Pennsylvania Department of Environmental Protection

Northeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0060577**
Facility Type	**Non-Municipal**	APS ID	**545922**
Major / Minor	**Minor**	Authorization ID	**1419230**

Applicant and Facility Information

Applicant Name	**Shohola Falls Trails End POA**	Facility Name	**Trails End WWTP**
Applicant Address	190 Shohola Parkway South Shohola, PA 18458-3143	Facility Address	Corner of Birch & Hickory Lane Shohola, PA 18458
Applicant Contact	Sherry Ranaudo, Property Manager	Facility Contact	Clinton Frisbie, Operator
Applicant Phone	(570) 296-8542	Facility Phone	(570) 702-4445
Client ID	79565	Site ID	4231
Ch 94 Load Status	Not Overloaded	Municipality	Shohola Township
Connection Status	-	County	Pike
Date Application Received	November 26, 2022	EPA Waived?	Yes
Date Application Accepted	December 12, 2022	If No, Reason	-

Purpose of Application: Renewal of NPDES permit for discharge of treated sewage.

Summary of Review

The applicant is requesting the renewal of an NPDES permit to discharge up to 0.205 MGD of treated sewage into an Unnamed Tributary to Shohola Creek, a High Quality, Cold-Water Fishery, Migratory Fish (HQ, CWF, MF) receiving stream in State Water Plan Basin 1-D (Bushkill 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 stream segment is not designated as a naturally reproducing trout stream as per PA Fish & Boat Commission. This discharge is not expected to affect public water supplies. The stream is not impaired and there are no TMDLs.

Limitations for pH, $CBOD_5$, Total Suspended Solids (TSS), and Fecal Coliform are technology-based and carried over from the previous permit.

Limitations for Dissolved Oxygen (DO) and Nitrate-Nitrite as N are water quality-based and carried over from the previous permit.

The monthly monitoring/reporting for Total Nitrogen, Total Phosphorous, and Total Kjeldahl Nitrogen and the Quarterly monitoring/reporting for Total Dissolved Solids (TDS) have been maintained in this permit.

WQM modeling recommended stricter summertime limitations for Ammonia-Nitrogen (1.9 mg/L monthly average, 3.8 mg/L IMAX). These limitations will come into effect three (3) years after the permit effective date (see Part C.III.). Wintertime monitoring/reporting for Ammonia-Nitrogen has also been updated to three times the new summertime limitations (5.7 mg/L monthly average, 11.4 mg/L IMAX). The limitations for Ammonia-Nitrogen from the previously issued permit will be in effect the first four (4) years of the permit. eDMR data from the past year confirms the facility should be able to meet these new limits. The mass load limitations have been carried over from the previous permit.

Approve	Deny	Signatures	Date
X		/s/ Allison Seyfried Zukosky / Project Manager	March 11, 2025
X		/s/ Edward Dudick, P.E. / Engineer Manager	March 11, 2025

Summary of Review

The Total Residual Chlorine (TRC) Calculation Spreadsheet recommends stricter limitations than the previous permit. The permittee will be required to meet the new water quality-based limits for TRC starting four years after the effective date of the permit (see Part C.III.). TRC limitations from the previously issued permit are in effect for the four years after the permit effective date.

The facility utilizes Ultraviolet (UV) disinfection as the primary disinfection method. Typically, TRC would only need to be sampled on days when the facility uses chlorine for cleaning purposes or as a back-up disinfection option. However, the eDMR data from the previous year indicates the facility is currently discharging effluent with a TRC concentration higher than the recommended stricter limitations for TRC. Therefore, the TRC limitations will remain in the permit and daily sampling will still be required.

Sewage discharges now require monitoring and reporting for E. Coli. A monitoring frequency of 1/month for design flows >= 1 MGD, 1/quarter for design flows >= 0.05 and < 1 MGD, 1/year for design flows of 0.002 – 0.05 MGD will be utilized.

Pollutant sampling results submitted with the permit application were entered into the Toxic Management Spreadsheet (TMS). The TMS recommended limitations for Total Copper, Total Lead, and Total Zinc. The maximum reported values for Total Copper, Total Lead, and Total Zinc were used in for modeling because less than 10 sample results were provided for each parameter. The Pre-Draft Permit Survey for Toxic Pollutants was sent via email to the permittee on July 31, 2024. Additionally, the permittee was offered the option to collect 10 additional samples of Total Copper, Total Lead, and Total Zinc so that an average value could be used for modeling. No response was received from the permittee.

Therefore, the Total Copper, Total Lead, and Total Zinc limitations were added to the permit and will come into effect four years after the permit effective date. Monitoring/reporting requirements are included in the permit until the limitations come into effect. The Part C. III. condition regarding Toxics Reduction Evaluations (TREs) is added to the permit and applies to the Total Copper, Total Lead, and Total Zinc limitations. The permittee will have the option to accept the proposed limitations or to perform site-specific studies to verify or refine the WQBELs.

For this permit renewal, all monitoring frequencies for parameters with limitations are consistent with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (document no. 362-0400-001).

24-hour composite sampling is now required in place of 8-hour composite sampling.

There are no representative stream gages in the vicinity of the outfall and the drainage area at Outfall 001 is too small for USGS StreamStats to estimate accurate low flow values. Therefore, the default Low Flow Yield (LFY) of 0.1 cfs/mi^2 was used to model the discharge. For modeling inputs, RMI values were obtained using the "PA Historic Streams" feature of eMapPA, drainage areas were delineated using USGS's StreamStats Interactive Map, and elevations were obtained using the elevation profile feature of StreamStats.

The highest monthly average flow reported in the renewal application was 0.265 MGD. This is higher than the permitted discharge. The permittee also exceeded their Nitrate-Nitrite limitations numerous times in 2024.

The existing permit expired on April 30, 2023, and the application for renewal was not received on time. An Administrative Extension Letter was issued via email on December 16, 2022.

A Water Management System Inspection query indicated that on July 29, 2022, a Compliance Evaluation was performed.

There are currently no open violations for this client that warrant withholding issuance of this permit.

Sludge use and disposal description and location(s): As per the permittee's Sewage Sludge and Biosolids Supplemental Report forms, sludge is hauled to the Wyoming Valley Sanitary Authority by Koberlein Environmental Services or to Sile Bay in Waymart, PA for agricultural utilization by Koberlein Environmental Services.

<u>Public Participation</u>

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-

Summary of Review
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)	0.205
Latitude	41º 23' 16.47"	Longitude	-74º 57' 8.57"
Quad Name	Shohola	Quad Code	0746
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Shohola Creek (HQ-CWF)	Stream Code	5377
NHD Com ID	26172758	RMI	1.23
Drainage Area	0.69 mi^2	Yield (cfs/mi^2)	0.10
Q_{7-10} Flow (cfs)	0.069	Q_{7-10} Basis	State-wide default
Elevation (ft)	1,208.21	Slope (ft/ft)	-
Watershed No.	1-D	Chapter 93 Class.	HQ-CWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	-		
Source(s) of Impairment	-		
TMDL Status	-	Name	-
Nearest Downstream Public Water Supply Intake	Easton Area Water System		
PWS Waters	Delaware River	Flow at Intake (cfs)	-
PWS RMI	110.4	Distance from Outfall (mi)	~ 100

Treatment Facility Summary

Treatment Facility Name: Trails End WWTP

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	SBR	UV	0.148 (2019-2021)

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.205	450	-	Holding	Hauled

Compliance History

DMR Data for Outfall 001 (from January 1, 2024 to December 31, 2024)

Parameter	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24
Flow (MGD) Average Monthly	0.032	0.013	0.0157	0.026	0.051	0.051	0.051	0.108	0.222	0.218	0.164	0.319
Flow (MGD) Daily Maximum	0.116	0.049	0.045	0.052	0.226	0.091	0.084	0.209	0.559	0.568	0.334	0.692
pH (S.U.) Instantaneous Minimum	7.23	7.6	7.27	6.94	7.3	7.06	6.9	6.86	6.94	7.11	7.12	6.69
pH (S.U.) Instantaneous Maximum	8.17	8.32	8.27	8.26	8.22	8.37	8.35	8.26	7.79	7.78	7.6	7.59
DO (mg/L) Daily Minimum	9.4	9.59	9.37	8.46	7.76	7.21	8.01	8.76	9.06	9.46	9.67	9.61
TRC (mg/L) Average Monthly	0.045	0.05	0.0572	0.04	0.05	0.064	0.06	0.077	0.085	0.077	0.07	0.0867
TRC (mg/L) Instantaneous Maximum	0.15	0.1	0.11	0.14	0.19	0.21	0.16	0.21	0.21	0.140	0.11	0.25
CBOD5 (lbs/day) Average Monthly	< 0.54	0.24	1.07	1.34	< 1.02	2.13	1.96	4.93	5.96	9.78	5.39	12.10
CBOD5 (mg/L) Average Monthly	< 3.00	3.00	10.20	5.75	< 4.25	6.80	5.0	6.25	4.40	5.25	4.25	4.60
TSS (lbs/day) Average Monthly	< 0.54	0.36	0.94	< 0.67	< 0.81	1.18	< 1.23	< 3.41	< 5.91	15.35	7.69	19.33
TSS (mg/L) Average Monthly	< 3.0	4.75	9.20	< 3.50	< 3.5	3.80	< 3.25	< 4.25	< 4.20	8.25	6.00	7.40
Total Dissolved Solids (mg/L) Average Quarterly	284.0			280			68			61.0		
Fecal Coliform (No./100 ml) Geometric Mean	< 2.0	< 2.3	< 6.85	12.2	< 7.0	< 13.6	< 2.8	< 2.6	< 2	< 2.4	< 2.00	< 10.25
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 2.0	4	188	28	30	102	8	6	2	4	2.00	196
Nitrate-Nitrite (lbs/day) Average Monthly	< 0.49	< 0.31	< 1.69	< 0.20	< 3.48	4.79	5.72	< 3.65	< 2.95	< 2.62	< 2.32	< 4.73
Nitrate-Nitrite (mg/L) Average Monthly	< 2.98	< 5.9	< 15.52	< 24.2	< 15.87	15.11	16.95	< 5.16	< 2.410	< 1.573	< 1.87	< 1.618

Total Nitrogen (lbs/day) Average Monthly	0.222	0.65	3.26	6.47	4.78	7.14	4.57	3.37	5.27	4.56	4.06	5.02
Total Nitrogen (mg/L) Average Monthly	2.05	12.3	27.9	20.4	14.6	18.6	9.45	3.81	3.13	2.24	2.35	2.54
Ammonia (lbs/day) Average Monthly	< 0.18	< 0.08	< 0.39	< 0.20	< 0.23	< 0.54	< 0.43	< 2.23	< 1.35	< 1.76	< 1.28	< 2.63
Ammonia (mg/L) Average Monthly	< 1.0	< 1.0	< 3.6	< 1.0	< 1.0	< 1.7	< 1.14	< 3.0	< 1.0	< 1.0	< 1.00	< 1.00
TKN (lbs/day) Average Monthly	< 0.108	0.053	0.23	0.72	0.587	2.52	< 0.48	< 0.884	1.432	2.0	1.502	1.82
TKN (mg/L) Average Monthly	< 1.0	< 1.0	1.94	2.26	1.76	6.56	< 1.0	< 1.0	0.850	1.0	0.87	0.920
Total Phosphorus (lbs/day) Average Monthly	< 0.0108	0.009	0.51	1.53	1.31	0.679	0.460	0.14	< 0.168	< 0.20	< 0.173	< 0.198
Total Phosphorus (mg/L) Average Monthly	< 0.1	0.17	4.33	4.82	3.98	1.77	0.95	0.16	< 0.1	< 0.1	< 0.1	< 0.1
Total Copper (mg/L) Average Quarterly	0.0053			0.0032			< 0.002			0.0025		
Total Lead (mg/L) Average Quarterly	< 0.001			< 0.001			< 0.001			< 0.001		
Total Zinc (mg/L) Average Quarterly	0.0231			0.0157			0.0000095			0.0141		

Compliance History

Effluent Violations for Outfall 001, from: February 1, 2024 To: December 31, 2024

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Nitrate-Nitrite	08/31/24	Avg Mo	< 15.87	mg/L	10.0	mg/L
Nitrate-Nitrite	06/30/24	Avg Mo	16.95	mg/L	10.0	mg/L
Nitrate-Nitrite	07/31/24	Avg Mo	15.11	mg/L	10.0	mg/L
Nitrate-Nitrite	09/30/24	Avg Mo	< 24.2	mg/L	10.0	mg/L
Nitrate-Nitrite	10/31/24	Avg Mo	< 15.52	mg/L	10.0	mg/L
Ammonia	10/31/24	Avg Mo	< 3.6	mg/L	2.5	mg/L
Ammonia	05/31/24	Avg Mo	< 3.0	mg/L	2.5	mg/L

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.205
Latitude 41º 23' 13.33" **Longitude** -74º 57' 1.43"
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
$CBOD_5$	25.0	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	50.0	IMAX	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30.0	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	60.0	IMAX	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)
E. Coli	Report	Average Quarterly	-	92a3.61

Water Quality-Based Limitations

The following limitations were determined through water quality modeling:

Parameter	Limit (mg/l)	SBC	Model
Dissolved Oxygen	7.0	Daily Minimum	Previous Modeling
Ammonia-Nitrogen May 1 - Oct 31	1.9	Average Monthly	WQM 7.0
	3.8	IMAX	
Ammonia-Nitrogen Nov 1 - Apr 30	5.7	Average Monthly	
	11.4	IMAX	
Total Residual Chlorine	0.041	Average Monthly	TRC Calculation Spreadsheet
	0.13	IMAX	
Total Copper	0.011	Average Monthly	Toxics Management Spreadsheet (TMS)
	0.017	Daily Maximum	
	0.017	IMAX	
Total Lead	0.004	Average Monthly	
	0.006	Daily Maximum	
	0.01	IMAX	
Total Zinc	0.12	Average Monthly	
	0.15	Daily Maximum	
	0.15	IMAX	
Total Dissolved Solids	Report	Average Quarterly	Previous Modeling
Total Nitrogen	Report	Average Monthly	Previous Modeling
Total Kjeldahl Nitrogen	Report	Average Monthly	Previous Modeling
Total Phosphorus	Report	Average Monthly	Previous Modeling

Anti-Backsliding

No limitations were made less stringent.

Modeling using the state-wide Low-Flow Yield (LFY) of 0.1 cfs/mi²:

$$\frac{0.1\ ft^3/sec}{mi^2} \times 0.69\ mi^2 = \frac{\mathbf{0.069\ ft^3}}{\mathbf{sec}}$$

Modeling Using USGS StreamStats:

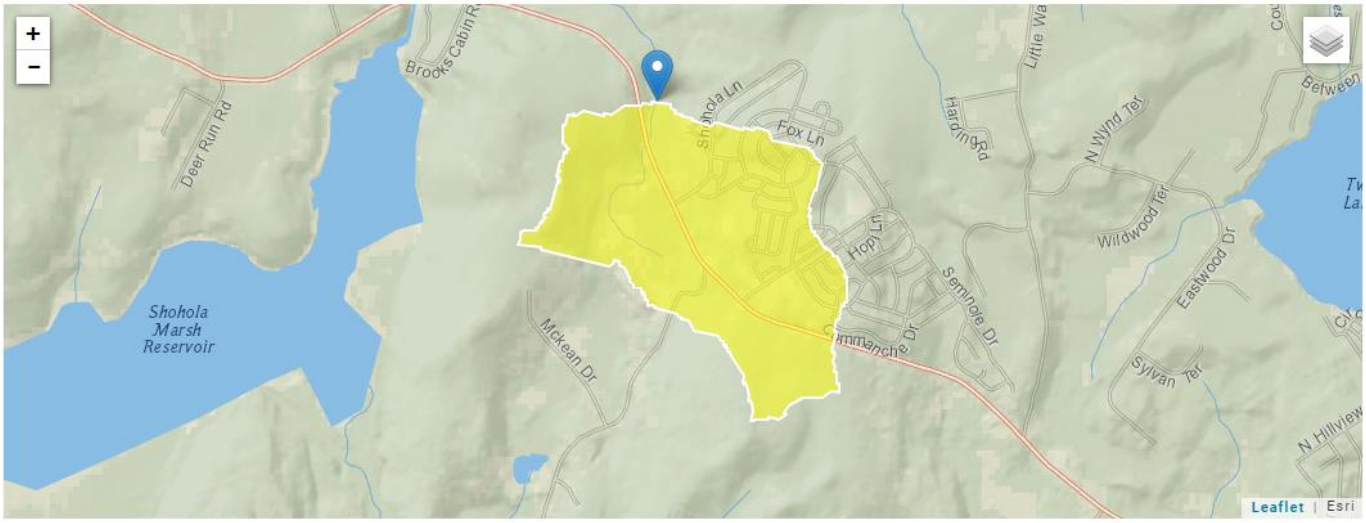
At Outfall 001 on Unnamed Tributary to Shohola Creek:

RMI	Elevation (ft)	Drainage Area (mi²)	$Q_{7\text{-}10}$ Flow (cfs)
1.23	1,208.21	0.69	0.0145

$$Low\ Flow\ Yield\ using\ StreamStats = \frac{0.0145\ ft^3/sec}{0.69\ mi^2} = \mathbf{0.021}\ \frac{\mathbf{ft^3/sec}}{\mathbf{mi^2}}$$

StreamStats Report

Region ID: PA
Workspace ID: PA20240605183548738000
Clicked Point (Latitude, Longitude): 41.38816, -74.95227
Time: 2024-06-05 14:36:09 -0400



Parameter Code	Parameter Name	Value	Units
DRNAREA	Drainage Area	0.69	square miles

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

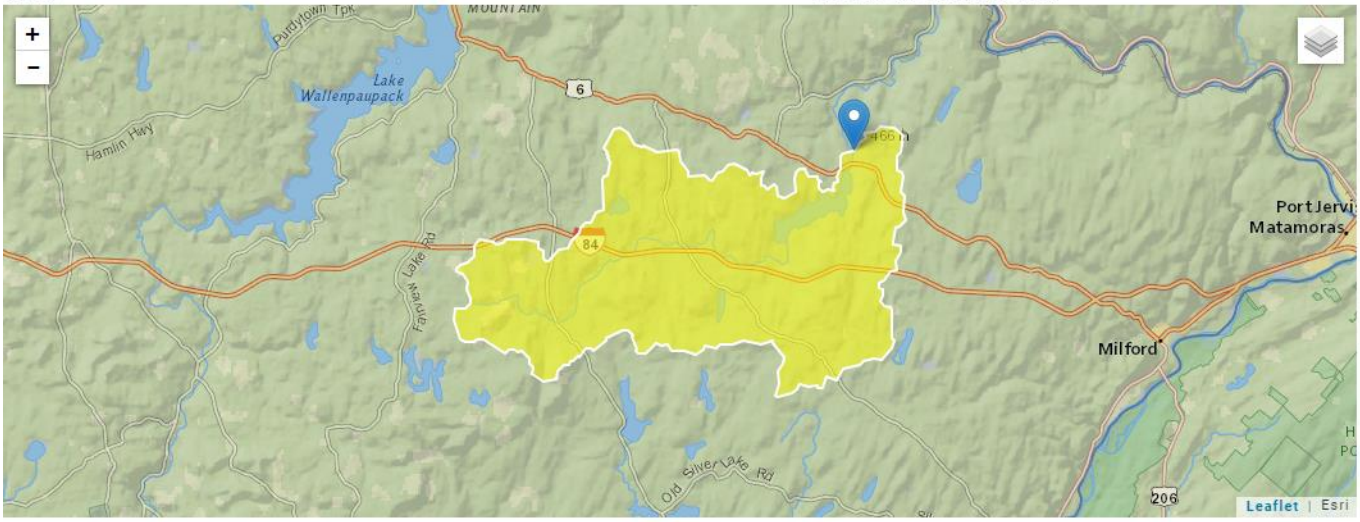
Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0515	ft^3/s
30 Day 2 Year Low Flow	0.0788	ft^3/s
7 Day 10 Year Low Flow	0.0145	ft^3/s

At confluence with Shohola Creek (5334):

RMI	Elevation (ft)	Drainage Area (mi^2)
0.00 8.767 (on Shohola Creek)	1,102.15	13.6

StreamStats Report

Region ID:	PA
Workspace ID:	PA20240605184640501000
Clicked Point (Latitude, Longitude):	41.39838, -74.96729
Time:	2024-06-05 14:47:05 -0400



Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	56.5	square miles

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
01D	5377	Trib 05377 to Shohola 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)
1.230	Trails End WWTP	PA0060577	0.205	CBOD5	25		
				NH3-N	1.88	3.76	
				Dissolved Oxygen			5

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.069	= Q stream (cfs)	0.5	= CV Daily
0.205	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 0.088	1.3.2.iii	WLA cfc = 0.079
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.033	5.1d	LTA_cfc = 0.046

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.041	AFC
		INST MAX LIMIT (mg/l) = 0.133	

WLA afc	(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...
	...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...
	...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)

Discharge Information

Instructions | Discharge | Stream

Facility: **Shohola Falls Trails End** NPDES Permit No.: **PA0060577** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **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
0.205	100	7						

					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											
	Chloride (PWS)	mg/L		30.4									
	Bromide	mg/L	<	0.5									
	Sulfate (PWS)	mg/L		20.2									
	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		0.093									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	mg/L		0.01									
	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		0.0888									
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

Stream / Surface Water Information

Shohola Falls Trails End, NPDES Permit No. PA0060577, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Unnamed Tributary to Shohola 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	005337	1.23	1208.21	0.69			Yes
End of Reach 1	005337	0	1102.15	13.6			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	1.23	0.1										100	7		
End of Reach 1	0	0.1													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	1.23														
End of Reach 1	0														

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

No. Samples/Month: 4

Pollutants	*Mass Limits* AML (lbs/day)	MDL (lbs/day)	*Concentration Limits* AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	0.019	0.029	0.011	0.017	0.017	mg/L	0.011	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Lead	0.007	0.01	0.004	0.006	0.01	mg/L	0.004	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	0.2	0.25	0.12	0.15	0.15	mg/L	0.12	AFC	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)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable

WQM 7.0.pdf TMS PA0060577.pdf

Pennsylvania
Department of
Environmental Protection

Approve	Deny	Signatures	Date
X		/s/ Allison Seyfried Zukosky / Project Manager	March 11, 2025
X		/s/ Edward Dudick, P.E. / Engineer Manager	March 11, 2025