Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0218162**
Facility Type	**Municipal**	APS ID	**1058426**
Major / Minor	**Minor**	Authorization ID	**1387848**

Applicant and Facility Information

Applicant Name	**Indiana County Municipal Service Authority**	Facility Name	**Indiana County Municipal Service Authority Creekside WWTP**
Applicant Address	602 Kolter Drive Indiana, PA 15701	Facility Address	5360 Rt. 954 Hwy. North Creekside, PA 15732
Applicant Contact	Tricia Lefko	Facility Contact	Tricia Lefko
Applicant Phone	(724) 349-6640 x107	Facility Phone	(724) 349-6640 x107
Client ID	38534	Site ID	246849
Ch 94 Load Status	Not Overloaded	Municipality	Washington Township
Connection Status	No Limitations	County	Indiana
Date Application Received	March 4, 2022	EPA Waived?	No
Date Application Accepted	March 16, 2022	If No, Reason	Applying TMDL WLA for first time

Purpose of Application: Renewal of NPDES permit.

Summary of Review

The applicant is requesting the renewal of an NPDES permit to discharge up to 0.45 MGD of treated sewage into Crooked Creek, a Warm-Water Fish (WWF) receiving stream in State Water Plan Basin 17-E (Cowanshannock – Crooked Creeks). As per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than its designated use. This discharge is not expected to affect public water supplies.

Apart from Ammonia-Nitrogen, all limitations and monitoring requirements from the previously issued permit (effective October 1, 2017) are carried over in this renewal and summarized at the end of the fact sheet. WQM 7.0 (see WQM Modeling section) recommended a more stringent summertime monthly average limitation of 5.8 mg/L for Ammonia-N (previously 7.5 mg/L). It appears the permittee can meet the new limitations after review of eDMR data, therefore, the limitations will come into effect on the permit effective date. The standard 3x wintertime multiplier and 2x IMAX multiplier is applied for Ammonia-Nitrogen.

For water quality modeling inputs, drainage areas were delineated using USGS's StreamStats interactive map, RMIs were obtained using the historic streams feature of DEP's eMapPA and the "measure" tool, and elevations were obtained using the elevation profile feature of StreamStats. The low flow yield (LFY) from the 2001 Pollution Report was generated using data from stream gage 03036800 (Crooked Creek at Gaibleton, PA) and utilized during this renewal.

Limits for TSS, pH and Fecal Coliform are technology-based and carried over from the previous renewal. Limits for $CBOD_5$ and D.O. were developed in the 2001 Pollution Report and carried over in this renewal.

The facility utilizes ultraviolet (UV) radiation for disinfection and the requirement to monitor daily UV transmittance is continued in this renewal. The permittee shall monitor TRC in the effluent each day chlorine is utilized for backup disinfection, cleaning, or other purposes (See Part C.I.D.).

Approve	Deny	Signatures	Date
X		Brian Burden, E.I.T. / Project Manager	January 29, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Program Manager	February 6, 2025

Summary of Review

DEP's Toxics Management Spreadsheet was used to model the metals sampled as part of the permit renewal application requirements. The following recommendations were made:

- Total Copper: The sample result provided for Total Copper in the renewal application was 12.5 µg/L and the calculated governing WQBEL is 27.0 µg/L. Since the discharge concentration is greater than 10% of the WQBEL, monitoring/reporting requirements were recommended. Quarterly monitoring/reporting is added to the permit for Total Copper.

- Total Lead: The sample result provided for Total Lead in the renewal application was non-detect using an analytical QL of 8.0 µg/L and the calculated governing WQBEL is 14.0 µg/L. Since the QL is greater than 50% of the WQBEL and greater than DEP's target QL of 1.0 µg/L, limitations were recommended. The permittee may resample Total Lead at DEP's target QL to either modify or remove the weekly monitoring requirements / limitations for Total Lead. Three additional samples of Total Lead taken at least one week apart are required to remodel the discharge. If Total Lead isn't detected in the effluent when using DEP's target QL to analyze the samples, then it's not considered present in the discharge and the monitoring requirements will be removed from the final permit.

Sample results were provided with the renewal application for the public water supply sensitive pollutants (TDS, Bromide, Chloride and Sulfate). Since the nearest downstream public water supply intake is approximately 41.5 miles downstream on the Allegheny River, there was no need to model the discharge with the water supply intake as the second modeling point due to the distance and large dilution available.

Monitoring frequencies for all parameters with limitations are consistent with the recommended frequencies found in Table 6-3 of DEP's Technical Guidance for the Development and Specification of Effluent Limitations (Document No. 362-0400-001).

Annual monitoring/reporting requirements for Total Nitrogen and Total Phosphorus are carried over from the previous renewal as well as weekly monitoring reporting for influent BOD_5 and TSS. As per current DEP guidance, quarterly monitoring/reporting requirements are included in the renewed permit for E. Coli. Template Part C special conditions are carried over in this renewal.

The Crooked Creek Suspended Solids TMDL was finalized in March 2019. A waste load allocation (WLA) of 82,191 lbs/yr of TSS was assigned to this facility and is now included in Part A of the renewed permit. The U.S. Environmental Protection Agency will now receive a copy of the issued permit documents as a result of the new TMDL requirements. Note: The existing mass-based effluent limitations for TSS are more stringent than the TMDL requirements (112.6 lbs/day x 365 days/yr = 41,099 lbs/yr < 82,191 lbs/yr).

The most recently submitted Chapter 94 report for 2023 doesn't show any current or projected hydraulic/organic overloads at the WWTP.

Sludge use and disposal description and location(s): As per the most recently submitted Sewage Sludge & Biosolids Disposal DMR supplemental report, sludge is transferred to the ICMSA Creekside Compost Unit (PAG076104) or hauled to the landfill.

Public Participation

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

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.45
Latitude	40º 40' 41"	Longitude	-79º 11' 55"
Quad Name	Ernest	Quad Code	1312
Wastewater Description:	Sewage Effluent		

Receiving Waters	Crooked Creek (WWF)	Stream Code	46216
NHD Com ID	123858901	RMI	40.28
Drainage Area	68.6 mi^2	Yield (cfs/mi^2)	0.0348
Q_{7-10} Flow (cfs)	2.38	Q_{7-10} Basis	Gage 03036800
Elevation (ft)	1018	Slope (ft/ft)	0.0012
Watershed No.	17-E	Chapter 93 Class.	WWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	Nutrients, Organic Enrichment		
Source(s) of Impairment	Agriculture		
TMDL Status	Final	Name	Crooked Creek Watershed

Background/Ambient Data		Data Source
pH (SU)	-	-
Temperature (°F)	-	-
Hardness (mg/L)	-	-
Other:	-	-

Nearest Downstream Public Water Supply Intake	Cadogan Water District		
PWS Waters	Allegheny River	Flow at Intake (cfs)	-
PWS RMI	320.5	Distance from Outfall (mi)	~41.5

Treatment Facility Summary

Treatment Facility Name: Creekside WWTP

WQM Permit No.	Issuance Date
3299404-A2	September 4, 2012
3299404-A1	September 10, 2003
3299404	December 6, 1999

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Ultraviolet	0.45

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.45	940	Not Overloaded	Aerobic Digestion	Compost / Landfill

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.45
Latitude 40º 40' 41" **Longitude** -79º 11' 55"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

The following technology-based limitations and BPJ limitations apply:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$ (11/1 – 4/30)	25.0	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	38.0	Average Weekly	-	-
	50.0	IMAX	-	-
$CBOD_5$ (5/1 – 10/31)	15.0	Average Monthly		
	23.0	Average Weekly		
	30.0	IMAX		
Total Suspended Solids	30.0	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45.0	Average Weekly	133.102(b)(2)	92a.47(a)(2)
	60.0	IMAX	-	-
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)
	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)
	10,000 / 100 ml	IMAX	-	92a.47(a)(5)

Water Quality-Based Limitations

The following limitations were determined through water quality modeling:

Parameter	Limit (mg/l)	SBC	Model
Dissolved Oxygen	5.0	Minimum	2001 Pollution Report
Ammonia-N (5/1 – 10/31)	5.8	Average Monthly	2025 WQM 7.0
	8.7	Average Weekly	
	11.6	IMAX	
Ammonia-N (11/1 – 4/30)	17.4	Average Monthly	
	26.1	Average Weekly	
	34.8	IMAX	
Total Lead (µg/L)	14.0	Average Monthly	2025 TMS
	22.0	Daily Maximum	

Comments: The Total Lead limitations may be removed from the final permit depending on the resampling results (if the permittee chooses to resample during the draft permit public comment period).

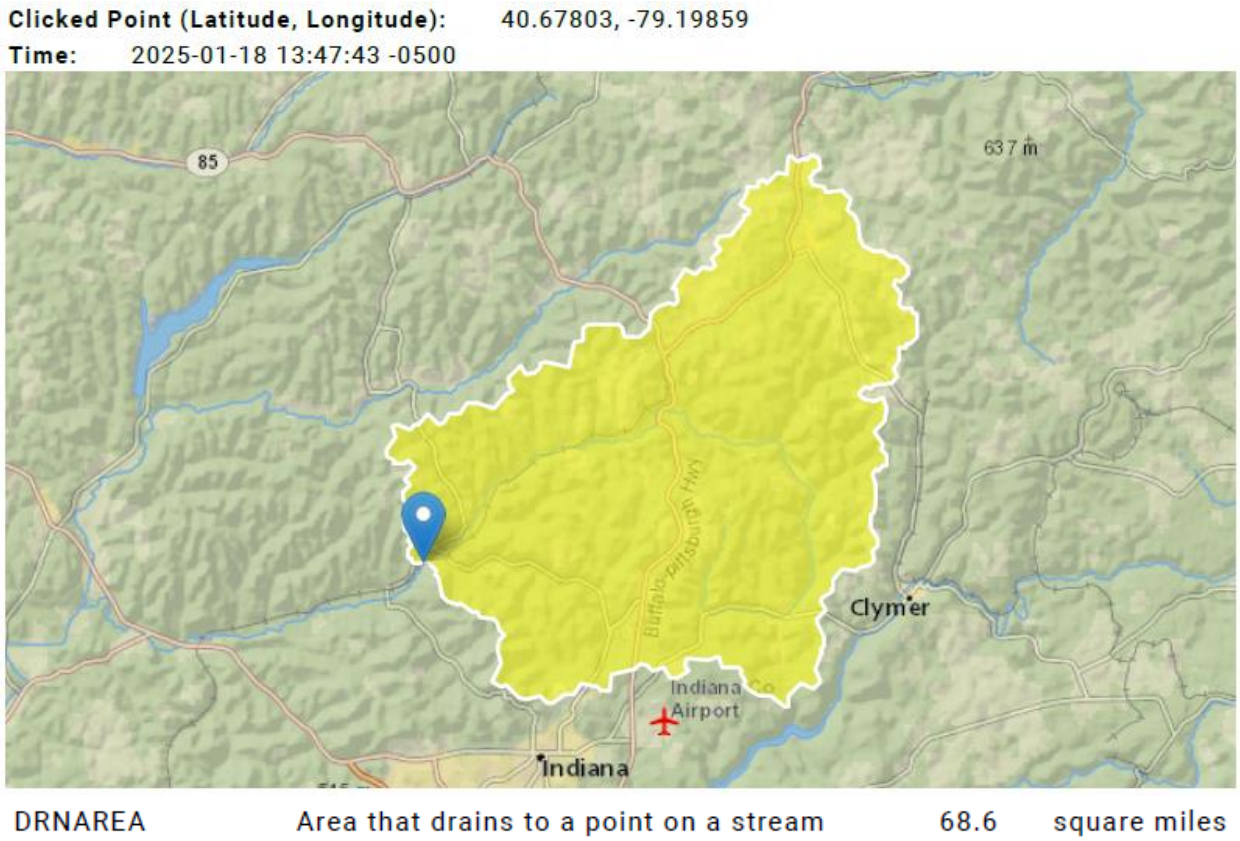
Anti-Backsliding

No limitations were removed from the permit or made less stringent.

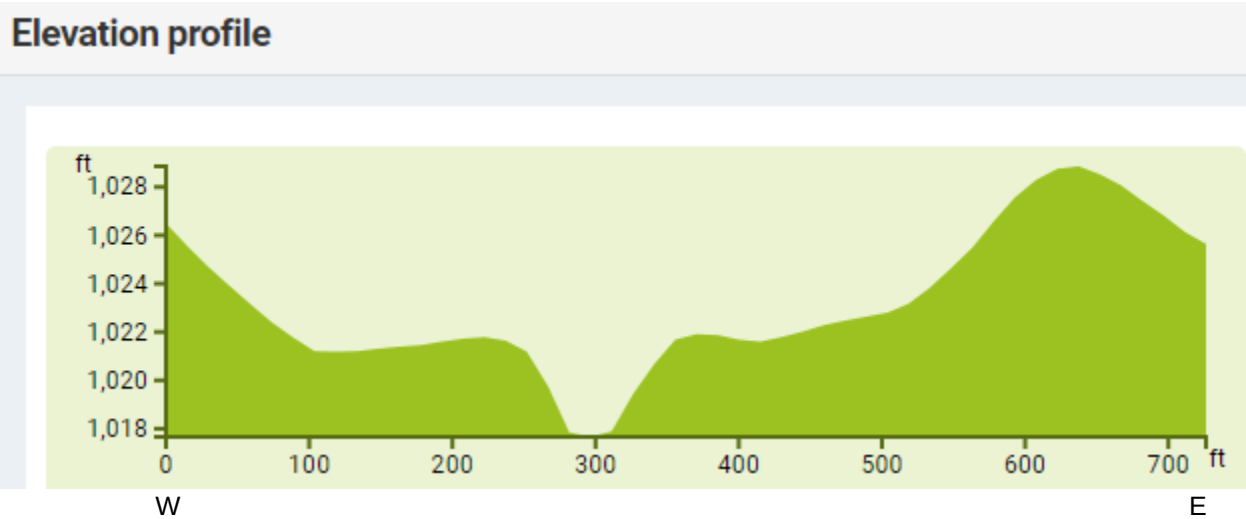
Watershed Information

@ Outfall 001 on Crooked Creek (stream code 46216)

RMI = 40.28



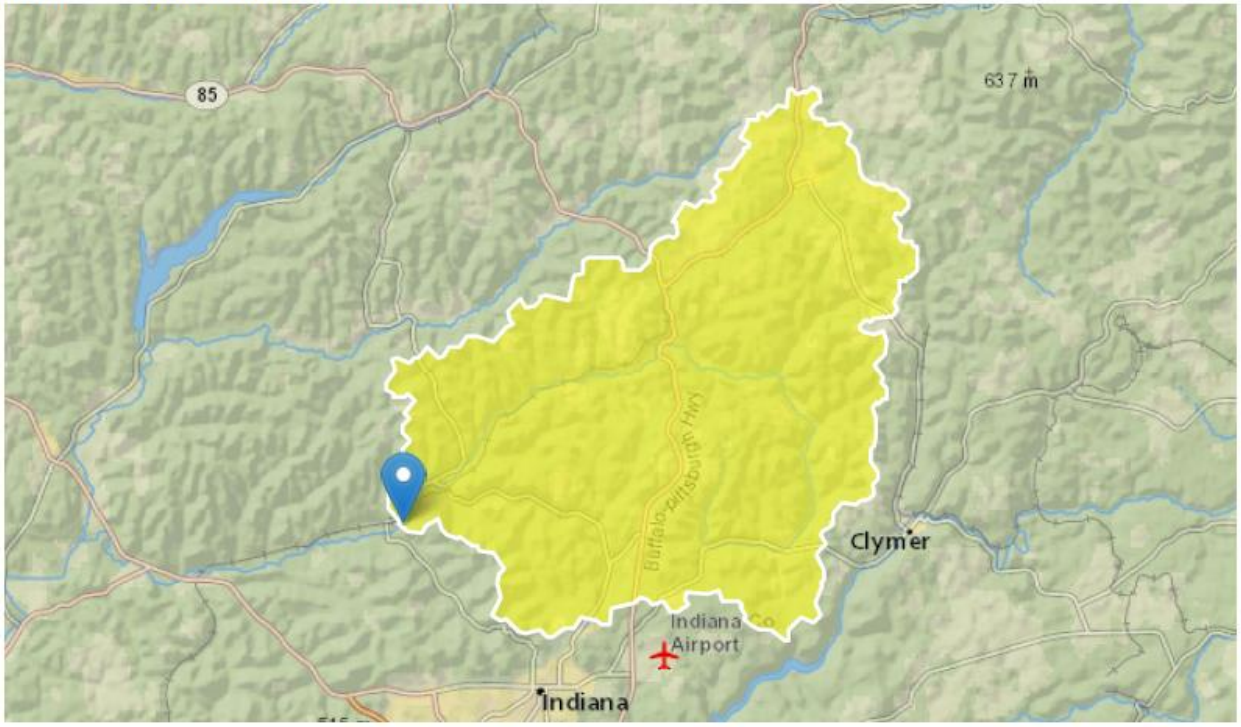
Elevation: 1018 ft



@ confluence with tributary 46782 to Crooked Creek

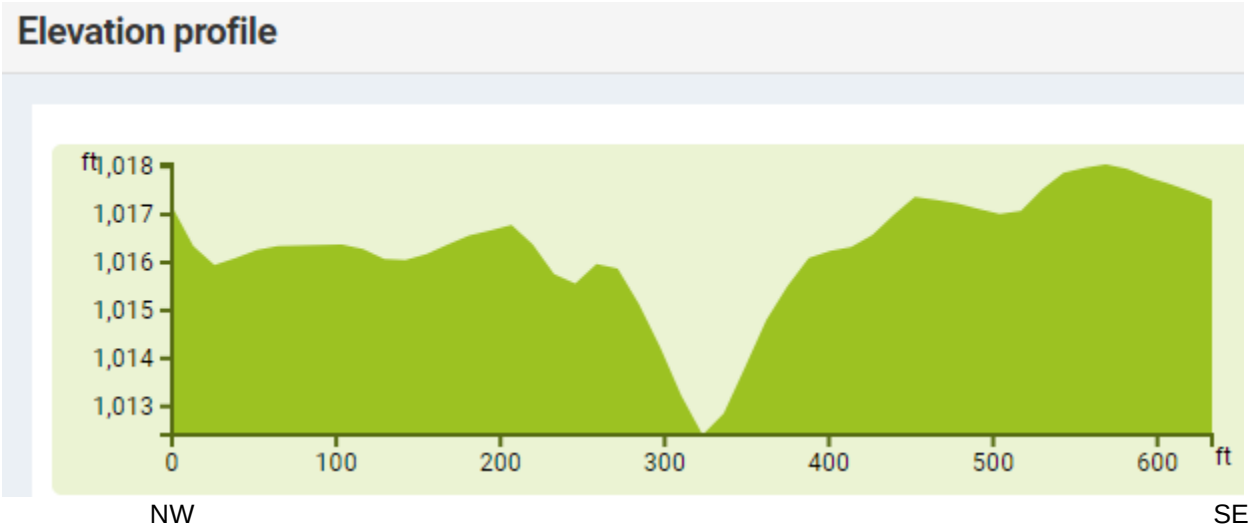
RMI = 39.39

Clicked Point (Latitude, Longitude): 40.67004, -79.20600
Time: 2025-01-18 14:05:58 -0500



DRNAREA	Area that drains to a point on a stream	69.4	square miles

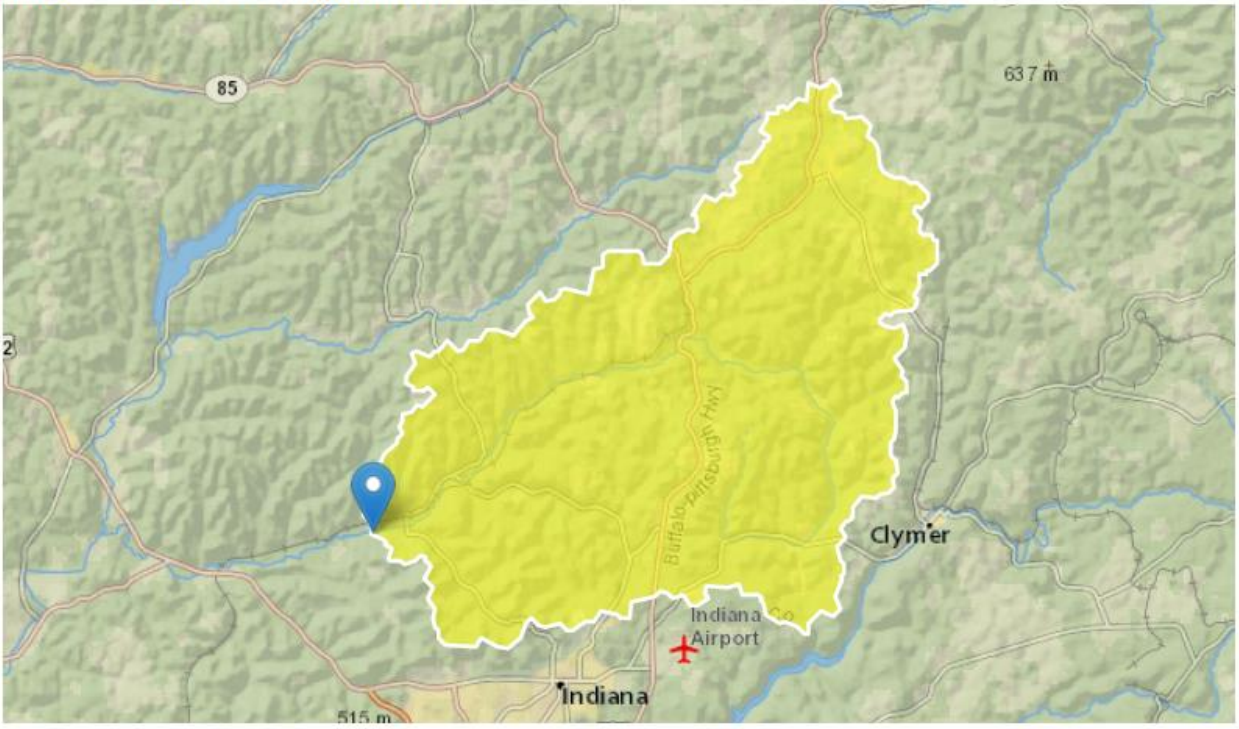
Elevation: 1012 ft



@ confluence with tributary 46764 to Crooked Creek

RMI = 38.24

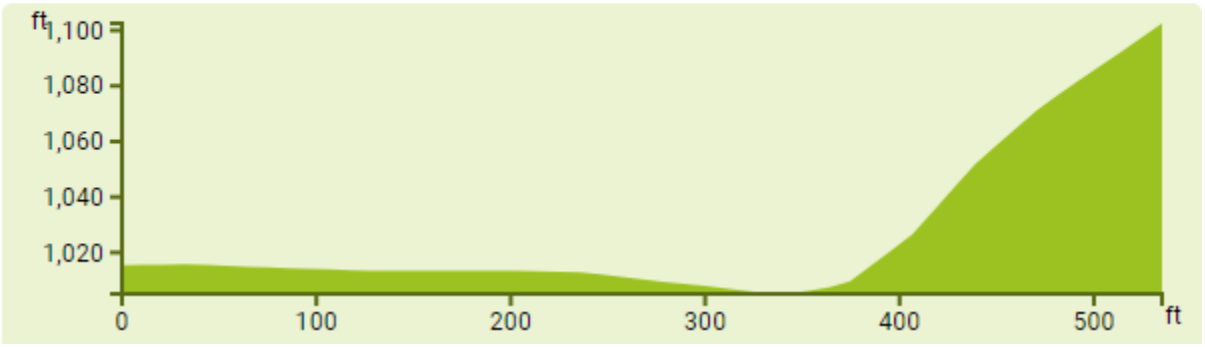
Clicked Point (Latitude, Longitude): 40.66570, -79.22546
Time: 2025-01-18 15:28:39 -0500



DRNAREA	Area that drains to a point on a stream	75.9	square miles

Elevation: 1005 ft

Elevation profile



WQM 7.0 Modeling

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
17E	46216	CROOKED CREEK	**40.280**	1018.00	68.60	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	0.035	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Creekside	PA0218162	0.4500	0.4500	0.4500	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
17E	46216	CROOKED CREEK	**39.390**	1012.00	69.40	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	0.035	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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
17E	46216	CROOKED CREEK	**38.240**	1005.00	75.90	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	0.035	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
17E	46216	CROOKED 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												
40.280	2.39	0.00	2.39	.6962	0.00128	.677	32.77	48.41	0.14	0.391	21.13	7.00
39.390	2.42	0.00	2.42	.6962	0.00115	.68	33.09	48.64	0.14	0.509	21.12	7.00
Q1-10 Flow												
40.280	1.53	0.00	1.53	.6962	0.00128	NA	NA	NA	0.12	0.470	21.57	7.00
39.390	1.55	0.00	1.55	.6962	0.00115	NA	NA	NA	0.12	0.611	21.55	7.00
Q30-10 Flow												
40.280	3.25	0.00	3.25	.6962	0.00128	NA	NA	NA	0.16	0.341	20.88	7.00
39.390	3.28	0.00	3.28	.6962	0.00115	NA	NA	NA	0.16	0.443	20.87	7.00

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	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
17E	46216	CROOKED 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
40.280	Creekside	8.64	27.59	8.64	27.59	0	0
39.390		NA	NA	8.64	NA	NA	NA

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
40.280	Creekside	1.8	10.19	1.8	10.19	0	0
39.390		NA	NA	1.8	NA	NA	NA

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)		
40.28	Creekside	17.64	17.64	5.8	5.8	3	3	0	0
39.39		NA	NA	NA	NA	NA	NA	NA	NA

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
17E	46216	CROOKED CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
40.280	0.450	21.129	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
32.767	0.677	48.408	0.139
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
5.53	0.713	1.31	0.764
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.059	1.732	Tsivoglou	5
Reach Travel Time (days)			
0.391			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.039	5.37	1.27	6.78
0.078	5.22	1.23	6.53
0.117	5.06	1.20	6.31
0.156	4.92	1.16	6.12
0.196	4.78	1.13	5.95
0.235	4.64	1.09	5.80
0.274	4.50	1.06	5.67
0.313	4.37	1.03	5.56
0.352	4.25	1.00	5.47
0.391	4.12	0.97	5.39

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
39.390	0.450	21.119	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
33.091	0.680	48.636	0.138
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
4.10	0.585	0.96	0.763
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.413	1.554	Tsivoglou	5
Reach Travel Time (days)			
0.509			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.051	3.98	0.93	5.34
0.102	3.86	0.89	5.28
0.153	3.74	0.86	5.24
0.203	3.62	0.82	5.22
0.254	3.51	0.79	5.20
0.305	3.40	0.76	5.20
0.356	3.30	0.73	5.21
0.407	3.19	0.71	5.23
0.458	3.10	0.68	5.25
0.509	3.00	0.65	5.28

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
17E	46216	CROOKED 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)
40.280	Creekside	PA0218162	0.450	CBOD5	17.64		
				NH3-N	5.8	11.6	
				Dissolved Oxygen			3

Wednesday, January 29, 2025 Version 1.0b

TMS Modeling

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: Creekside WWTP NPDES Permit No.: PA0218162 Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: Treated 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
0.45	100	7						

	Discharge Pollutant	Units	Max Discharge Conc		0 if left blank: Trib Conc	Stream Conc	0.5 if left blank: Daily CV	Hourly CV	0 if left blank: Stream CV	Fate Coeff	FOS	1 if left blank: Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		204									
	Chloride (PWS)	mg/L		43.2									
	Bromide	mg/L	<	2									
	Sulfate (PWS)	mg/L		45.9									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	mg/L		0.0125									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	mg/L	<	0.008									
	Total Manganese	µg/L											
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	mg/L		0.0221									
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

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

	2,6-Dinitrotoluene	µg/L	<											
	Di-n-Octyl Phthalate	µg/L	<											
	1,2-Diphenylhydrazine	µg/L	<											
	Fluoranthene	µg/L	<											
	Fluorene	µg/L	<											
	Hexachlorobenzene	µg/L	<											
	Hexachlorobutadiene	µg/L	<											
	Hexachlorocyclopentadiene	µg/L	<											
	Hexachloroethane	µg/L	<											
	Indeno(1,2,3-cd)Pyrene	µg/L	<											
	Isophorone	µg/L	<											
	Naphthalene	µg/L	<											
	Nitrobenzene	µg/L	<											
	n-Nitrosodimethylamine	µg/L	<											
	n-Nitrosodi-n-Propylamine	µg/L	<											
	n-Nitrosodiphenylamine	µg/L	<											
	Phenanthrene	µg/L	<											
	Pyrene	µg/L	<											
	1,2,4-Trichlorobenzene	µg/L	<											
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 2023

Stream / Surface Water Information

Creekside WWTP, NPDES Permit No. PA0218162, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: Crooked 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	046216	40.28	1018	68.6			Yes
End of Reach 1	046216	39.39	1012	69.4			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	40.28	0.0348										100	7		
End of Reach 1	39.39	0.0348													

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	40.28														
End of Reach 1	39.39														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Creekside WWTP, NPDES Permit No. PA0218162, Outfall 001

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

☐ *Hydrodynamics*

☑ *Wasteload Allocations*

☑ *AFC* CCT (min): 15 PMF: 0.582 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

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 Copper	0	0		0	13.439	14.0	41.9	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.581	81.6	245	Chem Translator of 0.791 applied
Total Zinc	0	0		0	117.180	120	359	Chem Translator of 0.978 applied

☑ *CFC* CCT (min): 44.330 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

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 Copper	0	0		0	8.956	9.33	41.3	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.517	3.18	14.1	Chem Translator of 0.791 applied
Total Zinc	0	0		0	118.139	120	531	Chem Translator of 0.986 applied

☑ *THH* CCT (min): 44.330 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	

Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 22.354 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 Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	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 Copper	Report	Report	Report	Report	Report	mg/L	0.027	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Lead	0.053	0.083	0.014	0.022	0.035	mg/L	0.014	CFC	Discharge Conc ≥ 50% WQBEL (RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Zinc	0.23	mg/L	Discharge Conc ≤ 10% WQBEL