Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0020257**
Facility Type	**Municipal**	APS ID	**1073124**
Major / Minor	**Major**	Authorization ID	**1413341**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Grove City Borough**	Facility Name	**Grove City Borough STP**
Applicant Address	123 West Main Street	Facility Address	900 Greenwood Drive
	Grove City, PA 16127-1221		Grove City, PA 16127
Applicant Contact	Vance Oakes	Facility Contact	Cliff Torongeau
Applicant Phone	(724) 458-7060 (vance@grovecityonline.com)	Facility Phone	(724) 458-6580 (cliff@grovecityonline.com)
Client ID	174	Site ID	453217
Ch 94 Load Status	Not Overloaded	Municipality	Grove City Borough
Connection Status	No Limitations	County	Mercer
Date Application Received	October 4, 2022	EPA Waived?	No
Date Application Accepted	October 25, 2022	If No, Reason	Major Facility

Purpose of Application: Renewal of an NPDES Permit for an existing discharge of treated sewage from a POTW.

Summary of Review

The discharge is treated sewage from a publicly owned sewage treatment plant serving all or portions of Grove City Borough, Pine Township, Harrisville Borough, Springfield Township, Liberty Township and Mercer Township. There is currently one industrial user (Wabtec). The facility is not accepting hauled in waste.

There is one permitted stormwater outfall (002).

No changes to discharge quantity or quality are being proposed as part of this permit renewal.

There is currently one open violation listed in EFACTS for this client due to a SSO event(s) (7/8/2025).

Sludge use and disposal description and location(s): Sludge is dewatered and trucked offsite for disposal at Seneca Landfill in Butler County

Public Participation

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

Approve	Deny	Signatures	Date
X		Adam J. Pesek Adam J. Pesek, E.I.T. / Project Manager	July 8, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	July 10, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	3.342
Latitude	41º 8' 41"	Longitude	-80º 5' 40"
Quad Name	Grove City	Quad Code	04031
Wastewater Description:	Sewage Effluent		

Receiving Waters	Wolf Creek	Stream Code	34242
NHD Com ID	126219310	RMI	10
Drainage Area	61	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	6.1	Q_{7-10} Basis	USGS #03025000
Elevation (ft)	1210	Slope (ft/ft)	0.0018
Watershed No.	20-C	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	SILTATION		
Source(s) of Impairment	URBAN RUNOFF/STORM SEWERS		
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)	7.78	June 2002 SSWAP station sample upstream of discharge
Temperature (°F)	20	Default for CWF
Hardness (mg/L)	100	Default
NH_3-N (mg/l	0.1	Default

Nearest Downstream Public Water Supply Intake		PA American Water Company – Ellwood District	
PWS Waters	Connoquenessing Creek	Flow at Intake (cfs)	67
PWS RMI	0.2	Distance from Outfall (mi)	33.41

Changes Since Last Permit Issuance: The PWS intake on Slippery Rock Creek was abandoned and replaced with the new plant and intakes on the Beaver River and Connoquenessing Creek,

Other Comments: Outfall 002 (Stormwater) discharges to the same watercourse in near vicinity to Outfall 001. Coordinates are 41º 8' 42" Lat and -80º 5' 41" Long.

Treatment Facility Summary

Treatment Facility Name: Grove City Borough STP

WQM Permit No.	Issuance Date
4374404 A-4	4/26/2018
4301423	12/17/2001

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia Reduction	Activated Sludge	Ultraviolet	3.342

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
3.342	6,720	Not Overloaded	Anaerobic Digestion	Landfill

Changes Since Last Permit Issuance: Treatment plant updates were completed in 2021.

Other Comments: WQM Permit No. 4302423 is for the operation of the belt filter press only.

Compliance History	
Summary of DMRs:	No Effluent violations were documented in the last five years.
Summary of Inspections:	A compliance evaluation inspection was last conducted on 4/16/2025. The inspection report notes that there were two Sanitary Sewer Overflows (SSOs) in 2024 and six in 2022 (SSOs are not authorized to discharge).

Other Comments:

Compliance History

DMR Data for Outfall 001 (from June 1, 2024 to May 31, 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	2.251	2.064	1.643	2.159	1.57	1.780	1.348	1.201	1.219	1.465	1.103	1.162
Flow (MGD) Weekly Average	3.251	2.487	1.89	2.54	2.39	2.242	1.583	1.337	1.309	2.203	1.256	1.302
pH (S.U.) Minimum	6.9	6.9	7.0	7.0	7.1	7.0	6.9	7.1	7.2	7.2	7.3	7.3
pH (S.U.) Maximum	7.5	7.3	7.5	7.4	7.6	7.7	7.6	7.5	7.9	7.9	7.9	7.8
DO (mg/L) Daily Minimum	7.1	7.4	8.1	7.9	8.8	8.0	8.0	7.9	8.1	7.5	8.1	8.1
CBOD5 (lbs/day) Average Monthly	42	31	27	35	15	26	13	19	22	23	13	35
CBOD5 (lbs/day) Weekly Average	70	36	32	49	30	35	20	21	32	34	22	46
CBOD5 (mg/L) Average Monthly	2.0	2.0	2.0	1.8	1.2	1.6	1.2	2.0	2.1	1.8	1.5	3.7
CBOD5 (mg/L) Weekly Average	2.3	2.2	2.3	2.0	1.6	1.9	1.9	2.3	2.5	2.4	2.4	4.2
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	3577	3098	3631	3834	2860	2746	2788	2450	2626	3531	2940	3929
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	6429	4151	4808	9376	3475	3984	3783	4511	3884	4914	5281	5650
BOD5 (mg/L) Raw Sewage Influent Average Monthly	193	207	276	207	245	187	236	227	235	277	292	351
TSS (lbs/day) Average Monthly	80	49	43	69	24	42	32	28	29	34	20	43
TSS (lbs/day) Raw Sewage Influent Average Monthly	3413	3832	2855	3362	2879	2837	2732	2764	3028	3300	2438	3150

TSS (lbs/day) Raw Sewage Influent Daily Maximum	8099	2613	5232	8955	2119	4007	3305	3617	4832	9194	4329	5892
TSS (lbs/day) Weekly Average	165	60	58	100	90	32	43	42	56	77	29	100
TSS (mg/L) Average Monthly	3.6	3.2	3.1	3.7	1.9	2.4	2.8	2.8	2.7	2.2	2.2	4.1
TSS (mg/L) Raw Sewage Influent Average Monthly	177	178	214	178	180	191	238	256	265	228	240	281
TSS (mg/L) Weekly Average	4.8	4.2	3.8	4.6	4.6	2.4	3.2	4.4	4.2	3.0	3.2	8.6
Total Dissolved Solids (lbs/day) Average Quarterly			8865			6266			6465			13151
Total Dissolved Solids (mg/L) Average Quarterly			692			570			652			584
Fecal Coliform (CFU/100 ml) Geometric Mean	3	< 2	< 1	4	4	< 3	8	4	4	10	10	8
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	10	4	4	7	288	30	22	16	12	31	33	42
UV Transmittance (%) Minimum	72	71.8	73.2	74.7	73	73.5	69.6	71.0	70.2	66.8	71.9	68.4
UV Transmittance (%) Average Monthly	76.5	75.5	77.2	77.8	79.8	76.4	73.3	72.4	74.3	73.1	73.6	72.3
Total Nitrogen (lbs/day) Average Quarterly			293			276			254			392
Total Nitrogen (mg/L) Average Quarterly			22.9			25.1			25.6			17.4
Ammonia (lbs/day) Average Monthly	2.0	5.0	1.0	2.0	0.9	2.0	1.0	2	3	5.0	3	8.0
Ammonia (mg/L) Average Monthly	0.096	0.298	0.075	0.087	0.074	0.136	0.115	0.217	0.27	0.308	0.297	0.86
Total Phosphorus (lbs/day) Average Quarterly			25.0			32			28.0			29
Total Phosphorus (mg/L) Average Quarterly			1.99			2.88			2.83			1.29

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 3.342
Latitude 41º 8' 41.00" **Longitude** -80º 5' 40.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
E. Coli	Report (No./100 ml)	IMAX	-	92a.61

Comments: Chlorine is not used for wastewater disinfection or plant cleaning. Therefore, a TRC tech-based limit is not needed.

Monitoring for E. Coli is placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Water Quality-Based Limitations

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

Parameter	Limit	SBC	Model
Dissolved Oxygen	5.0 mg/l	Minimum	WQM 7.0 1.0b (previous modeling)
$CBOD_5$	15.0 mg/l	Average Monthly	WQM 7.0 1.0b (previous modeling)
Ammonia Nitrogen	3.0 mg/l	Average Monthly	WQM 7.0 Version 1.1
Free Cyanide	8.72 µg/L	Average Monthly	Toxics Management Spreadsheet Ver. 1.4
Free Cyanide	13.6 µg/L	Daily Maximum	Toxics Management Spreadsheet Ver. 1.4
Butyl Benzyl Phthalate	0.22 µg/L	Average Monthly	Toxics Management Spreadsheet Ver. 1.4
Butyl Benzyl Phthalate	0.34 µg/L	Daily Maximum	Toxics Management Spreadsheet Ver. 1.4

Comments: A seasonal multiplier of "3" is applied to ammonia nitrogen.

A compliance schedule of three years will be placed in the permit for free cyanide and butyl benzyl phthalate as it not evident if the permittee can meet these new limits.

The Toxics Management Spreadsheet also recommended monitoring for total dissolved solids, total boron, total cadmium, total copper, dissolved iron, total selenium, and total zinc. Monitoring for these permits will be placed in the permit a sampling frequency of "1/month." TDS limits were also previously placed in the permit as was suggested in a special

study done by the Department entitled "Determination of TDS WQBEL for New Castle POTW," dated September 12, 2011, for discharges in the watershed that have average daily TDS loadings between 5,000 and 10,000 lbs/day.

The mass limits for $CBOD_5$ were proposed by the permittee's consultant during discussions in the previous permit renewal process and placed in the final NPDES Permit, and they are being retained in the proposed renewed permit.

A dissolved oxygen limit of a minimum of 6.0 mg/l is being retained in the renewed permit. It was previously placed in the permit based on the Department's DEP's "Policy and Procedure for Evaluating Wastewater Discharges of Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers" (391-2000-014) due to the effluent dominated nature of the discharge in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Best Professional Judgment (BPJ) Limitations

Comments: A TSS average monthly limit of 20 mg/l was previously applied during the last permit renewal for the plant upgrade as BPJ. This limit will be retained in the proposed renewed permit.

Additional Considerations

Comments: Monitoring for influent TSS and BOD_5 were placed in the permit in accordance with the Department's SOP entitled "New and Reissuance Sewage Individual NPDES Permit Applications."

Monitoring for UV transmittance, total nitrogen, and total phosphorus were added to the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Quarterly monitoring for PFAS parameters – PFOA, PFOS, PFBS, and HFPO-DA – was added to the renewed permit in accordance with a Department directive, under the authority of Chapter 92a.51. A footnote was also for discontinuation of sampling requirements for PFAS parameters after four consecutive non-detect are reported for all parameters at or below the Target QLs.

Anti-Backsliding

No backsliding of limits is being proposed as part of this permit renewal.

Development of Effluent Limitations

Outfall No.	002	**Design Flow (MGD)**	0
Latitude	41º 8' 42"	**Longitude**	-80º 5' 41"
Wastewater Description:	Stormwater		

Technology-Based Limitations

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

Comments: None

Water Quality-Based Limitations

Comments: None

Best Professional Judgment (BPJ) Limitations

Comments: None

Additional Considerations

No monitoring requirements were put in place for the stormwater outfall. The discharge from Outfall 002 should consist of uncontaminated stormwater runoff only. A special condition in Part C has requirements related stormwater.

Anti-Backsliding

N/A

Whole Effluent Toxicity (WET)

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

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

The dilution series used for the tests was: 100%, 73%, 46%, 23%, and 12%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 46%.

Summary of Four Most Recent Test Results

TST Data Analysis

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

Test Date	*Ceriodaphnia* Results (Pass/Fail)		*Pimephales* Results (Pass/Fail)	
	Survival	Reproduction	Survival	Growth
11/18/2024	Pass	Pass		
10/7/2024	Pass	Fail	Pass	Pass
10/16/2023	Pass	Pass	Pass	Pass
10/25/2022	Pass	Pass	Pass	Pass
10/26/2021	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: One 1/7/2024 test endpoint failed (Ceriodaphnia Reproduction). A follow up retest passed, and initiation of TIE/TRE was not necessary. There were no other failed tests going back to the 2019 annual test.

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

Acute Partial Mix Factor (PMFa): 0**.755** Chronic Partial Mix Factor (PMFc): **1**

1. Determine IWC – Acute (IWCa):

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

[(3.342 MGD x 1.547) / ((6.1 cfs x 0.755) + (3.342 MGD x 1.547))] x 100 = **55.8%**

Is IWCa < 1%? ☐ **YES** ☒ **NO**

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

2. Determine Target IWCc

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

[(3.342 MGD x 1.547) / ((6.1 cfs x 1) + (3.342 MGD x 1.547))] x 100 = **46%**

3. Determine Dilution Series

Dilution Series = 100%, 73%, 46%, 23%, and 12%.

WET Limits

Has reasonable potential been determined? ☒ YES ☐ NO

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

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

One endpoint failure had occurred in the last 4 years and, in a retest passed. As this treatment facility had not had any other toxicity issues looking back to the previous permit cycle, WET limits are not being recommended.

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" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Start of Final Period 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	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Free Cyanide (ug/L)	0.24	0.38	XXX	8.72	13.6	21.8	1/week	Grab
Butyl Benzyl Phthalate (ug/L)	0.006	0.009	XXX	0.22	0.34	0.54	1/week	Grab

Compliance Sampling Location: Outfall 001 (after disinfection)

Other Comments: Compliance schedule of three years after the permit effective date is proposed to meet these new limits.

Proposed Effluent Limitations and Monitoring Requirements

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Outfall 001, Effective Period: Permit Effective Date through Start of Final Period.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Free Cyanide (ug/L)	Report	Report	XXX	Report	Report	XXX	1/week	Grab
Butyl Benzyl Phthalate (ug/L)	Report	Report	XXX	Report	Report	XXX	1/week	Grab

Compliance Sampling Location: Outfall 001 (after disinfection)

Other Comments:

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" (386-0400-001), 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)	Required
	Average Monthly	Daily Maximum	Daily Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	1/day	Grab
DO	XXX	XXX	6.0	XXX	XXX	XXX	1/day	Grab
CBOD5	300	450 Wkly Avg	XXX	15.0	22.5 Wkly Avg	30	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS	555	835 Wkly Avg	XXX	20.0	30.0 Wkly Avg	40	2/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Dissolved Solids	Report	Report	XXX	Report	Report	XXX	1/month	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
UV Transmittance (%)	XXX	XXX	Report	Report	XXX	XXX	1/day	Measured
Total Nitrogen	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Daily Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Ammonia Nov 1 - Apr 30	250	XXX	XXX	9.0	XXX	18	2/week	24-Hr Composite
Ammonia May 1 - Oct 31	80	XXX	XXX	3.0	XXX	6	2/week	24-Hr Composite
Total Phosphorus	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Total Boron	Report	Report	XXX	Report	Report	XXX	1/month	24-Hr Composite
Total Cadmium (ug/L)	Report	Report	XXX	Report	Report	XXX	1/month	24-Hr Composite
Dissolved Iron	Report	Report	XXX	Report	Report	XXX	1/month	24-Hr Composite
Total Selenium (ug/L)	Report	Report	XXX	Report	Report	XXX	1/month	24-Hr Composite
Total Zinc	Report	Report	XXX	Report	Report	XXX	1/month	24-Hr Composite
PFOA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFOS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFBS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
HFPO-DA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

Compliance Sampling Location: Outfall 001 (after disinfection)

Other Comments:

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
20C	34242	WOLF CREEK	**10.000**	1210.00	61.00	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	7.78	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
Grove City Boro	PA0020257	3.3420	0.0000	0.0000	0.000	20.00	7.40

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	0.10	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
20C	34242	WOLF CREEK	**8.640**	11.97	66.16	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	7.78	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
20C	34242	WOLF CREEK

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												
10.000	6.10	0.00	6.10	5.1701	0.16684	1.6	15.94	9.96	0.44	0.188	20.00	7.56
Q1-10 Flow												
10.000	3.90	0.00	3.90	5.1701	0.16684	NA	NA	NA	0.39	0.212	20.00	7.53
Q30-10 Flow												
10.000	8.30	0.00	8.30	5.1701	0.16684	NA	NA	NA	0.49	0.170	20.00	7.59

WQM 7.0 Modeling Specifications

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

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20C	34242	WOLF CREEK

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
10.000	Grove City Boro	8.89	15.52	8.89	15.52	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
10.000	Grove City Boro	1.28	3.17	1.28	3.17	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
10.00	Grove City Boro	25	25	3.17	3.17	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20C	34242	WOLF CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
10.000	3.342	20.000	7.565
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
15.944	1.600	9.964	0.442
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
12.55	1.353	1.51	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.297	360.000	Tsivoglou	6
Reach Travel Time (days)			
0.188			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.019	12.24	1.49	8.24
0.038	11.93	1.47	8.24
0.056	11.63	1.45	8.24
0.075	11.34	1.43	8.24
0.094	11.05	1.41	8.24
0.113	10.77	1.39	8.24
0.132	10.50	1.37	8.24
0.151	10.24	1.36	8.24
0.169	9.98	1.34	8.24
0.188	9.73	1.32	8.24

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20C	34242	WOLF CREEK

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)
10.000	Grove City Boro	PA0020257	3.342	CBOD5	25		
				NH3-N	3.17	6.34	
				Dissolved Oxygen			4

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Toxics Management Spreadsheet
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Discharge Information

Instructions | Discharge | Stream

Facility: **Grove City Borough STP** NPDES Permit No.: **PA0020257** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Domestic 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_h
3.342	216	7.4						

					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		796									
	Chloride (PWS)	mg/L		181									
	Bromide	mg/L	<	0.72									
	Sulfate (PWS)	mg/L		63.2									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		12.4									
	Total Antimony	µg/L	<	0.348									
	Total Arsenic	µg/L	<	1									
	Total Barium	µg/L		74.9									
	Total Beryllium	µg/L	<	0.676									
	Total Boron	µg/L		666									
	Total Cadmium	µg/L		0.123									
	Total Chromium (III)	µg/L	<	1.99									
	Hexavalent Chromium	µg/L	<	0.25									
	Total Cobalt	µg/L		0.233									
	Total Copper	µg/L		10									
	Free Cyanide	µg/L		9									
	Total Cyanide	µg/L		22									
	Dissolved Iron	µg/L		80									
	Total Iron	µg/L		110									
	Total Lead	µg/L		0.276									
	Total Manganese	µg/L		16.3									
	Total Mercury	µg/L	<	0.104									
	Total Nickel	µg/L		3.89									
	Total Phenols (Phenolics) (PWS)	µg/L	<	4									
	Total Selenium	µg/L		1.67									
	Total Silver	µg/L	<	0.274									
	Total Thallium	µg/L	<	0.068									
	Total Zinc	µg/L		29.5									
	Total Molybdenum	µg/L		2.19									
	Acrolein	µg/L	<	1.95									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	0.51									
	Benzene	µg/L	<	0.43									
	Bromoform	µg/L	<	0.34									

Group 3	Carbon Tetrachloride	µg/L	<	0.51									
	Chlorobenzene	µg/L	<	0.21									
	Chlorodibromomethane	µg/L	<	0.39									
	Chloroethane	µg/L	<	0.42									
	2-Chloroethyl Vinyl Ether	µg/L	<	4									
	Chloroform	µg/L	<	0.51									
	Dichlorobromomethane	µg/L	<	0.32									
	1,1-Dichloroethane	µg/L	<	0.42									
	1,2-Dichloroethane	µg/L	<	0.39									
	1,1-Dichloroethylene	µg/L	<	0.33									
	1,2-Dichloropropane	µg/L	<	0.42									
	1,3-Dichloropropylene	µg/L	<	0.33									
	1,4-Dioxane	µg/L		3									
	Ethylbenzene	µg/L	<	0.27									
	Methyl Bromide	µg/L	<	0.46									
	Methyl Chloride	µg/L	<	0.36									
	Methylene Chloride	µg/L	<	0.45									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.36									
	Tetrachloroethylene	µg/L	<	0.39									
	Toluene	µg/L		0.53									
	1,2-trans-Dichloroethylene	µg/L	<	0.39									
	1,1,1-Trichloroethane	µg/L	<	0.38									
	1,1,2-Trichloroethane	µg/L	<	0.24									
	Trichloroethylene	µg/L	<	0.46									
	Vinyl Chloride	µg/L	<	0.46									
Group 4	2-Chlorophenol	µg/L	<	0.13									
	2,4-Dichlorophenol	µg/L	<	0.25									
	2,4-Dimethylphenol	µg/L	<	0.26									
	4,6-Dinitro-o-Cresol	µg/L	<	0.9									
	2,4-Dinitrophenol	µg/L	<	0.86									
	2-Nitrophenol	µg/L	<	0.25									
	4-Nitrophenol	µg/L	<	0.19									
	p-Chloro-m-Cresol	µg/L		0.52									
	Pentachlorophenol	µg/L	<	0.97									
	Phenol	µg/L	<	0.25									
	2,4,6-Trichlorophenol	µg/L	<	0.24									
Group 5	Acenaphthene	µg/L	<	0.26									
	Acenaphthylene	µg/L	<	0.22									
	Anthracene	µg/L	<	0.13									
	Benzidine	µg/L	<	0.35									
	Benzo(a)Anthracene	µg/L	<	0.21									
	Benzo(a)Pyrene	µg/L	<	0.29									
	3,4-Benzofluoranthene	µg/L	<	0.31									
	Benzo(ghi)Perylene	µg/L	<	0.32									
	Benzo(k)Fluoranthene	µg/L	<	0.4									
	Bis(2-Chloroethoxy)Methane	µg/L	<	0.15									
	Bis(2-Chloroethyl)Ether	µg/L	<	0.25									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.34									
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	0.64									
	4-Bromophenyl Phenyl Ether	µg/L	<	0.19									
	Butyl Benzyl Phthalate	µg/L		0.91									
	2-Chloronaphthalene	µg/L	<	0.28									
	4-Chlorophenyl Phenyl Ether	µg/L	<	0.29									
	Chrysene	µg/L	<	0.45									
	Dibenzo(a,h)Anthrancene	µg/L	<	0.28									
	1,2-Dichlorobenzene	µg/L	<	0.32									
	1,3-Dichlorobenzene	µg/L	<	0.17									
	1,4-Dichlorobenzene	µg/L	<	0.15									
	3,3-Dichlorobenzidine	µg/L	<	0.13									
	Diethyl Phthalate	µg/L	<	0.27									
	Dimethyl Phthalate	µg/L	<	0.23									
	Di-n-Butyl Phthalate	µg/L	<	0.29									
	2,4-Dinitrotoluene	µg/L	<	0.77									

	2,6-Dinitrotoluene	µg/L	<	0.32										
	Di-n-Octyl Phthalate	µg/L	<	0.28										
	1,2-Diphenylhydrazine	µg/L	<	0.2										
	Fluoranthene	µg/L	<	0.35										
	Fluorene	µg/L	<	0.25										
	Hexachlorobenzene	µg/L	<	0.25										
	Hexachlorobutadiene	µg/L	<	0.27										
	Hexachlorocyclopentadiene	µg/L	<	0.22										
	Hexachloroethane	µg/L	<	0.26										
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.25										
	Isophorone	µg/L	<	0.23										
	Naphthalene	µg/L	<	0.25										
	Nitrobenzene	µg/L	<	0.26										
	n-Nitrosodimethylamine	µg/L	<	0.4										
	n-Nitrosodi-n-Propylamine	µg/L	<	0.31										
	n-Nitrosodiphenylamine	µg/L	<	0.27										
	Phenanthrene	µg/L	<	0.21										
	Pyrene	µg/L	<	0.16										
	1,2,4-Trichlorobenzene	µg/L	<	0.17										
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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Toxics Management Spreadsheet
Version 1.4, May 2025

Stream / Surface Water Information

Grove City Borough STP, NPDES Permit No. PA0020257, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Wolf 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	034242	33.4	1210	61			Yes
End of Reach 1	034025	0.02	736	838		8	Yes

$Q_{7\text{-}10}$

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	33.4	0.1										100	7.78		
End of Reach 1	0.02	0.1	67									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	33.4														
End of Reach 1	0.02														

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Model Results

Grove City Borough STP, NPDES Permit No. PA0020257, Outfall 001

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

☑ ***Hydrodynamics***

$Q_{7\text{-}10}$

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)
33.4	6.10		6.10	5.17	0.003	0.758	47.39	62.492	0.314	6.505	26.332
0.02	67.00	12.376	54.624								

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)
33.4	36.09		36.09	5.17	0.003	1.342	47.39	35.306	0.649	3.145	29.203
0.02	293.075	12.376	280.70								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.755 Analysis Hardness (mg/l): 161.36 Analysis pH: 7.54

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	1,418	
Total Antimony	0	0		0	1,100	1,100	2,080	
Total Arsenic	0	0		0	340	340	643	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	39,701	
Total Boron	0	0		0	8,100	8,100	15,313	
Total Cadmium	0	0		0	3.206	3.47	6.56	Chem Translator of 0.924 applied
Total Chromium (III)	0	0		0	843.098	2,668	5,044	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	30.8	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	180	
Total Copper	0	0		0	21.094	22.0	41.5	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	41.6	

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	108.282	150	284	Chem Translator of 0.721 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	3.11	Chem Translator of 0.85 applied
Total Nickel	0	0		0	701.873	703	1,330	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	7.325	8.62	16.3	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	123	
Total Zinc	0	0		0	175.760	180	340	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	5.67	
Acrylonitrile	0	0		0	650	650	1,229	
Benzene	0	0		0	640	640	1,210	
Bromoform	0	0		0	1,800	1,800	3,403	
Carbon Tetrachloride	0	0		0	2,800	2,800	5,293	
Chlorobenzene	0	0		0	1,200	1,200	2,269	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	34,029	
Chloroform	0	0		0	1,900	1,900	3,592	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	28,358	
1,1-Dichloroethylene	0	0		0	7,500	7,500	14,179	
1,2-Dichloropropane	0	0		0	11,000	11,000	20,796	
1,3-Dichloropropylene	0	0		0	310	310	586	
Ethylbenzene	0	0		0	2,900	2,900	5,482	
Methyl Bromide	0	0		0	550	550	1,040	
Methyl Chloride	0	0		0	28,000	28,000	52,934	
Methylene Chloride	0	0		0	12,000	12,000	22,686	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,891	
Tetrachloroethylene	0	0		0	700	700	1,323	
Toluene	0	0		0	1,700	1,700	3,214	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	12,855	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	5,672	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	6,428	
Trichloroethylene	0	0		0	2,300	2,300	4,348	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	1,059	
2,4-Dichlorophenol	0	0		0	1,700	1,700	3,214	
2,4-Dimethylphenol	0	0		0	660	660	1,248	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	151	
2,4-Dinitrophenol	0	0		0	660	660	1,248	
2-Nitrophenol	0	0		0	8,000	8,000	15,124	
4-Nitrophenol	0	0		0	2,300	2,300	4,348	
p-Chloro-m-Cresol	0	0		0	160	160	302	
Pentachlorophenol	0	0		0	15.002	15.0	28.4	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	870	

Acenaphthene	0	0		0	83	83.0	157	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	567	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.95	
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	56,715	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	8,507	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	510	
Butyl Benzyl Phthalate	0	0		0	140	140	265	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	1,550	
1,3-Dichlorobenzene	0	0		0	350	350	662	
1,4-Dichlorobenzene	0	0		0	730	730	1,380	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	7,562	
Dimethyl Phthalate	0	0		0	2,500	2,500	4,726	
Di-n-Butyl Phthalate	0	0		0	110	110	208	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	3,025	
2,6-Dinitrotoluene	0	0		0	990	990	1,872	
1,2-Diphenylhydrazine	0	0		0	15	15.0	28.4	
Fluoranthene	0	0		0	200	200	378	
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	18.9	
Hexachlorocyclopentadiene	0	0		0	5	5.0	9.45	
Hexachloroethane	0	0		0	60	60.0	113	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	18,905	
Naphthalene	0	0		0	140	140	265	
Nitrobenzene	0	0		0	4,000	4,000	7,562	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	32,139	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	567	
Phenanthrene	0	0		0	5	5.0	9.45	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	246	

☑ ***CFC*** CCT (min): 26.332 PMF: 1 Analysis Hardness (mg/l): 153.21 Analysis pH: 7.56

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	480	
Total Arsenic	0	0		0	150	150	327	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	8,937	
Total Boron	0	0		0	1,600	1,600	3,488	
Total Cadmium	0	0		0	0.331	0.37	0.81	Chem Translator of 0.891 applied
Total Chromium (III)	0	0		0	105.115	122	266	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	22.7	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	41.4	
Total Copper	0	0		0	12.896	13.4	29.3	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	11.3	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	3,270	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	3.992	5.48	11.9	Chem Translator of 0.729 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1.97	Chem Translator of 0.85 applied
Total Nickel	0	0		0	74.614	74.8	163	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	10.9	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	28.3	
Total Zinc	0	0		0	169.589	172	375	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	6.54	
Acrylonitrile	0	0		0	130	130	283	
Benzene	0	0		0	130	130	283	
Bromoform	0	0		0	370	370	807	
Carbon Tetrachloride	0	0		0	560	560	1,221	
Chlorobenzene	0	0		0	240	240	523	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	7,630	
Chloroform	0	0		0	390	390	850	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	6,758	
1,1-Dichloroethylene	0	0		0	1,500	1,500	3,270	
1,2-Dichloropropane	0	0		0	2,200	2,200	4,796	
1,3-Dichloropropylene	0	0		0	61	61.0	133	
Ethylbenzene	0	0		0	580	580	1,264	
Methyl Bromide	0	0		0	110	110	240	
Methyl Chloride	0	0		0	5,500	5,500	11,989	
Methylene Chloride	0	0		0	2,400	2,400	5,232	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	458	
Tetrachloroethylene	0	0		0	140	140	305	
Toluene	0	0		0	330	330	719	

1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	3,052	
1,1,1-Trichloroethane	0	0		0	610	610	1,330	
1,1,2-Trichloroethane	0	0		0	680	680	1,482	
Trichloroethylene	0	0		0	450	450	981	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	240	
2,4-Dichlorophenol	0	0		0	340	340	741	
2,4-Dimethylphenol	0	0		0	130	130	283	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	34.9	
2,4-Dinitrophenol	0	0		0	130	130	283	
2-Nitrophenol	0	0		0	1,600	1,600	3,488	
4-Nitrophenol	0	0		0	470	470	1,025	
p-Chloro-m-Cresol	0	0		0	500	500	1,090	
Pentachlorophenol	0	0		0	11.509	11.5	25.1	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	198	
Acenaphthene	0	0		0	17	17.0	37.1	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	129	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.22	
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	13,079	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	1,984	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	118	
Butyl Benzyl Phthalate	0	0		0	35	35.0	76.3	
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	349	
1,3-Dichlorobenzene	0	0		0	69	69.0	150	
1,4-Dichlorobenzene	0	0		0	150	150	327	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	1,744	
Dimethyl Phthalate	0	0		0	500	500	1,090	
Di-n-Butyl Phthalate	0	0		0	21	21.0	45.8	
2,4-Dinitrotoluene	0	0		0	320	320	698	
2,6-Dinitrotoluene	0	0		0	200	200	436	
1,2-Diphenylhydrazine	0	0		0	3	3.0	6.54	
Fluoranthene	0	0		0	40	40.0	87.2	
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	4.36	

Hexachlorocyclopentadiene	0	0		0	1	1.0	2.18	
Hexachloroethane	0	0		0	12	12.0	26.2	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	4,578	
Naphthalene	0	0		0	43	43.0	93.7	
Nitrobenzene	0	0		0	810	810	1,766	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	7,412	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	129	
Phenanthrene	0	0		0	1	1.0	2.18	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	56.7	

☑ ***THH*** CCT (min): 26.332 THH PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A PWS PMF: 1

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	6,979,598	WQC applied at RMI 0.02 with a design stream flow of 67 cfs
Chloride (PWS)	0	0		0	250,000	250,000	3,489,799	WQC applied at RMI 0.02 with a design stream flow of 67 cfs
Sulfate (PWS)	0	0		0	250,000	250,000	3,489,799	WQC applied at RMI 0.02 with a design stream flow of 67 cfs
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	12.2	
Total Arsenic	0	0		0	10	10.0	21.8	
Total Barium	0	0		0	2,400	2,400	5,232	
Total Boron	0	0		0	3,100	3,100	6,758	
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	8.72	
Dissolved Iron	0	0		0	300	300	654	
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	2,180	
Total Mercury	0	0		0	0.050	0.05	0.11	
Total Nickel	0	0		0	610	610	1,330	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	69.8	WQC applied at RMI 0.02 with a design stream flow of 67 cfs
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	0.52	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	6.54	
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	218	
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	12.4	
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	71.9	
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	148	
Methyl Bromide	0	0		0	100	100.0	218	
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	124	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	218	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	21,799	
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	65.4	
2,4-Dichlorophenol	0	0		0	10	10.0	21.8	
2,4-Dimethylphenol	0	0		0	100	100.0	218	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	4.36	
2,4-Dinitrophenol	0	0		0	10	10.0	21.8	
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	8,719	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	153	
Anthracene	0	0		0	300	300	654	
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	436	
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	0.22	
2-Chloronaphthalene	0	0		0	800	800	1,744	
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	2,180	
1,3-Dichlorobenzene	0	0		0	7	7.0	15.3	
1,4-Dichlorobenzene	0	0		0	300	300	654	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	1,308	
Dimethyl Phthalate	0	0		0	2,000	2,000	4,360	
Di-n-Butyl Phthalate	0	0		0	20	20.0	43.6	
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	43.6	
Fluorene	0	0		0	50	50.0	109	
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	8.72	
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	74.1	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	21.8	
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	43.6	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.15	

☑ ***CRL*** CCT (min): 29.203 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	0.48	
Benzene	0	0		0	0.58	0.58	4.63	
Bromoform	0	0		0	7	7.0	55.9	
Carbon Tetrachloride	0	0		0	0.4	0.4	3.19	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	6.38	
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	7.58	
1,2-Dichloroethane	0	0		0	9.9	9.9	79.0	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	7.18	
1,3-Dichloropropylene	0	0		0	0.27	0.27	2.15	
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	160	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	1.6	
Tetrachloroethylene	0	0		0	10	10.0	79.8	
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	4.39	
Trichloroethylene	0	0		0	0.6	0.6	4.79	
Vinyl Chloride	0	0		0	0.02	0.02	0.16	
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	0.24	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	12.0	
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	0.0008	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.008	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.0008	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.008	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.08	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.24	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	2.55	
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	0.96	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.0008	
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	0.4	
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	0.4	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.4	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.24	
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	0.0006	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.08	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	0.8	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.008	
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	0.006	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.04	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	26.3	

Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Dissolved Solids (PWS)	Report	Report	Report	Report	Report	mg/L	6,980	THH-PWS	Discharge Conc > 10% WQBEL (no RP)
Total Boron	Report	Report	Report	Report	Report	µg/L	3,488	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Cadmium	Report	Report	Report	Report	Report	µg/L	0.81	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	26.6	AFC	Discharge Conc > 10% WQBEL (no RP)
Free Cyanide	0.24	0.38	8.72	13.6	21.8	µg/L	8.72	THH	Discharge Conc ≥ 50% WQBEL (RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	654	THH	Discharge Conc > 10% WQBEL (no RP)
Total Selenium	Report	Report	Report	Report	Report	µg/L	10.9	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	218	AFC	Discharge Conc > 10% WQBEL (no RP)
Butyl Benzyl Phthalate	0.006	0.009	0.22	0.34	0.54	µg/L	0.22	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
Chloride (PWS)	3,490	mg/L	Discharge Conc ≤ 10% WQBEL
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	3,490	mg/L	Discharge Conc ≤ 10% WQBEL
Total Aluminum	909	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	5,232	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Chromium (III)	266	µg/L	Discharge Conc < TQL
Hexavalent Chromium	19.7	µg/L	Discharge Conc < TQL
Total Cobalt	41.4	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Iron	3,270	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	11.9	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	2,180	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.11	µg/L	Discharge Conc < TQL
Total Nickel	163	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)	69.8	µg/L	Discharge Conc < TQL

Total Silver	10.4	µg/L	Discharge Conc < TQL
Total Thallium	0.52	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.64	µg/L	Discharge Conc < TQL
Acrylonitrile	0.48	µg/L	Discharge Conc < TQL
Benzene	4.63	µg/L	Discharge Conc < TQL
Bromoform	55.9	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	3.19	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	218	µg/L	Discharge Conc < TQL
Chlorodibromomethane	6.38	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	7,630	µg/L	Discharge Conc < TQL
Chloroform	12.4	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	7.58	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	79.0	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	71.9	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	7.18	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	2.15	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	148	µg/L	Discharge Conc < TQL
Methyl Bromide	218	µg/L	Discharge Conc < TQL
Methyl Chloride	11,989	µg/L	Discharge Conc < TQL
Methylene Chloride	160	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	1.6	µg/L	Discharge Conc < TQL
Tetrachloroethylene	79.8	µg/L	Discharge Conc < TQL
Toluene	124	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	218	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	1,330	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	4.39	µg/L	Discharge Conc < TQL
Trichloroethylene	4.79	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.16	µg/L	Discharge Conc < TQL
2-Chlorophenol	65.4	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	21.8	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	218	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	4.36	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	21.8	µg/L	Discharge Conc < TQL
2-Nitrophenol	3,488	µg/L	Discharge Conc < TQL
4-Nitrophenol	1,025	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	194	µg/L	Discharge Conc ≤ 25% WQBEL
Pentachlorophenol	0.24	µg/L	Discharge Conc < TQL
Phenol	8,719	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	12.0	µg/L	Discharge Conc < TQL
Acenaphthene	37.1	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS

Anthracene	654	µg/L	Discharge Conc < TQL
Benzidine	0.0008	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.008	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.0008	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.008	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.08	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.24	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	436	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	2.55	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	118	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	1,744	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	0.96	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.0008	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	349	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	15.3	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	327	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	0.4	µg/L	Discharge Conc < TQL
Diethyl Phthalate	1,308	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	1,090	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	43.6	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.4	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.4	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.24	µg/L	Discharge Conc < TQL
Fluoranthene	43.6	µg/L	Discharge Conc < TQL
Fluorene	109	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.0006	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.08	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	2.18	µg/L	Discharge Conc < TQL
Hexachloroethane	0.8	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.008	µg/L	Discharge Conc < TQL
Isophorone	74.1	µg/L	Discharge Conc < TQL
Naphthalene	93.7	µg/L	Discharge Conc < TQL
Nitrobenzene	21.8	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.006	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.04	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	26.3	µg/L	Discharge Conc < TQL
Phenanthrene	2.18	µg/L	Discharge Conc < TQL
Pyrene	43.6	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.15	µg/L	Discharge Conc < TQL

Grove City Borough STP
Grove City Borough, Mercer County
PA0020257 Discharge pH

Outfall 001

Date	pH min	pH max	10^ -pH min	10^ -pH max	& pH max)	-Log (Ave pH)
Jul-22	6.4	8.0	3.98E-07	1E-08	2.04E-07	**6.7**
Aug-22	7.3	7.9	5.01E-08	1.26E-08	3.14E-08	**7.5**
Sep-22	7.2	7.9	6.31E-08	1.26E-08	3.78E-08	**7.4**
Jul-23	7.1	7.8	7.94E-08	1.58E-08	4.76E-08	**7.3**
Aug-23	7.3	7.7	5.01E-08	2E-08	3.5E-08	**7.5**
Sep-23	7.2	7.8	6.31E-08	1.58E-08	3.95E-08	**7.4**
Jul-24	7.3	7.9	5.01E-08	1.26E-08	3.14E-08	**7.5**
Aug-24	7.2	7.9	6.31E-08	1.26E-08	3.78E-08	**7.4**
Sep-24	7.2	7.9	6.31E-08	1.26E-08	3.78E-08	**7.4**
					Median:	**7.4**

Pennsylvania
Department of
Environmental Protection

Approve	Deny	Signatures	Date
X		Adam J. Pesek Adam J. Pesek, E.I.T. / Project Manager	July 8, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	July 10, 2025