Pennsylvania Department of Environmental Protection

Northcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0208736**
Facility Type	**Municipal**	APS ID	**1119454**
Major / Minor	**Minor**	Authorization ID	**1495179**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Mountaintop Area Municipal Authority**	Facility Name	**Moshannon Sewage Treatment Plant**
Applicant Address	PO Box 275	Facility Address	Turkey Eye Lane
	Snow Shoe, PA 16874-0275		Moshannon, PA 16859
Applicant Contact	Tauni Bowling	Facility Contact	Tyler Furrow
Applicant Phone	(814) 387-4322	Facility Phone	(814) 387-4321
Client ID	44582	Site ID	251844
Ch 94 Load Status	Not Overloaded	Municipality	Snow Shoe Township
Connection Status	No Limitations	County	Centre
Date Application Received	August 2, 2024	EPA Waived?	Yes
Date Application Accepted	August 16, 2024	If No, Reason	
Purpose of Application	Renewal of an existing NPDES permit for the discharge of treated sewage.		

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		Derek S. Garner / Project Manager	August 26, 2025
X		Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	August 27, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.038
Latitude	41º 1' 52.73"	Longitude	-78º 1' 46.32"
Quad Name	Karthaus	Quad Code	41078
Wastewater Description:	Sewage Effluent		

Receiving Waters	Unnamed Tributary to Black Moshannon Creek	Stream Code	25705
NHD Com ID	61829593	RMI	0.85
Drainage Area (mi^2)	1.8	Yield (cfs/mi^2)	0.894
Q_{7-10} Flow (cfs)	0.161	Q_{7-10} Basis	Streamgage No. 01547950
Elevation (ft)	1353	Slope (ft/ft)	n/a
Watershed No.	8-D	Chapter 93 Class.	HQ-CWF
Existing Use	n/a	Existing Use Qualifier	n/a
Exceptions to Use	n/a	Exceptions to Criteria	n/a
Assessment Status	Impaired		
Cause(s) of Impairment	Metals, siltation		
Source(s) of Impairment	Acid mine drainage		
TMDL Status	Final, 6/9/2009	Name	Moshannon Creek Watershed

Nearest Downstream Public Water Supply Intake	PA American Water Company at Milton, PA		
PWS Waters	West Branch Susquehanna River	Flow at Intake (cfs)	1,740
PWS RMI	10.6	Distance from Outfall (mi)	129

Treatment Facility Summary

The Moshannon Sewage Treatment Plant (STP) was originally constructed and continues to operate under coverage of WQM Permit No. 1494402, issued April 7, 1994. The permit was amended February 6, 1995 to approve a construction and operation of a pump station. The permit was amended again on June 17, 2016 to approve construction and operation of a dechlorination system to comply with a newly established total residual chlorine concentration limit of 0.02 mg/l.

The STP has a hydraulic design capacity of 0.038 MGD and an organic design capacity of 65 lbs/day. The STP consists of an influent wet well, raw sewage pumps, influent equalization tank, influent equalization pumps, an aeration tank, sludge return pumps, a clarifier, erosion chlorinator, a chlorine contact tank, dechlorination, and a digester.

Sludge is hauled to the Authority's other treatment plant, Snow Shoe - Clarence STP (NPDES Permit No. PA0208738).

Compliance History

The facility was most recently inspected by DEP on April 16, 2024. All necessary treatment units were operational and no impact from Outfall 001 was observed in the receiving stream.

The following effluent violations occurred during the permit's existing term:

Noncompliance Date	Noncompliance Type	Parameter	Sample Value	Violation Condition	Permit Value	Units	SBC
6/18/2020	Violation of permit condition	Ammonia-Nitrogen	2.55	>	2	lbs/day	Average Monthly
6/18/2020	Violation of permit condition	Ammonia-Nitrogen	20.9	>	7	mg/L	Average Monthly
6/18/2020	Violation of permit condition	Ammonia-Nitrogen	24.3	>	10	mg/L	Weekly Average
7/24/2020	Violation of permit condition	Ammonia-Nitrogen	3.29	>	2	lbs/day	Average Monthly
7/24/2020	Violation of permit condition	Ammonia-Nitrogen	33.2	>	7	mg/L	Average Monthly
7/24/2020	Violation of permit condition	Ammonia-Nitrogen	38.2	>	10	mg/L	Weekly Average
7/24/2020	Violation of permit condition	Ammonia-Nitrogen	4.46	>	3	lbs/day	Weekly Average
8/25/2020	Violation of permit condition	Fecal Coliform	> 2419.6	>	1000	No./100 ml	IMAX
8/25/2020	Violation of permit condition	Fecal Coliform	1210.3	>	200	No./100 ml	Geometric Mean
11/24/2020	Violation of permit condition	Ammonia-Nitrogen	17	>	7	mg/L	Average Monthly
11/24/2020	Violation of permit condition	Ammonia-Nitrogen	23	>	10	mg/L	Weekly Average
2/24/2022	Violation of permit condition	CBOD5	< 32	>	25	mg/L	Average Monthly
2/24/2022	Violation of permit condition	CBOD5	61	>	40	mg/L	Weekly Average
2/24/2022	Violation of permit condition	Total Suspended Solids	46	>	45	mg/L	Weekly Average
5/19/2022	Violation of permit condition	Fecal Coliform	2420	>	2000	No./100 ml	Geometric Mean
7/20/2022	Violation of permit condition	Ammonia-Nitrogen	17	>	7	mg/L	Average Monthly
7/20/2022	Violation of permit condition	Ammonia-Nitrogen	26	>	10	mg/L	Weekly Average
7/21/2023	Violation of permit condition	Ammonia-Nitrogen	10	>	7	mg/L	Average Monthly
7/21/2023	Violation of permit condition	Ammonia-Nitrogen	11	>	10	mg/L	Weekly Average
8/30/2023	Late DMR Submission						
8/23/2023	Violation of permit condition	Ammonia-Nitrogen	16	>	10	mg/L	Weekly Average
8/23/2023	Violation of permit condition	Ammonia-Nitrogen	8	>	7	mg/L	Average Monthly
8/23/2023	Violation of permit condition	Fecal Coliform	2419.6	>	1000	No./100 ml	IMAX
9/19/2023	Violation of permit condition	Fecal Coliform	2419.6	>	1000	No./100 ml	IMAX
11/30/2023	Late DMR Submission						
1/26/2024	Violation of permit condition	Fecal Coliform	> 2419.6	>	10000	No./100 ml	IMAX
1/26/2024	Violation of permit condition	Fecal Coliform	2192	>	2000	No./100 ml	Geometric Mean
5/24/2024	Violation of permit condition	Fecal Coliform	> 2419.6	>	10000	No./100 ml	IMAX
7/23/2024	Violation of permit condition	Fecal Coliform	> 2419.6	>	1000	No./100 ml	IMAX
9/25/2024	Violation of permit condition	Fecal Coliform	> 2419.6	>	1000	No./100 ml	IMAX
3/28/2025	Violation of permit condition	Fecal Coliform	> 24196	>	10000	No./100 ml	IMAX

Noncompliance Date	Noncompliance Type	Parameter	Sample Value	Violation Condition	Permit Value	Units	SBC
4/25/2025	Violation of permit condition	Fecal Coliform	24196	>	10000	No./100 ml	IMAX
7/24/2025	Violation of permit condition	Fecal Coliform	< 394	>	200	No./100 ml	Geometric Mean
7/24/2025	Violation of permit condition	Fecal Coliform	15531	>	1000	No./100 ml	IMAX

There are no open violation associated with the permittee.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.038
Latitude 41º 1' 52.42" **Longitude** -78º 1' 46.32"
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	0.02	Average Monthly	-	92a.48(b)(3)

Water Quality-Based Limitations

A reasonable potential analysis was performed as part of the previous renewal. Since there have been no substantial changes to the discharge or the receiving unnamed tributary to Black Moshannon Creek, the analysis is still applicable. The analysis concluded the existing requirements for CBOD5, ammonia-n, and dissolved oxygen were still appropriate. The existing requirements are as follows:

Parameter	Effluent Limitations					
	Mass (lb/day)			Concentration (mg/L)		
	Average Monthly	Average Weekly	Instant. Minimum	Average Monthly	Average Weekly	Instant. Maximum
CBOD5	7.0	13	XXX	25	40	50
Ammonia-N May 1 – Oct 31	2.0	3.0	XXX	7.0	10	14
Ammonia-N Nov 1 – Apr 30	6.0	9.0	XXX	21	30	42
Dissolved Oxygen	XXX	XXX	Report	XXX	XXX	XXX

The previous reasonable potential analysis is attached.

Best Professional Judgment (BPJ) Limitations

DEP recommends that the existing 2/month influent wastewater sampling for BOD5 and TSS remains in the permit to continue to characterize the influent.

An annual reporting requirement for E. Coli is proposed per the 2017 Triennial Review of Water Quality Standards, published in the PA Bulletin on July 11, 2020.

TMDL Considerations

The Moshannon Creek TMDL establishes abandoned mine drainage (AMD) related load and waste load allocations for non-point and point source discharges, respectively. A waste load allocation was not assigned to the MAMA Moshannon STP. However, to verify that the facility is not contributing to the impairment of the Moshannon Creek Watershed, annual monitoring requirements for the metals traditionally associated with AMD (aluminum, iron, and manganese) were established in the existing permit. The annual monitoring results are as follows:

Parameter	Concentration (mg/L)				
	2021	2022	2023	2024	Criteria
Total Aluminum	< 0.1	< 0.1	< 0.1	< 0.1	0.75
Total Iron	< 0.2	< 0.2	< 0.2	< 0.2	1.5
Total Manganese	0.252	< 0.02	0.101	< 0.02	1.0

As demonstrated by the table above, the concentrations for aluminum, iron, and manganese do not approach criterion. Since there does not appear to be reasonable potential to exceed criteria DEP recommends that the monitoring requirements are removed from the permit. It should be noted that MAMA will still be required to submit at least one sample result for each of the TMDL parameters with subsequent renewal applications.

Chesapeake Bay Considerations

Pennsylvania's Phase 3 Watershed Implementation Plan (WIP) Wastewater Supplement (Revised, April 2, 2025) identifies the MAMA Moshannon STP as a Phase 5 facility. Phase 5 facilities are required to report total nitrogen (TN) and total phosphorus (TP) on an annual basis unless the facility has already completed at least two years of nutrient monitoring.

The facility completed annual testing for TN and TP throughout the permit's term. The results are as follows:

Year	Concentration (mg/l)	
	Total Nitrogen	Total Phosphorus
2022	< 0.5	3.79
2023	< 0.5	2.47
2024	0.8791	2.27
2025	< 0.5	2.22
AVG	*0.59*	*2.69*

Since the facility has completed more than two years of nutrient monitoring, DEP has proposed to remove total nitrogen and total phosphorus reporting requirements from the permit.

Anti-Backsliding

Per 40 CFR 122.44(l)(2)(i)(B)(1), which allows for less stringent requirements when taking into consideration data that was not available at the time of previous permit issuance and based on samples collected during the existing permit's term, DEP has recommended that total nitrogen, total phosphorus, total aluminum, total iron, and total manganese monitoring requirements are removed from the permit.

Existing Effluent Limitations and Monitoring Requirements

The existing effluent limitations and monitoring requirements are as follows:

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.02	XXX	XXX	1/day	Grab
Dissolved Oxygen	XXX	XXX	Report Inst Min	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	7	13	XXX	25	40	50	2/month	8-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report	XXX	Report	Report	XXX	2/month	8-Hr Composite
Total Suspended Solids	9	14	XXX	30	45	60	2/month	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	Report	XXX	2/month	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	6	9	XXX	21	30	42	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	2	3	XXX	7	10	14	2/month	8-Hr Composite
Total Nitrogen	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Total Phosphorus	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Aluminum, Total	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Iron, Total	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Manganese, Total	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite

Compliance Sampling Location: Outfall 001

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)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	Report Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.02	XXX	XXX	1/day	Grab
CBOD5	7	13	XXX	25	40	50	2/month	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	Report	XXX	2/month	8-Hr Composite
TSS	9	14	XXX	30	45	60	2/month	8-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	Report	XXX	2/month	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Ammonia Nov 1 - Apr 30	6	9	XXX	21	30	42	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	2	3	XXX	7	10	14	2/month	8-Hr Composite

Compliance Sampling Location: Outfall 001

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
08D	25705	Trib 25705 to Black Moshannon 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)
0.870	**MAMA** Moshannon	PA0208736	0.000	CBOD5	25		
				NH3-N	8.35	16.7	
				Dissolved Oxygen			3

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
080	25705	Trib 25705 to Black Moshannon Creek	**0.870**	1352.00	1.81	0.00000	0.00	

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Reh Trav Time (days)	Reh Velocity (fps)	WO Ratio	Reh Width (ft)	Reh Depth (ft)	Tributary Temp (OC)	Tributary pH	Stream Temp (OC)	Stream pH
07-10	0.100	0.00	0.16	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							
030-10 ••		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 (OC)	Disc pH
MAMA Moshannon	PA0208736	0.0000	0.0380	0.0380	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Cone (mg/L)	Trib Cone (mg/L)	Stream Cone (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 H◆drod◆namic Out◆uts

SWP Basin	Stream Code	Stream Name
080	25705	Trib 25705 to Black Moshannon 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												
0.870	0,16	0.00	0.16	.0588	0.08904	.479	4.57.	9.55	0.10	0.471	21.34	7.00
Q1-10 Flow												
0.870	0.10	0.00	0.10	.0588	0.08904	**NA**	**NA**	**NA**	0.08	0.558	21.82	7.00
Q30-10 Flow												
0.870	0.22	0.00	0.22	.0588	0.08904	NA	**NA**	**NA**	0.11	0.413	21.06	7.00

WQM 7.0 Modeling Specifications.

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☒
WLAMethod	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
08D	25705	Trib 25705 to Black Moshannon 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
0.870	MAMA Moshanno	8.48	23.24	8.48	23.24	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
0.870	MAMA Moshanno	1.78	8.35	1.78	8.35	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	NH3-N Baseline (mg/L)	NH3-N Multiple (mg/L)	Dissolved Oxygen Baseline (mg/L)	Dissolved Oxygen Multiple (mg/L)	Critical Reach	Percent Reduction
0.87	**MAMA** Moshannon	25	25	8.35	8.35	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
08D	25705	Trib 25705 to Black Moshannon Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.870	0.038	21.343	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
4.571	0.479	9.550	0.100
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
8.18	1.136	2.24	0.776
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.834	18.714	Owens	5
Reach Travel Time (days)			
0.471			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.047	7.73	2.16	7.37
0.094	7.30	2.08	7.63
0.141	6.90	2.01	7.77
0.188	6.52	1.94	7.85
0.235	6.16	1.87	7.92
0.282	5.82	1.80	7.97
0.329	5.49	1.74	8.02
0.376	5.19	1.67	8.04
0.424	4.90	1.61	8.04
0.471	4.63	1.56	8.04