



SOUTHWEST REGIONAL OFFICE
CLEAN WATER PROGRAM

Application Type Renewal
 Facility Type Sewage
 Major / Minor Major

**NPDES PERMIT FACT SHEET
ADDENDUM**

Application No. PA0027669
 APS ID 791610
 Authorization ID 1215764

Applicant and Facility Information

Applicant Name	<u>McCandless Township Sanitary Authority Allegheny County</u>	Facility Name	<u>Pine Creek STP</u>
Applicant Address	<u>418 W Arcadia Drive Pittsburgh, PA 15237-5506</u>	Facility Address	<u>2160 Wildwood Road Gibsonia, PA 15044-7414</u>
Applicant Contact	<u>William Youngblood</u>	Facility Contact	<u>Edward Bricker</u>
Applicant Phone	<u>(412) 366-2700</u>	Facility Phone	<u>(724) 935-8050</u>
Client ID	<u>75745</u>	Site ID	<u>252665</u>
SIC Code	<u>4952</u>	Municipality	<u>Hampton Township</u>
SIC Description	<u>Trans. & Utilities - Sewerage Systems</u>	County	<u>Allegheny</u>
Date Published in PA Bulletin	<u>June 14, 2025</u>	EPA Waived?	<u>No</u>
Comment Period End Date	<u>July 13, 2025</u>	If No, Reason	<u>Major Facility</u>

Purpose of Application Application for a renewal of an NPDES permit for discharge of treated Sewage.

Internal Review and Recommendations

The draft permit was sent on 5/27/2025. The public notice was published in the PA Bulletin on 6/14/2025. The following comments were received on 7/21/2025 from EPA (see page 9) after the comment period which ended on 7/13/2025. The EPA comments were shared with the applicant via email on 7/22/2025. Additionally, the applicant sent their comments on the Draft Permit on 7/9/2025 (see page 11). DEP had a meeting with the applicant regarding their comments.

[EPA Comment](#)

According to 40 CFR 403.8(a), any publicly owned treatment works having a total design flow greater than 5 MGD and receiving for treatment wastewater containing pollutants with the potential to pass through or cause interference with the plant's operation are required to develop a POTW pretreatment program. The factsheet indicates that MTSA does not receive any industrial wastewater from categorical industrial users. In order to ensure this is the case, the EPA Region 3 Pretreatment Team requests the submittal of a formal industrial user inventory for review. Please include the condition it the permit below:

Within 1 year of issuance of the permit, the permittee shall submit the results of an industrial waste survey of the users of the entire area served by the permittee's treatment plant to EPA and PADEP. The submission shall include a description of the procedures used to conduct the survey, a master list of all industrial users of the system, a brief description of the operations at each industrial user, an assessment of whether the industrial user meets the definition of a significant industrial user (see 40 CFR 403.3(v)), and a brief description of why the industrial user does or does not meet the definition of a significant industrial user.

Approve	Return	Deny	Signatures	Date
X			<i>Hazim Aldalli</i> Hazim Aldalli / Project Manager	August 15, 2025
X			<i>MAHBUBA IASMIN</i> Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	November 14, 2025

Internal Review and Recommendations

DEP Response

DEP acknowledges the comment; the condition has been added to the Part C.I.F section of the final renewal permit.

MTSA Comment No.1

MTSA requests a re-draft of the NPDES Permit to consider the additional sampling results for the 25 parameters and possibly request elimination from the Draft NPDES Permit. The first two rounds of sampling from CWM Environmental Laboratories are attached to this letter and show that all Volatile Organic Compounds and Semi-volatile Organic Compounds fall under the detection limit.

DEP Response

DEP asked for the third sampling round which the applicant provided on July 16, 2025. DEP reviewed the resampling event results and modeled for WQBELs using TMS newer version (ver 1.4) as detailed on the RP section (see page 3).

MTSA Comment No.2

Please correct the CBOD limits per the current NPDES Permit for Pine Creek STP so the redrafted permit can reflect the recently completed Part II Water Quality Management Permit, which has increased the plant's total capacity.

DEP Response

The plant's total capacity allowed under the most recent Water Quality Management (WQM) permit (0272419 A-5) issued on August 11, 2020 was 6.0 MGD. The CBOD5 limits were developed based on 6.0 MGD and therefore will remain unchanged in the final permit.

MTSA Comment No.3

Pine Creek WWTP now uses ultraviolet disinfection. Chlorine is no longer used. The Draft NPDES Permit does not account for the installation of ultraviolet disinfection as part of the recently completed plant upgrade. We request that the Chlorine residual limit be removed and request daily UV Percent Transmittance to be added to the permit.

DEP Response

Chlorine requirements have been removed and UV requirements have been placed into the permit.

MTSA Comment No.4

Please remove the TRC monitoring requirement in the Part C.I.D of the Draft NPDES Permit.

DEP Response

DEP acknowledges the received comment, Part C.I.D will be removed from the final permit.

MTSA Comment No.5

Internal Review and Recommendations

Please note that the A&B WWTP has been converted to a pump station and conveys all its flows, and not just sludge treatment, to Pine Creek STP (in the Anti-Backsliding Section) .

DEP Response

DEP acknowledges the updated information.

MTSA Comment No.6

MTSA would like further clarification from DEP regarding the resampling parameters and their minimum quantitation limits (QLs) that were not achieved previously, as per your May 27, 2025 Draft NPDES Permit Letter Cited below. We currently have two (2) conflicting sampling lists: the original letter dated May 18, 2022 with analytes and QLs and the list in our draft permit:

"Twenty-five (25) parameters are recommended for effluent limits / monitoring requirements since the Department's minimum quantitation limits were not achieved for permit application samples. The Department will give MTSA the opportunity to resample these parameters during the 3D-day Draft permit comment period. If the new analytical results verify that the parameters are not present in its wastewater discharge at the Department's minimum quantitation limits, effluent limitations / monitoring requirements for these pollutants may be eliminated prior to Final permit issuance. "

DEP Response

Modelling the renewal application's effluent groups sampling with TMS using the default data vs. modelling the resampling event using site specific data made the difference.

Reasonable Potential (RP)

The Toxics Management Screening (TMS) Analysis Spreadsheet version 1.4 (DEP updated its modelling tool in May 2023) was used to evaluate the resampling event data accompanied the draft permit comments. The model assesses toxic parameters of concern for water quality modeling and facilitate the determinations of "reasonable potential" that cause an excursion above water quality standards. Some of the toxic parameter concentrations submitted were tested above the Department QL as submitted in the comments package.

Per DEP SOP – Establishing WQBELs and Permit Conditions for Toxic Pollutants in NPDES Permits (Revised, May 20, 2021), Sec. I.B.1, the max. concentration values from all available valid data (previous model plus the recent resampling event) were used to determine the reasonable potential using TMS Analysis Spreadsheet, Version 1.4. TMS recommended limits for 2 pollutants due to reasonable potential and monitor/report only requirement for 4 pollutants, i.e., no reasonable potential (see page 13).

Total Copper with AML of 19.2 µg/L, MDL of 30.0 mg/L, and Total Zinc with AML of 0.23 mg/L, MDL of 0.25 mg/L are the renewal permit WQBELs. Total Boron, Dissolved Iron, Total Iron, and Acenaphthene will have monitor/report requirement with weekly sampling.

Based on the new TMS model findings, Part C.V (WQBELs Below Quantitation Limits) that was listed under the draft permit is no more valid and will be removed from the re-draft permit.

Total Copper and Total Zinc

Effluent limitation is 28.9 mg/L from Chapter 93; TMS limit of 19.2 µg/L is more stringent. Setting Total Copper AML of 19.2 µg/L with monitoring frequency of 1/week. The applicant will have three years after permit effective date to comply with the new WQBELs, a schedule and final WQBEL compliance report are detailed within part C of the renewal permit.

Internal Review and Recommendations

Action	Due Date
Complete TRE Work Plan and Submit Work Plan if Requested by DEP	Within six (6) months of Permit Effective Date (PED)
Progress reports	Every six (6) months from PED
Complete TRE and Site-Specific Data Collection	Within twelve (12) months of PED
Begin Implementing Actions Identified in the TRE to Reduce Pollutant Load (if applicable)	Within 30 days of notice from DEP to proceed
Submit Final WQBEL Compliance Report	Within thirty (30) months of PED
Complete Actions Identified in TRE and Comply with Final Permit Limit	Beginning of thirty-seventh (37th) month following PED

A new TRE study needs to be done within the offered compliance schedule, also a site-specific criteria is recommended to be developed. According to Chapter 93.8d "The development of new or updated site-specific criteria for copper in freshwater systems shall be performed using the biotic ligand model (BLM)". A Toxicity Reduction Evaluation (TRE) with corrosion control feasibility study would also be required; Part C of (C112 A&B, and C113) will be added to the renewal permit.

The previous WETT determination still stands since the new TMS model generated same values for PMFa and PMFc.

This permit will be re-drafted to address all the changes affect the effluent limitations.

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 End of Thirty-Sixth (36th) Month Following Permit Issuance.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Copper (µg/L)	Report	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite
Total Zinc (µg/L)	Report	XXX	XXX	Report	Report	XXX	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 001.

Other Comments: None.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Beginning of Thirty Seventh (37th) Month Following Permit Issuance through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Copper (µg/L)	0.96	XXX	XXX	19.2	48	XXX	1/week	24-Hr Composite
Total Zinc (µg/L)	11.6	XXX	XXX	230	250	XXX	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 001.

Other Comments: None.

Commented [MI1]: If we are imposing mass AML, we should impose mass MDL too. For both Copper and Zinc.

Commented [HA2R1]: The draft permit and other similar cases were issued without mass MDL, please advise.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
CBOD5 Nov 1 - Apr 30	570.4	855.6	XXX	11.4	17.1	22.8	1/day	24-Hr Composite
CBOD5 May 1 - Oct 31	395.3	592.9	XXX	7.9	11.8	15.8	1/day	24-Hr Composite
Dissolved Oxygen	XXX	XXX	6.0	XXX	XXX	XXX	1/day	Grab
Total Suspended Solids	1502	2253	XXX	30	45	60	1/day	24-Hr Composite
Ultraviolet light transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/day	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/day	Grab
Ammonia-Nitrogen (NH ₃ -N) Nov 1 - Apr 30	155	232.5	XXX	3.1	4.6	6.2	1/day	24-Hr Composite
Ammonia-Nitrogen (NH ₃ -N) May 1 - Oct 31	75	115	XXX	1.5	2.3	3.0	1/day	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	Report	XXX	1/day	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	Report	XXX	1/day	24-Hr Composite
Total Boron (µg/L)	Report	XXX	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Dissolved Iron (µg/L)	Report	XXX	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Iron (µg/L)	Report	XXX	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Acenaphthene (µg/L)	Report	XXX	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
PFOA* (ng/L)	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab
PFOS* (ng/L)	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab
HFPO-DA* (ng/L)	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab
PFBS* (ng/L)	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab

* The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees must enter a No Discharge Indicator (NODI) Code of "GG" on DMRs.

Compliance Sampling Location: Outfall 001.

Aldalli, Hazim

From: Fulton, Jennifer <Fulton.Jennifer@epa.gov>
Sent: Monday, July 21, 2025 3:49 PM
To: Aldalli, Hazim
Cc: Furjanic, Sean; Hawley, Harmonie; Iasmin, Mahbuba; Moncavage, Carissa; Hales, Dana; Shuart, Ryan
Subject: [External] PA0027669 McCandless Township Sanitary Authority, Pine Creek STP

ATTENTION: This email message is from an external sender. Do not open links or attachments from unknown senders. To report suspicious email, use the [Report Phishing button in Outlook](#).

Hazim,

According to our Memorandum of Agreement, the Environmental Protection Agency (EPA) Region III has received the draft National Pollutant Discharge Elimination System (NPDES) permit for:

McCandless Township Sanitary Authority
Pine Creek STP
NPDES Number: PA0027669
EPA Received: May 29, 2025
30-day response due date: June 28, 2025

This is a major permit that discharges to Pine Creek and is affected by the Pine Creek Watershed TMDL. EPA has chosen to perform a limited review of the draft permit based on the wasteload allocation (WLA) requirements of the approved TMDL, WET, PFAS, and pretreatment requirements. EPA has completed its review and offers the following comment:

1. According to 40 CFR 403.8(a), any publicly owned treatment works having a total design flow greater than 5 MGD and receiving for treatment wastewater containing pollutants with the potential to pass through or cause interference with the plant's operation are required to develop a POTW pretreatment program. The factsheet indicates that MTSA does not receive any industrial wastewater from categorical industrial users. In order to ensure this is the case, the EPA Region 3 Pretreatment Team requests the submittal of a formal industrial user inventory for review. Please include the condition it the permit below:

Within 1 year of issuance of the permit, the permittee shall submit the results of an industrial waste survey of the users of the entire area served by the permittee's treatment plant to EPA and PADEP. The submission shall include a description of the procedures used to conduct the survey, a master list of all industrial users of the system, a brief description of the operations at each industrial user, an assessment of whether the industrial user meets the definition of a significant industrial user (see 40 CFR 403.3(v)), and a brief description of why the industrial user does or does not meet the definition of a significant industrial user.

Please address the above and provide us with any changes to the draft permit and/or fact sheet, if necessary. Please contact Dana Hales on my staff via telephone at 215-814-2928 or via electronic mail at hales.dana@epa.gov.

Thank you,

Jen Fulton

Jennifer Fulton
Chief, Clean Water Branch
EPA Region 3
Phone: 304-234-0248
Email: fulton.jennifer@epa.gov



THE MCCANDLESS TOWNSHIP SANITARY AUTHORITY

418 Arcadia Drive
Pittsburgh, PA 15237-5506
412-366-2700; 412-366-8481
Fax: 412-366-0961; 412-366-4414
www.mtsaonline.org

June 4, 2025

Mr. Hazim Aldalli, Environmental Engineering Specialist
Pennsylvania Department of Environmental Protection
Southwest Regional Office
Clean Water Program
400 Waterfront Drive
Pittsburgh, PA 15222

**The McCandless Township Sanitary Authority
Pine Creek Sewage Treatment Plant
Draft NPDES Permit Comments
NPDES Permit No. PA0027669**

Dear Mr. Aldalli:

The McCandless Township Sanitary Authority (MTSA), with assistance from our consultant engineering firm K LH Engineers, Inc., is submitting the following comments on the issued Draft NPDES Permit No. PA0027669, for PADEP's consideration and implementation when issuing the Final NPDES Permit No. PA0027669:

The following **Toxic Reduction Evaluation (TRE)** parameters are added with a proposed period of 3 years (36 months) to complete the **TRE** and to be in compliance:

Table 1 – TRE Parameters

Copper	1,3-Dichlorobenzene	Benzene
Benzo(a)Anthracene	Benzo(a)Pyrene	Benzo(k)Fluoranthene
3,4-Benzofluoranthene	Carbon Tetrachloride	Chlorodibromomethane
1,1,2-Trichloroethane	1,2-Dichloropropane	Dichlorobromomethane
1,1,2,2-Tetrachloroethane	Chloroform	Chrysene
Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Phenanthrene
Trichloroethylene	Boron – Monitor Only	Diss. Iron – Monitor Only
Total Iron – Monitor Only	Vinyl Chloride	Zinc – Monitor Only
Acenaphthene – Monitor Only		

MTSA requests the following revisions and comments to the Draft NPDES Permit for Pine Creek STP:

1. MTSA requests a re-draft of the NPDES Permit to consider the additional sampling results for the 25 parameters and possibly request elimination from the Draft NPDES Permit. The first two rounds of sampling from CWM Environmental Laboratories are attached to this letter and show that all Volatile Organic Compounds and Semivolatile Organic Compounds fall under the detection limit.
2. Please correct the CBOD limits per the current NPDES Permit for Pine Creek STP so the redrafted permit can reflect the recently completed Part II Water Quality Management Permit, which has increased the plant's total capacity.
3. Pine Creek WWTP now uses ultraviolet disinfection. Chlorine is no longer used. The Draft NPDES Permit does not account for the installation of ultraviolet disinfection as part of the recently completed plant upgrade. We request that the Chlorine residual limit be removed and request daily UV Percent Transmittance to be added to the permit.
4. Please remove the TRC monitoring requirement in the Part C.I.D of the Draft NPDES Permit.
5. Please note that the A&B WWTP has been converted to a pump station and conveys all its flows, and not just sludge treatment, to Pine Creek STP (in the Anti-Backsliding Section) .
6. MTSA would like further clarification from DEP regarding the resampling parameters and their minimum quantitation limits (QLs) that were not achieved previously, as per your May 27, 2025 Draft NPDES Permit Letter cited below. We currently have two (2) conflicting sampling lists: the original letter dated May 18, 2022 with analytes and QLs and the list in our draft permit:

"Twenty-Five (25) parameters are recommended for effluent limits / monitoring requirements since the Department's minimum quantitation limits were not achieved for permit application samples. The Department will give MTSA the opportunity to resample these parameters during the 30-day Draft permit comment period. If the new analytical results verify that the parameters are not present in its wastewater discharge at the Department's minimum quantitation limits, effluent limitations / monitoring requirements for these pollutants may be eliminated prior to Final permit issuance."

Sincerely,


William Youngblood
Executive Director

Cc: Kevin M. Creagh, P.E., KLH
Roger B. Varner, P.E., KLH



Discharge Information

Instructions Discharge Stream

Facility: **Pine Creek STP** NPDES Permit No.: **PA0027669** Outfall No.: **001**

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

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 _n
6	225	6.97						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1											
Total Dissolved Solids (PWS)	mg/L	569									
Chloride (PWS)	mg/L	137									
Bromide	mg/L	0.09									
Sulfate (PWS)	mg/L	67									
Fluoride (PWS)	mg/L										
Group 2											
Total Aluminum	µg/L	6.2									
Total Antimony	µg/L	< 1									
Total Arsenic	µg/L	< 2.5									
Total Barium	µg/L	31.2									
Total Beryllium	µg/L	< 1									
Total Boron	µg/L	206									
Total Cadmium	µg/L	< 0.148									
Total Chromium (III)	µg/L	2.33									
Hexavalent Chromium	µg/L	< 0.25									
Total Cobalt	µg/L	< 1									
Total Copper	µg/L	10									
Free Cyanide	µg/L										
Total Cyanide	µg/L	10									
Dissolved Iron	µg/L	< 50									
Total Iron	µg/L	201									
Total Lead	µg/L	< 1									
Total Manganese	µg/L	100									
Total Mercury	µg/L	< 0.2									
Total Nickel	µg/L	< 0.4									
Total Phenols (Phenolics) (PWS)	µg/L	< 5									
Total Selenium	µg/L	< 1									
Total Silver	µg/L	< 1									
Total Thallium	µg/L	< 0.2									
Total Zinc	mg/L	75.7									
Total Molybdenum	µg/L	10									
Acrolein	µg/L	< 2									
Acrylamide	µg/L	< 5									
Acrylonitrile	µg/L	< 0.5									
Benzene	µg/L	< 0.5									
Bromoform	µg/L	< 1									
Carbon Tetrachloride	µg/L	< 0.5									



Stream / Surface Water Information

Pine Creek STP, NPDES Permit No. PA0027669, Outfall 001

Instructions Discharge **Stream**

Receiving Surface Water Name: **Pine Creek**

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	041236	13.7	1169	30.6	0.0013		Yes
End of Reach 1	041236	10.16	1155	41.6	0.0013		Yes

Q₇₋₁₀

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	13.7	0.0197	0.55			52	5					100	7		
End of Reach 1	10.16	0.01918	0.798			60	5.4					100	7		

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	13.7														
End of Reach 1	10.16														



Model Results

Pine Creek STP, NPDES Permit No. PA0027669, Outfall 001

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

Hydrodynamics

Q₇₋₁₀

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
13.7	0.55		0.55	9.282	0.001	5.	52.	10.4	0.038	5.721	0.029
10.16	0.80		0.798								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
13.7	4.41		4.41	9.282	0.001	5.784	52.	8.991	0.046	4.753	0.766
10.16	6.1		6.10								

Wasteload Allocations

AFC CCT (min): 0.029 PMF: 1 Analysis Hardness (mg/l): 218.01 Analysis pH: 6.97

Pollutants	Stream Conc	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	794	
Total Antimony	0	0		0	1,100	1,100	1,165	
Total Arsenic	0	0		0	340	340	360	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	22,244	
Total Boron	0	0		0	8,100	8,100	8,580	
Total Cadmium	0	0		0	4.294	4.71	4.99	Chem Translator of 0.911 applied
Total Chromium (III)	0	0		0	1078.705	3,414	3,616	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	17.3	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	101	
Total Copper	0	0		0	28.008	29.2	30.9	Chem Translator of 0.96 applied
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	149.168	220	233	Chem Translator of 0.677 applied
Total Manganese	0	0	0	N/A	N/A	N/A	
Total Mercury	0	0	0	1.400	1.65	1.74	Chem Translator of 0.85 applied
Total Nickel	0	0	0	905.340	907	961	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	12.291	14.5	15.3	Chem Translator of 0.85 applied
Total Thallium	0	0	0	65	65.0	68.9	
Total Zinc	0	0	0	226.799	232	246	Chem Translator of 0.978 applied
Acrolein	0	0	0	3	3.0	3.18	
Acrylonitrile	0	0	0	650	650	689	
Benzene	0	0	0	640	640	678	
Bromoform	0	0	0	1,800	1,800	1,907	
Carbon Tetrachloride	0	0	0	2,800	2,800	2,966	
Chlorobenzene	0	0	0	1,200	1,200	1,271	
Chlorodibromomethane	0	0	0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0	0	18,000	18,000	19,067	
Chloroform	0	0	0	1,900	1,900	2,013	
Dichlorobromomethane	0	0	0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0	0	15,000	15,000	15,889	
1,1-Dichloroethylene	0	0	0	7,500	7,500	7,944	
1,2-Dichloropropane	0	0	0	11,000	11,000	11,652	
1,3-Dichloropropylene	0	0	0	310	310	328	
Ethylbenzene	0	0	0	2,900	2,900	3,072	
Methyl Bromide	0	0	0	550	550	583	
Methyl Chloride	0	0	0	28,000	28,000	29,659	
Methylene Chloride	0	0	0	12,000	12,000	12,711	
1,1,2,2-Tetrachloroethane	0	0	0	1,000	1,000	1,059	
Tetrachloroethylene	0	0	0	700	700	741	
Toluene	0	0	0	1,700	1,700	1,801	
1,2-trans-Dichloroethylene	0	0	0	6,800	6,800	7,203	
1,1,1-Trichloroethane	0	0	0	3,000	3,000	3,178	
1,1,2-Trichloroethane	0	0	0	3,400	3,400	3,601	
Trichloroethylene	0	0	0	2,300	2,300	2,436	
Vinyl Chloride	0	0	0	N/A	N/A	N/A	
2-Chlorophenol	0	0	0	560	560	593	
2,4-Dichlorophenol	0	0	0	1,700	1,700	1,801	
2,4-Dimethylphenol	0	0	0	660	660	699	
4,6-Dinitro-o-Cresol	0	0	0	80	80.0	84.7	
2,4-Dinitrophenol	0	0	0	660	660	699	
2-Nitrophenol	0	0	0	8,000	8,000	8,474	
4-Nitrophenol	0	0	0	2,300	2,300	2,436	
p-Chloro-m-Cresol	0	0	0	160	160	169	
Pentachlorophenol	0	0	0	8.478	8.48	8.98	
Phenol	0	0	0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0	0	460	460	487	
Acenaphthene	0	0	0	83	83.0	87.9	

Anthracene	0	0	0	N/A	N/A	N/A
Benzidine	0	0	0	300	300	318
Benzo(a)Anthracene	0	0	0	0.5	0.5	0.53
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	31,778
Bis(2-Chloroisopropyl)Ether	0	0	0	N/A	N/A	N/A
Bis(2-Ethylhexyl)Phthalate	0	0	0	4,500	4,500	4,767
4-Bromophenyl Phenyl Ether	0	0	0	270	270	286
Butyl Benzyl Phthalate	0	0	0	140	140	148
2-Chloronaphthalene	0	0	0	N/A	N/A	N/A
Chrysene	0	0	0	N/A	N/A	N/A
Dibenzo(a,h)Anthracene	0	0	0	N/A	N/A	N/A
1,2-Dichlorobenzene	0	0	0	820	820	869
1,3-Dichlorobenzene	0	0	0	350	350	371
1,4-Dichlorobenzene	0	0	0	730	730	773
3,3-Dichlorobenzidine	0	0	0	N/A	N/A	N/A
Diethyl Phthalate	0	0	0	4,000	4,000	4,237
Dimethyl Phthalate	0	0	0	2,500	2,500	2,648
Di-n-Butyl Phthalate	0	0	0	110	110	117
2,4-Dinitrotoluene	0	0	0	1,600	1,600	1,695
2,6-Dinitrotoluene	0	0	0	990	990	1,049
1,2-Diphenylhydrazine	0	0	0	15	15.0	15.9
Fluoranthene	0	0	0	200	200	212
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	10.6
Hexachlorocyclopentadiene	0	0	0	5	5.0	5.3
Hexachloroethane	0	0	0	60	60.0	63.6
Indeno(1,2,3-cd)Pyrene	0	0	0	N/A	N/A	N/A
Isophorone	0	0	0	10,000	10,000	10,593
Naphthalene	0	0	0	140	140	148
Nitrobenzene	0	0	0	4,000	4,000	4,237
n-Nitrosodimethylamine	0	0	0	17,000	17,000	18,007
n-Nitrosodi-n-Propylamine	0	0	0	N/A	N/A	N/A
n-Nitrosodiphenylamine	0	0	0	300	300	318
Phenanthrene	0	0	0	5	5.0	5.3
Pyrene	0	0	0	N/A	N/A	N/A
1,2,4-Trichlorobenzene	0	0	0	130	130	138

CFC CCT (min): PMF: Analysis Hardness (mg/l): Analysis pH:

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	0	N/A	N/A	N/A	
Chloride (PWS)	0	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	233	
Total Arsenic	0	0	0	150	150	159	Chem Translator of 1 applied
Total Barium	0	0	0	4,100	4,100	4,343	
Total Boron	0	0	0	1,600	1,600	1,695	
Total Cadmium	0	0	0	0.423	0.48	0.51	Chem Translator of 0.876 applied
Total Chromium (III)	0	0	0	140.317	163	173	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0	0	10	10.4	11.0	Chem Translator of 0.962 applied
Total Cobalt	0	0	0	19	19.0	20.1	
Total Copper	0	0	0	17.431	18.2	19.2	Chem Translator of 0.96 applied
Dissolved Iron	0	0	0	N/A	N/A	N/A	
Total Iron	0	0	0	1,500	1,500	1,589	WQC = 30 day average; PMF = 1
Total Lead	0	0	0	5.813	8.58	9.09	Chem Translator of 0.677 applied
Total Manganese	0	0	0	N/A	N/A	N/A	
Total Mercury	0	0	0	0.770	0.91	0.96	Chem Translator of 0.85 applied
Total Nickel	0	0	0	100.555	101	107	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	5.28	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	13.8	
Total Zinc	0	0	0	228.655	232	246	Chem Translator of 0.986 applied
Acrolein	0	0	0	3	3.0	3.18	
Acrylonitrile	0	0	0	130	130	138	
Benzene	0	0	0	130	130	138	
Bromoform	0	0	0	370	370	392	
Carbon Tetrachloride	0	0	0	560	560	593	
Chlorobenzene	0	0	0	240	240	254	
Chlorodibromomethane	0	0	0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0	0	3,500	3,500	3,707	
Chloroform	0	0	0	390	390	413	
Dichlorobromomethane	0	0	0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0	0	3,100	3,100	3,284	
1,1-Dichloroethylene	0	0	0	1,500	1,500	1,589	
1,2-Dichloropropane	0	0	0	2,200	2,200	2,330	
1,3-Dichloropropylene	0	0	0	61	61.0	64.6	
Ethylbenzene	0	0	0	580	580	614	
Methyl Bromide	0	0	0	110	110	117	
Methyl Chloride	0	0	0	5,500	5,500	5,826	
Methylene Chloride	0	0	0	2,400	2,400	2,542	
1,1,2,2-Tetrachloroethane	0	0	0	210	210	222	
Tetrachloroethylene	0	0	0	140	140	148	
Toluene	0	0	0	330	330	350	
1,2-trans-Dichloroethylene	0	0	0	1,400	1,400	1,483	
1,1,1-Trichloroethane	0	0	0	610	610	646	
1,1,2-Trichloroethane	0	0	0	680	680	720	

Trichloroethylene	0	0	0	450	450	477
Vinyl Chloride	0	0	0	N/A	N/A	N/A
2-Chlorophenol	0	0	0	110	110	117
2,4-Dichlorophenol	0	0	0	340	340	360
2,4-Dimethylphenol	0	0	0	130	130	138
4,6-Dinitro-o-Cresol	0	0	0	16	16.0	16.9
2,4-Dinitrophenol	0	0	0	130	130	138
2-Nitrophenol	0	0	0	1,600	1,600	1,695
4-Nitrophenol	0	0	0	470	470	498
p-Chloro-m-Cresol	0	0	0	500	500	530
Pentachlorophenol	0	0	0	6,504	6.5	6.89
Phenol	0	0	0	N/A	N/A	N/A
2,4,6-Trichlorophenol	0	0	0	91	91.0	96.4
Acenaphthene	0	0	0	17	17.0	18.0
Anthracene	0	0	0	N/A	N/A	N/A
Benzidine	0	0	0	59	59.0	62.5
Benzo(a)Anthracene	0	0	0	0.1	0.1	0.11
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	6,356
Bis(2-Chloroisopropyl)Ether	0	0	0	N/A	N/A	N/A
Bis(2-Ethylhexyl)Phthalate	0	0	0	910	910	964
4-Bromophenyl Phenyl Ether	0	0	0	54	54.0	57.2
Butyl Benzyl Phthalate	0	0	0	35	35.0	37.1
2-Chloronaphthalene	0	0	0	N/A	N/A	N/A
Chrysene	0	0	0	N/A	N/A	N/A
Dibenzo(a,h)Anthracene	0	0	0	N/A	N/A	N/A
1,2-Dichlorobenzene	0	0	0	160	160	169
1,3-Dichlorobenzene	0	0	0	69	69.0	73.1
1,4-Dichlorobenzene	0	0	0	150	150	159
3,3-Dichlorobenzidine	0	0	0	N/A	N/A	N/A
Diethyl Phthalate	0	0	0	800	800	847
Dimethyl Phthalate	0	0	0	500	500	530
Di-n-Butyl Phthalate	0	0	0	21	21.0	22.2
2,4-Dinitrotoluene	0	0	0	320	320	339
2,6-Dinitrotoluene	0	0	0	200	200	212
1,2-Diphenylhydrazine	0	0	0	3	3.0	3.18
Fluoranthene	0	0	0	40	40.0	42.4
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	2.12
Hexachlorocyclopentadiene	0	0	0	1	1.0	1.06
Hexachloroethane	0	0	0	12	12.0	12.7
Indeno(1,2,3-cd)Pyrene	0	0	0	N/A	N/A	N/A
Isophorone	0	0	0	2,100	2,100	2,224

Naphthalene	0	0	0	43	43.0	45.5
Nitrobenzene	0	0	0	810	810	858
n-Nitrosodimethylamine	0	0	0	3,400	3,400	3,601
n-Nitrosodi-n-Propylamine	0	0	0	N/A	N/A	N/A
n-Nitrosodiphenylamine	0	0	0	59	59.0	62.5
Phenanthrene	0	0	0	1	1.0	1.06
Pyrene	0	0	0	N/A	N/A	N/A
1,2,4-Trichlorobenzene	0	0	0	26	26.0	27.5

THH CCT (min): PMF: Analysis Hardness (mg/l): Analysis pH:

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	0	500,000	500,000	N/A	
Chloride (PWS)	0	0	0	0	250,000	250,000	N/A	
Sulfate (PWS)	0	0	0	0	250,000	250,000	N/A	
Total Aluminum	0	0	0	0	N/A	N/A	N/A	
Total Antimony	0	0	0	0	5.6	5.6	5.93	
Total Arsenic	0	0	0	0	10	10.0	10.6	
Total Barium	0	0	0	0	2,400	2,400	2,542	
Total Boron	0	0	0	0	3,100	3,100	3,284	
Total Cadmium	0	0	0	0	N/A	N/A	N/A	
Total Chromium (III)	0	0	0	0	N/A	N/A	N/A	
Hexavalent Chromium	0	0	0	0	N/A	N/A	N/A	
Total Cobalt	0	0	0	0	N/A	N/A	N/A	
Total Copper	0	0	0	0	N/A	N/A	N/A	
Dissolved Iron	0	0	0	0	300	300	318	
Total Iron	0	0	0	0	N/A	N/A	N/A	
Total Lead	0	0	0	0	N/A	N/A	N/A	
Total Manganese	0	0	0	0	1,000	1,000	1,059	
Total Mercury	0	0	0	0	0.050	0.05	0.053	
Total Nickel	0	0	0	0	610	610	646	
Total Phenols (Phenolics) (PWS)	0	0	0	0	5	5.0	N/A	
Total Selenium	0	0	0	0	N/A	N/A	N/A	
Total Silver	0	0	0	0	N/A	N/A	N/A	
Total Thallium	0	0	0	0	0.24	0.24	0.25	
Total Zinc	0	0	0	0	N/A	N/A	N/A	
Acrolein	0	0	0	0	3	3.0	3.18	
Acrylonitrile	0	0	0	0	N/A	N/A	N/A	
Benzene	0	0	0	0	N/A	N/A	N/A	
Bromoform	0	0	0	0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0	0	0	N/A	N/A	N/A	
Chlorobenzene	0	0	0	0	100	100.0	106	
Chlorodibromomethane	0	0	0	0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0	0	0	N/A	N/A	N/A	

Chloroform	0	0	0	5.7	5.7	6.04
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	35.0
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	72.0
Methyl Bromide	0	0	0	100	100.0	106
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	60.4
1,2-trans-Dichloroethylene	0	0	0	100	100.0	106
1,1,1-Trichloroethane	0	0	0	10,000	10,000	10,593
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	31.8
2,4-Dichlorophenol	0	0	0	10	10.0	10.6
2,4-Dimethylphenol	0	0	0	100	100.0	106
4,6-Dinitro-o-Cresol	0	0	0	2	2.0	2.12
2,4-Dinitrophenol	0	0	0	10	10.0	10.6
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	4,237
2,4,6-Trichlorophenol	0	0	0	N/A	N/A	N/A
Acenaphthene	0	0	0	70	70.0	74.1
Anthracene	0	0	0	300	300	318
Benidine	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	212
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	0.11
2-Chloronaphthalene	0	0	0	800	800	847
Chrysene	0	0	0	N/A	N/A	N/A
Dibenzo(a,h)Anthracene	0	0	0	N/A	N/A	N/A
1,2-Dichlorobenzene	0	0	0	1,000	1,000	1,059
1,3-Dichlorobenzene	0	0	0	7	7.0	7.41

1,4-Dichlorobenzene	0	0	0	300	300	318
3,3-Dichlorobenzidine	0	0	0	N/A	N/A	N/A
Diethyl Phthalate	0	0	0	600	600	636
Dimethyl Phthalate	0	0	0	2,000	2,000	2,119
Di-n-Butyl Phthalate	0	0	0	20	20.0	21.2
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	21.2
Fluorene	0	0	0	50	50.0	53.0
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	4.24
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	36.0
Naphthalene	0	0	0	N/A	N/A	N/A
Nitrobenzene	0	0	0	10	10.0	10.6
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	21.2
1,2,4-Trichlorobenzene	0	0	0	0.07	0.07	0.074

CRL CCT (min): PMF: Analysis Hardness (mg/l): Analysis pH:

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	0	N/A	N/A	N/A	
Chloride (PWS)	0	0	0	0	N/A	N/A	N/A	
Sulfate (PWS)	0	0	0	0	N/A	N/A	N/A	
Total Aluminum	0	0	0	0	N/A	N/A	N/A	
Total Antimony	0	0	0	0	N/A	N/A	N/A	
Total Arsenic	0	0	0	0	N/A	N/A	N/A	
Total Barium	0	0	0	0	N/A	N/A	N/A	
Total Boron	0	0	0	0	N/A	N/A	N/A	
Total Cadmium	0	0	0	0	N/A	N/A	N/A	
Total Chromium (III)	0	0	0	0	N/A	N/A	N/A	
Hexavalent Chromium	0	0	0	0	N/A	N/A	N/A	
Total Cobalt	0	0	0	0	N/A	N/A	N/A	
Total Copper	0	0	0	0	N/A	N/A	N/A	
Dissolved Iron	0	0	0	0	N/A	N/A	N/A	
Total Iron	0	0	0	0	N/A	N/A	N/A	
Total Lead	0	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	0.088
Benzene	0	0	0	0.58	0.58	0.86
Bromoform	0	0	0	7	7.0	10.3
Carbon Tetrachloride	0	0	0	0.4	0.4	0.59
Chlorobenzene	0	0	0	N/A	N/A	N/A
Chlorodibromomethane	0	0	0	0.8	0.8	1.18
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	1.4
1,2-Dichloroethane	0	0	0	9.9	9.9	14.6
1,1-Dichloroethylene	0	0	0	N/A	N/A	N/A
1,2-Dichloropropane	0	0	0	0.9	0.9	1.33
1,3-Dichloropropylene	0	0	0	0.27	0.27	0.4
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	29.5
1,1,2,2-Tetrachloroethane	0	0	0	0.2	0.2	0.29
Tetrachloroethylene	0	0	0	10	10.0	14.7
Toluene	0	0	0	N/A	N/A	N/A
1,2-trans-Dichloroethylene	0	0	0	N/A	N/A	N/A
1,1,1-Trichloroethane	0	0	0	N/A	N/A	N/A
1,1,2-Trichloroethane	0	0	0	0.55	0.55	0.81
Trichloroethylene	0	0	0	0.6	0.6	0.88
Vinyl Chloride	0	0	0	0.02	0.02	0.029
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	0.044
Phenol	0	0	0	N/A	N/A	N/A
2,4,6-Trichlorophenol	0	0	0	1.5	1.5	2.21
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	0.015
Bis(2-Chloroethyl)Ether	0	0	0	0.03	0.03	0.044
Bis(2-Chloroisopropyl)Ether	0	0	0	N/A	N/A	N/A
Bis(2-Ethylhexyl)Phthalate	0	0	0	0.32	0.32	0.47
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	0.18
Dibenzo(a,h)Anthracene	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	0.074
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	0.074
2,6-Dinitrotoluene	0	0	0	0.05	0.05	0.074
1,2-Diphenylhydrazine	0	0	0	0.03	0.03	0.044
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	0.0001
Hexachlorobutadiene	0	0	0	0.01	0.01	0.015
Hexachlorocyclopentadiene	0	0	0	N/A	N/A	N/A
Hexachloroethane	0	0	0	0.1	0.1	0.15
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	0.001
n-Nitrosodi-n-Propylamine	0	0	0	0.005	0.005	0.007
n-Nitrosodiphenylamine	0	0	0	3.3	3.3	4.87
Phenanthrene	0	0	0	N/A	N/A	N/A
Pyrene	0	0	0	N/A	N/A	N/A
1,2,4-Trichlorobenzene	0	0	0	N/A	N/A	N/A

Recommended WQBELs & Monitoring Requirements

No. Samples/Month:

Hexavalent Chromium	11.0	µg/L	Discharge Conc < TQL
Total Cobalt	20.1	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Total Lead	9.09	µg/L	Discharge Conc < TQL
Total Manganese	1,059	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.053	µg/L	Discharge Conc < TQL
Total Nickel	107	µg/L	Discharge Conc < TQL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	5.28	µg/L	Discharge Conc < TQL
Total Silver	14.5	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	0.25	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.0	µg/L	Discharge Conc < TQL
Acrylonitrile	0.088	µg/L	Discharge Conc < TQL
Benzene	0.86	µg/L	Discharge Conc < TQL
Bromoform	10.3	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	0.59	µg/L	Discharge Conc < TQL
Chlorobenzene	106	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	1.18	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	3,707	µg/L	Discharge Conc < TQL
Chloroform	6.04	µg/L	Discharge Conc < TQL
Dichlorobromomethane	1.4	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	14.6	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethylene	35.0	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichloropropane	1.33	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	0.4	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	72.0	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Bromide	106	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	5,826	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	29.5	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	0.29	µg/L	Discharge Conc < TQL
Tetrachloroethylene	14.7	µg/L	Discharge Conc ≤ 25% WQBEL
Toluene	60.4	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	106	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,1-Trichloroethane	646	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	0.81	µg/L	Discharge Conc < TQL
Trichloroethylene	0.88	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.029	µg/L	Discharge Conc < TQL
2-Chlorophenol	31.8	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	10.6	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	106	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	2.12	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	10.6	µg/L	Discharge Conc < TQL

2-Nitrophenol	1,695	µg/L	Discharge Conc < TQL
4-Nitrophenol	498	µg/L	Discharge Conc ≤ 25% WQBEL
p-Chloro-m-Cresol	160	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.044	µg/L	Discharge Conc < TQL
Phenol	4,237	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	2.21	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	318	µg/L	Discharge Conc ≤ 25% WQBEL
Benzidine	0.0001	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.001	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0001	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.001	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.015	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.044	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	212	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	0.47	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	57.2	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.11	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	847	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.18	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthracene	0.0001	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	169	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	7.41	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	159	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	0.074	µg/L	Discharge Conc < TQL
Diethyl Phthalate	636	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	530	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	21.2	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.074	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.074	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.044	µg/L	Discharge Conc < TQL
Fluoranthene	21.2	µg/L	Discharge Conc ≤ 25% WQBEL
Fluorene	53.0	µg/L	Discharge Conc ≤ 25% WQBEL
Hexachlorobenzene	0.0001	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.015	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	1.06	µg/L	Discharge Conc < TQL
Hexachloroethane	0.15	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.001	µg/L	Discharge Conc < TQL
Isophorone	36.0	µg/L	Discharge Conc < TQL
Naphthalene	45.5	µg/L	Discharge Conc ≤ 25% WQBEL
Nitrobenzene	10.6	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.001	µg/L	Discharge Conc < TQL

n-Nitrosodi-n-Propylamine	0.007	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	4.87	µg/L	Discharge Conc < TQL
Phenanthrene	1.06	µg/L	Discharge Conc < TQL
Pyrene	21.2	µg/L	Discharge Conc ≤ 25% WQBEL
1,2,4-Trichlorobenzene	0.074	µg/L	Discharge Conc < TQL