Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0103471**
Facility Type	**Municipal**	APS ID	**1102569**
Major / Minor	**Minor**	Authorization ID	**1464905**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Shenango Township Municipal Authority**	Facility Name	**Shenango Township STP**
Applicant Address	155 Campground Road PO Box 266 West Middlesex, PA 16159-2803	Facility Address	155 Campground Road West Middlesex, PA 16159-2803
Applicant Contact	Lisa Dollman	Facility Contact	Lisa Dollman
Applicant Phone	(724) 528-1577	Facility Phone	(724) 528-1577
Client ID	63209	Site ID	261810
Ch 94 Load Status	Not Overloaded	Municipality	Shenango Township
Connection Status	No Limitations	County	Mercer
Date Application Received	November 28, 2023	EPA Waived?	Yes
Date Application Accepted	November 29, 2023	If No, Reason	
Purpose of Application	NPDES Permit Renewal.		

Summary of Review

Shenango Township Municipal Authority (STMA) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on May 22, 2019, and became effective on June 1, 2019. The permit was amended on July 31, 2023, to remove the TRC effluent limits and include an UV disinfection monitoring requirement. The permit expired on May 31, 2024, but the terms and conditions of the permit have been extended since that time.

Based on the review, it is recommended that the permit be drafted.

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		*Jinsu Kim* Jinsu Kim / Environmental Engineering Specialist	June 26, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	June 30, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.509
Latitude	41º 10' 7.00"	Longitude	-80º 27' 3.00"
Quad Name	-	Quad Code	-
Wastewater Description:	Sewage Effluent		

Receiving Waters	Shenango River (WWF)	Stream Code	35482
NHD Com ID	130033652	RMI	22.3
Drainage Area	724	Yield (cfs/mi^2)	0.138
Q_{7-10} Flow (cfs)	100	Q_{7-10} Basis	Regulated flow
Elevation (ft)	830	Slope (ft/ft)	0.000653
Watershed No.	20-A	Chapter 93 Class.	WWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	Metals, Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Other, Source Unknown		
TMDL Status	Final (4/9/2001)	Name	Shenango River

Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Company - New Castle		
PWS Waters	Shenango River	Flow at Intake (cfs)	100
PWS RMI	5.1	Distance from Outfall (mi)	17.0

Drainage Area
The discharge is to Shenango River at RM 22.3. A drainage area upstream of the discharge point is estimated to be 724 sq.mi. according to USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow
USGS StreamStats produced a Q7-10 flow of 26.3 cfs at the point of discharge. However, the fact sheet developed for the last permit renewal indicates that the Q7-10 low flow for the Shenango River is regulated at 100 cfs. This approach will continue to be applied to this renewal for consistency purposes.

Shenango River
Under 25 Pa Code Ch.93, Shenango River has a protected water use of warm water fishes (WWF). No special protection water is therefore impacted. The latest DEP integrated water quality report prepared in 2024 indicates that the Shenango River is impaired for metals (aquatic life use) and PCBs (fish consumption use) as a result of unknown sources. A Total Maximum Daily Load (TMDL) was developed in 2001 to address the PCBs and Chlordane fish consumption impairments. The more details on this TMDL will be discussed later in this fact sheet.

Public Water Supply Intake
The fact sheet developed for the last permit reissuance indicates that the nearest downstream public water supply intake is PA American Water located on Shenango River approximately 17 miles from the discharge point. Given the distance, the discharge is not expected to adversely impact the intake.

Treatment Facility Summary				
Treatment Facility Name: Shenango Township STP				
WQM Permit No.	**Issuance Date**			
4389401	03/2018			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Oxidation Ditch	Hypochlorite	0.509
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.509	775	Not Overloaded	Aerobic Digestion	Landfill

STMA operates a sanitary wastewater treatment plant serving Shenango Township (52%) and Borough of West Middlesex (48%). All sewer systems are 100% separated. STMA utilizes an oxidation ditch activated sludge treatment process including an influent chamber, mechanical bar screen with manual bypass bar screen, 0.225 MG oxidation ditches (2) with intra-channel boat clarifiers, UV disinfection and outfall structure.

Sludge is processed through sludge digesters (2). Solids generated from this facility will be sent to Limestone Landfill.

Compliance History	
Summary of DMRs:	A summary of past 12-month DMR is presented on the next page.
Summary of Inspections:	08/24/2021: DEP conducted a routine inspection. No significant issues were found at the time of inspection. 12/16/2024: DEP conducted a routine inspection. No significant issues were found at the time of inspection.
Other Comments:	Since the last permit reissuance, the facility had a number of permit violations. These violations are shown below.

Date	Description	Parameters	Results	Limits	Units	SBC
7/31/2019	Late DMR Submission					
9/3/2019	Violation of permit condition	Fecal Coliform	243	200	No./100 ml	Geometric Mean
10/15/2021	Violation of permit condition	Fecal Coliform	1160	1000	No./100 ml	Instantaneous Maximum
10/15/2021	Violation of permit condition	Fecal Coliform	224	200	No./100 ml	Geometric Mean
4/7/2022	Violation of permit condition	Carbonaceous Biochemical Oxygen Demand (CBOD5)	122	106	lbs/day	Average Monthly
4/7/2022	Violation of permit condition	Carbonaceous Biochemical Oxygen Demand (CBOD5)	264	170	lbs/day	Weekly Average
4/7/2022	Violation of permit condition	Total Suspended Solids	197	190	lbs/day	Weekly Average
6/17/2022	Violation of permit condition	Fecal Coliform	290	200	No./100 ml	Geometric Mean
7/12/2022	Violation of permit condition	Fecal Coliform	1120	1000	No./100 ml	Instantaneous Maximum
8/15/2023	Violation of permit condition	Total Suspended Solids	52.2	45	mg/L	Weekly Average
5/31/2024	Other					
1/14/2025	Violation of permit condition	Total Suspended Solids	47	45	mg/L	Weekly Average
2/7/2025	Violation of permit condition	Total Suspended Solids	39.7	30	mg/L	Average Monthly
2/7/2025	Violation of permit condition	Total Suspended Solids	56	45	mg/L	Weekly Average
5/12/2025	Other					
5/12/2025	Violation of permit condition	Total Suspended Solids	126	125	lbs/day	Average Monthly
5/12/2025	Violation of permit condition	Total Suspended Solids	229	190	lbs/day	Weekly Average
5/12/2025	Violation of permit condition	Total Suspended Solids	30.6	30	mg/L	Average Monthly

DEP's database shows there is no open violation associated with this facility or permittee.

Effluent Data

DMR Data for Outfall 001 (from May 1, 2024 to April 30, 2025)

Parameter	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24
Flow (MGD) Average Monthly	0.403	0.245	0.335	0.357	0.503	0.396	0.360	0.302	0.271	0.143	0.186	0.346
Flow (MGD) Daily Maximum	0.607	0.328	0.441	0.688	0.827	0.481	0.410	0.415	0.308	0.247	0.242	0.422
pH (S.U.) Daily Minimum	7.11	6.97	7.14	7.19	6.99	6.99	7.07	7.03	7.05	7.01	7.1	7.0
pH (S.U.) Daily Maximum	7.73	7.61	7.74	8.05	7.51	7.55	7.49	7.58	7.90	7.68	7.74	7.54
DO (mg/L) Daily Minimum	6.04	4.84	9.8	6.49	5.53	7.47	7.17	5.81	7.31	7.54	7.47	6.94
CBOD5 (lbs/day) Average Monthly	60	27	29	50	55	< 18	13	13	9	< 3	5.33	36
CBOD5 (lbs/day) Weekly Average	102	39	37	123	156	31	24	20	11	5	6.78	51
CBOD5 (mg/L) Average Monthly	13.24	15.8	15.9	21.8	15.73	< 4.82	5.72	6.28	4.14	< 3.61	7	17.02
CBOD5 (mg/L) Weekly Average	19	19	27	31.1	36.2	7.9	11	10.6	5.55	5.58	11	23.2
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	556	335	310	429	427	320	432	250	250	479	439	246
BOD5 (mg/L) Raw Sewage Influent Average Monthly	83	102	78	131	150	84	139	99	85	154	137	63
TSS (lbs/day) Average Monthly	126	33	38	90	76	34	26	25	13	11	20	58
TSS (lbs/day) Raw Sewage Influent Average Monthly	682	253	352	284	394	417	480	208	220	753	853	303
TSS (lbs/day) Weekly Average	229	70	31	186	99	59	31	25	16	22	34	64
TSS (mg/L) Average Monthly	30.6	18.3	16	39.7	27	9.3	10.9	12.3	6	10.3	13.6	27.9
TSS (mg/L) Raw Sewage Influent Average Monthly	101	79	80	88	146	107	145	82	75	245	268	76
TSS (mg/L) Weekly Average	42.1	32.4	37	56	47	14	13.6	12	8.4	12.4	17.6	29.9

Parameter	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24
Fecal Coliform (No./100 ml) Geometric Mean	1291	878	< 770	207	78	< 6	21	< 3	< 3	16	21	101
Fecal Coliform (No./100 ml) Instantaneous Maximum	2419.6	2419.6	< 2419.6	727	159.7	123.9	51	9.6	12.2	93.3	870.4	727
UV Intensity (µw/cm²) Average Monthly	90.8	97.9	85	95.2	127.8	73.3	67.1	103.5	74.3	69.6	156.1	235.8
Total Nitrogen (mg/L) Average Quarterly		17.3			11.0			2.0			14.4	
Ammonia (lbs/day) Average Monthly	71	32	38	74	< 5.0	6.0	11.0	2.0	< 0.7	< 0.4	< 11.0	23.0
Ammonia (mg/L) Average Monthly	12.39	19.2	19.3	16.34	< 1.307	1.77	4.75	0.76	< 0.317	< 0.347	< 6.44	11.54
Total Phosphorus (mg/L) Average Quarterly		1.6			11.0			13.1			1.2	

Existing Effluent Limits and Monitoring Requirements

The table below summarizes effluent limitations and monitoring requirements specified in the current NPDES permit renewal.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
Dissolved Oxygen	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	106	170	XXX	25	40	50	1/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids	125	190	XXX	30	45	60	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Ultraviolet light intensity ($\mu w/cm^2$)	XXX	XXX	XXX	Report	XXX	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	106.0	XXX	XXX	25.0	XXX	50	1/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .509
Latitude 41º 9' 59.80" **Longitude** -80º 27' 14.87"
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)

Comments: The facility utilizes an UV disinfection system; therefore, TRC effluent standards are not applicable.

Water Quality-Based Limitations

CBOD5, NH3-N and Dissolved Oxygen (DO)
WQM 7.0 version 1.0b is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD5, NH3-N and DO. DEP's technical guidance no. 391-2000-007 describes the technical methods contained in the model for conducting wasteload allocation analyses and for determining recommended limits for point source discharges. DEP recently updated this model (ver. 1.1) to include new ammonia criteria that has been approved by US EPA as part of the 2017 Triennial Review. The model output indicates no WQBELs are required, and all existing limits are still appropriate. No changes are therefore recommended.

Toxics
The application submitted for this permit renewal did not require sampling of toxics pollutants. No industrial or commercial establishments that contribute wastewater to the sewer system were reported in the application.

Best Professional Judgment (BPJ) Limitations

Dissolved Oxygen
A minimum of 4.0 mg/L for DO is an existing effluent limit and will remain unchanged in the permit to ensure that the facility continues to protect all aquatic life. This approach is consistent with DEP's SOP no. BPNPSM-PMT-033.

Additional Considerations

Flow Monitoring
The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

Influent BOD & TSS Monitoring
As a result of negotiation with EPA, the existing influent monitoring reporting requirement for TSS and BOD5 will be maintained in the draft permit. This requirement has been consistently assigned to all municipal wastewater treatment facilities.

E. Coli Monitoring Requirement
DEP's SOP no. BPNPSM-PMT-033 recommends a quarterly routine monitoring of E. Coli for all sewage facilities that have design flow less than 0.1 MGD but greater than 0.05 MGD. A quarterly monitoring for E. Coli will therefore be included in the permit.

Ultraviolet Output Monitoring
DEP's SOP no. BPNPSM-PMT-033 recommends a routine monitoring of UV output when the UV system is used for disinfection in lieu of chlorine. Therefore, a continuation of UV disinfection output monitoring is recommended.

Total Nitrogen & Total Phosphorus
A continuation of nutrient monitoring is recommended. This approach is consistent with DEP's SOP no. BPNPSM-PMT-033. Since the facility has performed nutrient monitoring previously and the stream segment where the discharge is located at is not impaired, a quarterly sampling of nutrients is still acceptable.

Shenango River TMDL
Shenango River TMDL was developed on April 9, 2001 to address fish tissue contaminants from PCBs and chlordane levels. The TMDL lists potential sources of PCB/chlordane in which this facility is not included. There is no wasteload allocation assigned. At this time, no TMDL will be taken into consideration. In case, the TMDL is revised or new TMDL is developed to include any wasteload allocation for this facility, DEP may reopen this permit to include such wasteload allocation.

Monitoring Frequency and Sample Type
Unless otherwise specified throughout this fact sheet, monitoring frequencies and sample types are derived from the "NPDES Permit Writer's Manual" (362-0400-001) and/or BPJ.

Mass Loading Limitations
All effluent mass loading limits will be based on the formula: design flow x concentration limit x conversion factor of 8.34.

Antidegradation Requirements
All effluent limitations and monitoring requirements have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected.

Class A Wild Trout Fishery
No Class A Wild Trout Fisheries are also impacted by this discharge.

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.

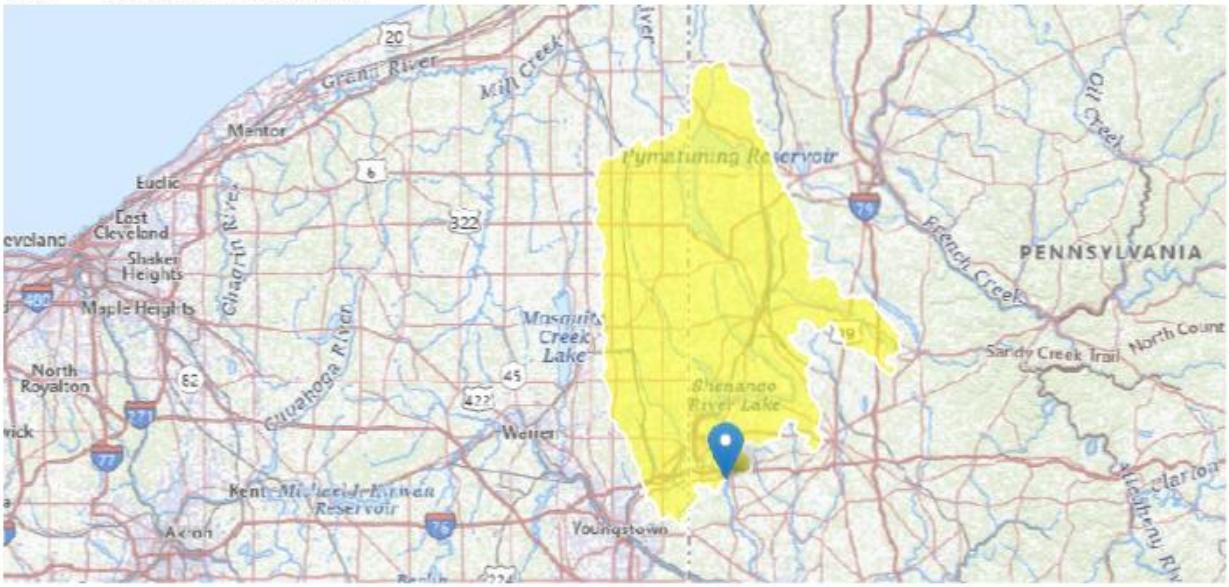
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
Dissolved Oxygen	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	106	170	XXX	25	40	50	1/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids	125	190	XXX	30	45	60	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Ultraviolet light intensity (µw/cm²)	XXX	XXX	Report Daily Min	XXX	XXX	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	106.0	XXX	XXX	25.0	XXX	50	1/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite
E. Coli (no. / 100 mL)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

StreamStats Report

Region ID: PA
Workspace ID: PA20250625234213851000
Clicked Point (Latitude, Longitude): 41.16885, -80.45067
Time: 2025-06-25 19:42:39 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	724	square miles
ELEV	Mean Basin Elevation	1095	feet

General Disclaimers

Parameter values have been edited, computed flows may not apply.

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	724	square miles	2.26	1400

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
ELEV	Mean Basin Elevation	1095	feet	1050	2580

Low-Flow Statistics Flow Report [Low Flow Region 4]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	47.1	ft^3/s	43	43
30 Day 2 Year Low Flow	66.5	ft^3/s	38	38
7 Day 10 Year Low Flow	26.3	ft^3/s	66	66
30 Day 10 Year Low Flow	34	ft^3/s	54	54
90 Day 10 Year Low Flow	49.4	ft^3/s	41	41

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Application Version: 4.29.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

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
20A	35482	SHENANGO RIVER	**22.300**	830.00	724.00	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	0.138	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	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
Shenango Twp	PA0103471	0.5090	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	4.00	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
20A	35482	SHENANGO RIVER	**19.400**	823.00	734.00	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	0.138	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	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