Reach 1	0.1														

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2025

Model Results

Pine Creek Municipal Authority, NPDES Permit No. PA0027553, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.004 PMF: 1 Analysis Hardness (mg/l): 204.73 Analysis pH: 7.72

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	759	
Total Antimony	0	0		0	1,100	1,100	1,113	
Total Arsenic	0	0		0	340	340	344	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	21,255	
Total Boron	0	0		0	8,100	8,100	8,198	
Total Cadmium	0	0		0	4.040	4.42	4.47	Chem Translator of 0.914 applied
Total Chromium (III)	0	0		0	1024.598	3,242	3,282	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	16.5	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	96.2	
Total Copper	0	0		0	26.398	27.5	27.8	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	22.3	
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	139.562	203	206	Chem Translator of 0.687 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	1.67	Chem Translator of 0.85 applied
Total Nickel	0	0		0	858.470	860	871	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	11.032	13.0	13.1	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	65.8	
Total Zinc	0	0		0	215.041	220	223	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	3.04	

Acrylonitrile	0	0		0	650	650	658	
Benzene	0	0		0	640	640	648	
Bromoform	0	0		0	1,800	1,800	1,822	
Carbon Tetrachloride	0	0		0	2,800	2,800	2,834	
Chlorobenzene	0	0		0	1,200	1,200	1,215	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	18,218	
Chloroform	0	0		0	1,900	1,900	1,923	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	15,182	
1,1-Dichloroethylene	0	0		0	7,500	7,500	7,591	
1,2-Dichloropropane	0	0		0	11,000	11,000	11,133	
1,3-Dichloropropylene	0	0		0	310	310	314	
Ethylbenzene	0	0		0	2,900	2,900	2,935	
Methyl Bromide	0	0		0	550	550	557	
Methyl Chloride	0	0		0	28,000	28,000	28,339	
Methylene Chloride	0	0		0	12,000	12,000	12,145	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,012	
Tetrachloroethylene	0	0		0	700	700	708	
Toluene	0	0		0	1,700	1,700	1,721	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	6,882	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	3,036	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	3,441	
Trichloroethylene	0	0		0	2,300	2,300	2,328	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	567	
2,4-Dichlorophenol	0	0		0	1,700	1,700	1,721	
2,4-Dimethylphenol	0	0		0	660	660	668	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	81.0	
2,4-Dinitrophenol	0	0		0	660	660	668	
2-Nitrophenol	0	0		0	8,000	8,000	8,097	
4-Nitrophenol	0	0		0	2,300	2,300	2,328	
p-Chloro-m-Cresol	0	0		0	160	160	162	
Pentachlorophenol	0	0		0	17.936	17.9	18.2	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	466	
Acenaphthene	0	0		0	83	83.0	84.0	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	304	
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	30,364	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	4,555	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	273	

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	830	
1,3-Dichlorobenzene	0	0		0	350	350	354	
1,4-Dichlorobenzene	0	0		0	730	730	739	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	4,048	
Dimethyl Phthalate	0	0		0	2,500	2,500	2,530	
Di-n-Butyl Phthalate	0	0		0	110	110	111	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	1,619	
2,6-Dinitrotoluene	0	0		0	990	990	1,002	
1,2-Diphenylhydrazine	0	0		0	15	15.0	15.2	
Fluoranthene	0	0		0	200	200	202	
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	10.1	
Hexachlorocyclopentadiene	0	0		0	5	5.0	5.06	
Hexachloroethane	0	0		0	60	60.0	60.7	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	10,121	
Naphthalene	0	0		0	140	140	142	
Nitrobenzene	0	0		0	4,000	4,000	4,048	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	17,206	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	304	
Phenanthrene	0	0		0	5	5.0	5.06	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	132	

☑ ***CFC*** CCT (min): 0.004 PMF: 1 Analysis Hardness (mg/l): 204.73 Analysis pH: 7.72

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	223	
Total Arsenic	0	0		0	150	150	152	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	4,150	
Total Boron	0	0		0	1,600	1,600	1,619	
Total Cadmium	0	0		0	0.405	0.46	0.47	Chem Translator of 0.879 applied
Total Chromium (III)	0	0		0	133.279	155	157	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	10.5	Chem Translator of 0.962 applied

Total Cobalt	0	0		0	19	19.0	19.2	
Total Copper	0	0		0	16.520	17.2	17.4	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	5.26	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	1,518	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	5.439	7.92	8.02	Chem Translator of 0.687 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	95.350	95.6	96.8	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	5.05	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	216.800	220	223	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	3.04	
Acrylonitrile	0	0		0	130	130	132	
Benzene	0	0		0	130	130	132	
Bromoform	0	0		0	370	370	374	
Carbon Tetrachloride	0	0		0	560	560	567	
Chlorobenzene	0	0		0	240	240	243	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	3,542	
Chloroform	0	0		0	390	390	395	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	3,138	
1,1-Dichloroethylene	0	0		0	1,500	1,500	1,518	
1,2-Dichloropropane	0	0		0	2,200	2,200	2,227	
1,3-Dichloropropylene	0	0		0	61	61.0	61.7	
Ethylbenzene	0	0		0	580	580	587	
Methyl Bromide	0	0		0	110	110	111	
Methyl Chloride	0	0		0	5,500	5,500	5,567	
Methylene Chloride	0	0		0	2,400	2,400	2,429	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	213	
Tetrachloroethylene	0	0		0	140	140	142	
Toluene	0	0		0	330	330	334	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	1,417	
1,1,1-Trichloroethane	0	0		0	610	610	617	
1,1,2-Trichloroethane	0	0		0	680	680	688	
Trichloroethylene	0	0		0	450	450	455	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	111	
2,4-Dichlorophenol	0	0		0	340	340	344	
2,4-Dimethylphenol	0	0		0	130	130	132	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	16.2	
2,4-Dinitrophenol	0	0		0	130	130	132	

2-Nitrophenol	0	0		0	1,600	1,600	1,619	
4-Nitrophenol	0	0		0	470	470	476	
p-Chloro-m-Cresol	0	0		0	500	500	506	
Pentachlorophenol	0	0		0	13.761	13.8	13.9	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	92.1	
Acenaphthene	0	0		0	17	17.0	17.2	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	59.7	
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	6,073	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	921	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	54.7	
Butyl Benzyl Phthalate	0	0		0	35	35.0	35.4	
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	162	
1,3-Dichlorobenzene	0	0		0	69	69.0	69.8	
1,4-Dichlorobenzene	0	0		0	150	150	152	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	810	
Dimethyl Phthalate	0	0		0	500	500	506	
Di-n-Butyl Phthalate	0	0		0	21	21.0	21.3	
2,4-Dinitrotoluene	0	0		0	320	320	324	
2,6-Dinitrotoluene	0	0		0	200	200	202	
1,2-Diphenylhydrazine	0	0		0	3	3.0	3.04	
Fluoranthene	0	0		0	40	40.0	40.5	
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	2.02	
Hexachlorocyclopentadiene	0	0		0	1	1.0	1.01	
Hexachloroethane	0	0		0	12	12.0	12.1	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	2,125	
Naphthalene	0	0		0	43	43.0	43.5	
Nitrobenzene	0	0		0	810	810	820	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	3,441	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	59.7	
Phenanthrene	0	0		0	1	1.0	1.01	

Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	26.3	

☑ ***THH*** CCT (min): 0.004 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	5.67	
Total Arsenic	0	0		0	10	10.0	10.1	
Total Barium	0	0		0	2,400	2,400	2,429	
Total Boron	0	0		0	3,100	3,100	3,138	
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	4.05	
Dissolved Iron	0	0		0	300	300	304	
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	1,012	
Total Mercury	0	0		0	0.050	0.05	0.051	
Total Nickel	0	0		0	610	610	617	
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	3.04	
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	101	
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	5.7	5.7	5.77	
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	33.4	
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	68.8	
Methyl Bromide	0	0		0	100	100.0	101	
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	57.7	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	101	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	10,121	
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	30.4	
2,4-Dichlorophenol	0	0		0	10	10.0	10.1	
2,4-Dimethylphenol	0	0		0	100	100.0	101	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	2.02	
2,4-Dinitrophenol	0	0		0	10	10.0	10.1	
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	4,048	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	70.8	
Anthracene	0	0		0	300	300	304	
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	202	
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	810	
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	1,012	
1,3-Dichlorobenzene	0	0		0	7	7.0	7.08	
1,4-Dichlorobenzene	0	0		0	300	300	304	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	607	
Dimethyl Phthalate	0	0		0	2,000	2,000	2,024	

Di-n-Butyl Phthalate	0	0		0	20	20.0	20.2	
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	20.2	
Fluorene	0	0		0	50	50.0	50.6	
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	4.05	
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	34.4	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	10.1	
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	20.2	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.071	

☑ ***CRL*** CCT (min): 0.437 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	0.068	
Benzene	0	0		0	0.58	0.58	0.66	
Bromoform	0	0		0	7	7.0	7.98	
Carbon Tetrachloride	0	0		0	0.4	0.4	0.46	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	0.91	
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	0.95	0.95	1.08	
1,2-Dichloroethane	0	0		0	9.9	9.9	11.3	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	1.03	
1,3-Dichloropropylene	0	0		0	0.27	0.27	0.31	
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	22.8	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	0.23	
Tetrachloroethylene	0	0		0	10	10.0	11.4	
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	0.63	
Trichloroethylene	0	0		0	0.6	0.6	0.68	
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	0.034	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	1.71	
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	0.011	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.034	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	0.36	
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	0.057	
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	0.057	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.057	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.034	
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	0.011	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	0.11	
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	3.76	
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	MDL	AML	MDL	IMAX	Units	Governing	WQBEL	Comments

Pollutants	(lbs/day)	(lbs/day)	AML	MDL	MAX	Units	WQBEL	Basis	Comments
Total Aluminum	10.0	10.1	750	759	759	µg/L	750	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Antimony	0.076	0.12	5.67	8.84	14.2	µg/L	5.67	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Arsenic	0.14	0.21	10.1	15.8	25.3	µg/L	10.1	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Boron	21.6	33.7	1,619	2,527	4,048	µg/L	1,619	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Cadmium	0.006	0.01	0.47	0.73	1.16	µg/L	0.47	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Hexavalent Chromium	Report	Report	Report	Report	Report	µg/L	10.5	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Cobalt	Report	Report	Report	Report	Report	µg/L	19.2	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	0.23	0.36	0.017	0.027	0.044	mg/L	0.017	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Free Cyanide	0.054	0.084	4.05	6.32	10.1	µg/L	4.05	THH	Discharge Conc ≥ 50% WQBEL (RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	304	THH	Discharge Conc > 10% WQBEL (no RP)
Total Iron	Report	Report	Report	Report	Report	µg/L	1,518	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Lead	0.11	0.17	8.02	12.5	20.0	µg/L	8.02	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Manganese	Report	Report	Report	Report	Report	µg/L	1,012	THH	Discharge Conc > 10% WQBEL (no RP)
Total Mercury	0.0007	0.001	0.00005	0.00008	0.0001	mg/L	0.00005	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Nickel	Report	Report	Report	Report	Report	µg/L	96.8	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Selenium	0.067	0.11	5.05	7.88	12.6	µg/L	5.05	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Silver	Report	Report	Report	Report	Report	µg/L	13.0	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Thallium	0.003	0.005	0.24	0.38	0.61	µg/L	0.24	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	2.93	2.97	0.22	0.22	0.22	mg/L	0.22	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Acrolein	0.04	0.041	3.0	3.04	3.04	µg/L	3.0	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Carbon Tetrachloride	0.006	0.009	0.46	0.71	1.14	µg/L	0.46	CRL	Discharge Conc ≥ 50% WQBEL (RP)
1,3-Dichloropropylene	0.004	0.006	0.31	0.48	0.77	µg/L	0.31	CRL	Discharge Conc ≥ 50% WQBEL (RP)
4,6-Dinitro-o-Cresol	0.027	0.042	2.02	3.16	5.06	µg/L	2.02	THH	Discharge Conc ≥ 50% WQBEL (RP)
2,4-Dinitrophenol	0.14	0.21	10.1	15.8	25.3	µg/L	10.1	THH	Discharge Conc ≥ 50% WQBEL (RP)
Pentachlorophenol	0.0005	0.0007	0.034	0.053	0.086	µg/L	0.034	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Acenaphthene	0.23	0.36	17.2	26.8	43.0	µg/L	17.2	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Benzidine	0.000002	0.000002	0.0001	0.0002	0.0003	µg/L	0.0001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(a)Anthracene	0.00002	0.00002	0.001	0.002	0.003	µg/L	0.001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(a)Pyrene	0.000002	0.000002	0.0001	0.0002	0.0003	µg/L	0.0001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
3,4-Benzofluoranthene	0.00002	0.00002	0.001	0.002	0.003	µg/L	0.001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(k)Fluoranthene	0.0002	0.0002	0.011	0.018	0.029	µg/L	0.011	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Bis(2-Chloroethyl)Ether	0.0005	0.0007	0.034	0.053	0.086	µg/L	0.034	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Bis(2-Ethylhexyl)Phthalate	0.005	0.008	0.36	0.57	0.91	µg/L	0.36	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Butyl Benzyl Phthalate	0.001	0.002	0.1	0.16	0.25	µg/L	0.1	THH	Discharge Conc ≥ 50% WQBEL (RP)
Chrysene	0.002	0.003	0.14	0.21	0.34	µg/L	0.14	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Dibenzo(a,h)Anthrancene	0.000002	0.000002	0.0001	0.0002	0.0003	µg/L	0.0001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
3,3-Dichlorobenzidine	0.0008	0.001	0.057	0.089	0.14	µg/L	0.057	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Di-n-Butyl Phthalate	0.27	0.42	20.2	31.6	50.6	µg/L	20.2	THH	Discharge Conc ≥ 50% WQBEL (RP)
2,4-Dinitrotoluene	0.0008	0.001	0.057	0.089	0.14	µg/L	0.057	CRL	Discharge Conc ≥ 50% WQBEL (RP)
2,6-Dinitrotoluene	0.0008	0.001	0.057	0.089	0.14	µg/L	0.057	CRL	Discharge Conc ≥ 50% WQBEL (RP)
1,2-Diphenylhydrazine	0.0005	0.0007	0.034	0.053	0.086	µg/L	0.034	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Fluoranthene	0.27	0.42	20.2	31.6	50.6	µg/L	20.2	THH	Discharge Conc ≥ 50% WQBEL (RP)
Hexachlorobenzene	0.000001	0.000002	0.00009	0.0001	0.0002	µg/L	0.00009	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Hexachlorobutadiene	0.0002	0.0002	0.011	0.018	0.029	µg/L	0.011	CRL	Discharge Conc ≥ 50% WQBEL (RP)

Hexachlorocyclopentadiene	0.014	0.021	1.01	1.58	2.53	µg/L	1.01	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Hexachloroethane	0.002	0.002	0.11	0.18	0.29	µg/L	0.11	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Indeno(1,2,3-cd)Pyrene	0.00002	0.00002	0.001	0.002	0.003	µg/L	0.001	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Isophorone	Report	Report	Report	Report	Report	µg/L	34.4	THH	Discharge Conc > 25% WQBEL (no RP)
Nitrobenzene	0.14	0.21	10.1	15.8	25.3	µg/L	10.1	THH	Discharge Conc ≥ 50% WQBEL (RP)
n-Nitrosodimethylamine	0.00001	0.00002	0.0008	0.001	0.002	µg/L	0.0008	CRL	Discharge Conc ≥ 50% WQBEL (RP)
n-Nitrosodi-n-Propylamine	0.00008	0.0001	0.006	0.009	0.014	µg/L	0.006	CRL	Discharge Conc ≥ 50% WQBEL (RP)
n-Nitrosodiphenylamine	0.05	0.078	3.76	5.87	9.41	µg/L	3.76	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Phenanthrene	0.014	0.021	1.01	1.58	2.53	µg/L	1.01	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Pyrene	0.27	0.42	20.2	31.6	50.6	µg/L	20.2	THH	Discharge Conc ≥ 50% WQBEL (RP)
1,2,4-Trichlorobenzene	0.0009	0.001	0.071	0.11	0.18	µg/L	0.071	THH	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 Barium	2,429	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Chromium (III)	157	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Molybdenum	N/A	N/A	No WQS
Acrylonitrile	0.068	µg/L	Discharge Conc < TQL
Benzene	0.66	µg/L	Discharge Conc < TQL
Bromoform	7.98	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	101	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	0.91	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	3,542	µg/L	Discharge Conc < TQL
Chloroform	5.77	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	1.08	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	11.3	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	33.4	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	1.03	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	68.8	µg/L	Discharge Conc < TQL
Methyl Bromide	101	µg/L	Discharge Conc ≤ 25% WQBEL

Methyl Chloride	5,567	µg/L	Discharge Conc < TQL
Methylene Chloride	22.8	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	0.23	µg/L	Discharge Conc < TQL
Tetrachloroethylene	11.4	µg/L	Discharge Conc < TQL
Toluene	57.7	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	101	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	617	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	0.63	µg/L	Discharge Conc < TQL
Trichloroethylene	0.68	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.023	µg/L	Discharge Conc < TQL
2-Chlorophenol	30.4	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	10.1	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	101	µg/L	Discharge Conc ≤ 25% WQBEL
2-Nitrophenol	1,619	µg/L	Discharge Conc ≤ 25% WQBEL
4-Nitrophenol	476	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	160	µg/L	Discharge Conc ≤ 25% WQBEL
Phenol	4,048	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	1.71	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	304	µg/L	Discharge Conc ≤ 25% WQBEL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroisopropyl)Ether	202	µg/L	Discharge Conc ≤ 25% WQBEL
4-Bromophenyl Phenyl Ether	54.7	µg/L	Discharge Conc ≤ 25% WQBEL
2-Chloronaphthalene	810	µg/L	Discharge Conc ≤ 25% WQBEL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
1,2-Dichlorobenzene	162	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	7.08	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	152	µg/L	Discharge Conc < TQL
Diethyl Phthalate	607	µg/L	Discharge Conc ≤ 25% WQBEL
Dimethyl Phthalate	506	µg/L	Discharge Conc ≤ 25% WQBEL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
Fluorene	50.6	µg/L	Discharge Conc ≤ 25% WQBEL
Naphthalene	43.5	µg/L	Discharge Conc ≤ 25% WQBEL

ATTACHMENT 08

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	1
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Pine Creek Municipal Authority (PA)

Permit No.: PA0027553

Replicate No.	Test Completion Date: 6/10/2024 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	1
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Pine Creek Municipal Authority (PA)

Permit No.: PA0027553

Replicate No.	Test Completion Date: 6/10/2024 Control	TIWC
1	39	43
2	44	32
3	41	35
4	42	41
5	44	32
6	40	28
7	42	39
8	47	40
9	41	32
10	39	44
11		
12		
13		
14		
15		
Mean	41.900	36.600
Std Dev.	2.514	5.502
# Replicates	10	10
T-Test Result	2.8139	
Deg. of Freedom	13	
Critical T Value	0.8702	
Pass or Fail	**PASS**	

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

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DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	1
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Pine Creek Municipal Authority (PA)

Permit No.: PA0027553

Test Completion Date: 6/11/2024

Replicate No.	Control	TIWC
1	10	10
2	10	10
3	9	10
4	10	9
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	9.750	9.750
Std Dev.	0.500	0.500
# Replicates	4	4

T-Test Result 6.7314
Deg. of Freedom 5
Critical T Value 0.7267
Pass or Fail **PASS**

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	1
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name
Pine Creek Municipal Authority (PA)

Permit No.
PA0027553

Test Completion Date 6/11/2024

Replicate No.	Control	TIWC
1	0.569	0.643
2	0.625	0.691
3	0.582	0.612
4	0.527	0.524
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.576	0.618
Std Dev.	0.040	0.070
# Replicates	4	4

T-Test Result 4.8522
Deg. of Freedom 4
Critical T Value 0.7407
Pass or Fail **PASS**

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

35 of 43

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	1
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Pine Creek Municipal Authority (PA)

Permit No.: PA0027553

Test Completion Date: 9/16/2024

Replicate No.	Control	TIWC
1	0	1
2	0	1
3	1	1
4	1	1
5	1	1
6	1	1
7	0	1
8	1	1
9	0	1
10	1	1
11		
12		
13		
14		
15		
Mean	0.600	1.000
Std Dev.	0.516	0.000
# Replicates	10	10

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail **PASS**

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	1
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Pine Creek Municipal Authority (PA)

Permit No.: PA0027553

Test Completion Date: 9/16/2024

Replicate No.	Control	TIWC
1	0	26
2	0	21
3	0	17
4	20	33
5	8	21
6	0	11
7	0	18
8	0	7
9	0	4
10	8	15
11		
12		
13		
14		
15		
Mean	3.600	17.300
Std Dev.	6.653	8.680
# Replicates	10	10

T-Test Result 4.6113
Deg. of Freedom 15
Critical T Value 0.8662
Pass or Fail **PASS**

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	1
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Pine Creek Municipal Authority (PA)

Permit No.: PA0027553

Test Completion Date: 9/17/2024

Replicate No.	Control	TIWC
1	9	10
2	10	10
3	10	10
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	9.750	10.000
Std Dev.	0.500	0.000
# Replicates	4	4

T-Test Result 12.5523
Deg. of Freedom 3
Critical T Value 0.7649
Pass or Fail **PASS**

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	1
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Pine Creek Municipal Authority (PA)

Permit No.: PA0027553

Test Completion Date: 9/17/2024

Replicate No.	Control	TIWC
1	0.604	0.653
2	0.483	0.484
3	0.481	0.473
4	0.45	0.4
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.505	0.503
Std Dev.	0.068	0.107
# Replicates	4	4

T-Test Result 2.0936
Deg. of Freedom 4
Critical T Value 0.7407
Pass or Fail **PASS**

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.3
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Pine Creek Municipal Authority (PA)

Permit No.: PA0027553

Test Completion Date: 10/7/2024

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail **PASS**

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.3
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Pine Creek Municipal Authority (PA)

Permit No.: PA0027553

Test Completion Date: 10/7/2024

Replicate No.	Control	TIWC
1	29	36
2	24	26
3	12	32
4	29	32
5	16	27
6	33	11
7	27	18
8	30	22
9	12	14
10	14	23
11		
12		
13		
14		
15		
Mean	22.600	24.100
Std Dev.	8.222	8.130
# Replicates	10	10
T-Test Result	2.2158	
Deg. of Freedom	16	
Critical T Value	0.8647	
Pass or Fail	**PASS**	

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
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7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.3
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Pine Creek Municipal Authority (PA)

Permit No.: PA0027553

Replicate No.	Test Completion Date: 11/25/2024 Control	TIWC	Test Completion Date: Control	TIWC
1	1	1		
2	1	1		
3	1	1		
4	1	1		
5	1	1		
6	1	1		
7	1	1		
8	1	1		
9	1	1		
10	1	1		
11				
12				
13				
14				
15				
Mean	1.000	1.000	0.000	0.000
Std Dev.	0.000	0.000		
# Replicates	10	10		
T-Test Result				
Deg. of Freedom				
Critical T Value				
Pass or Fail	PASS			

Replicate No.	Test Completion Date: Control	TIWC	Test Completion Date: Control	TIWC
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	0.000	0.000		
Std Dev.				
# Replicates				
T-Test Result				
Deg. of Freedom				
Critical T Value				
Pass or Fail				

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.3
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Pine Creek Municipal Authority (PA)

Permit No.: PA0027553

Test Completion Date: 11/25/2024

Replicate No.	Control	TIWC
1	34	24
2	32	38
3	20	34
4	13	37
5	12	23
6	34	37
7	31	35
8	16	33
9	35	38
10	34	37
11		
12		
13		
14		
15		
Mean	26.100	33.600
Std Dev.	9.632	5.582
# Replicates	10	10
T-Test Result	4.8583	
Deg. of Freedom	17	
Critical T Value	0.8633	
Pass or Fail	**PASS**	

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.3
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name
Pine Creek Municipal Authority (PA)

Permit No.
PA0027553

Test Completion Date 11/26/2024

Replicate No.	Control	TIWC
1	10	10
2	10	10
3	10	10
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	10.000	10.000
Std Dev.	0.000	0.000
# Replicates	4	4

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail **PASS**

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.3
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name
Pine Creek Municipal Authority (PA)

Permit No.
PA0027553

Test Completion Date 11/26/2024

Replicate No.	Control	TIWC
1	10	10
2	10	10
3	10	10
4	10	10
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	10.000	10.000
Std Dev.	0.000	0.000
# Replicates	4	4

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail **PASS**

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.03
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Pine Creek Municipal Authority WWTP

Permit No.: PA0027553

Test Completion Date: 3/10/2025

Replicate No.	Control	TIWC
1	13	28
2	28	16
3	22	24
4	25	30
5	27	20
6	24	20
7	23	26
8	15	26
9	15	12
10	15	15
11		
12		
13		
14		
15		
Mean	20.700	21.700
Std Dev.	5.638	6.038
# Replicates	10	10

T-Test Result	2.6490
Deg. of Freedom	16
Critical T Value	0.8647
Pass or Fail	PASS

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.03
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Pine Creek Municipal Authority WWTP

Permit No.: PA0027553

Replicate No.	Test Completion Date: 3/10/2025 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

Replicate No.	Test Completion Date: Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail		

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.03
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Pine Creek Municipal Authority WWTP

Permit No.: PA0027553

Test Completion Date: 3/11/2025

Replicate No.	Control	TIWC
1	0.342	0.346
2	0.384	0.375
3	0.402	0.411
4	0.397	0.389
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.381	0.380
Std Dev.	0.027	0.027
# Replicates	4	4

T-Test Result 5.5420
Deg. of Freedom 5
Critical T Value 0.7267
Pass or Fail **PASS**

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.03
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Pine Creek Municipal Authority WWTP

Permit No.: PA0027553

Test Completion Date: 3/11/2025

Replicate No.	Control	TIWC
1	10	10
2	10	9
3	10	10
4	10	9
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	10.000	9.500
Std Dev.	0.000	0.577
# Replicates	4	4

T-Test Result: 5.7714
Deg. of Freedom: 3
Critical T Value: 0.7649
Pass or Fail: PASS

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.000	0.000
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail

Test Completion Date:

Replicate No.	Control	TIWC
1		
2		
3		
4		
5		
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7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean		
Std Dev.		
# Replicates		

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail