Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0087513**
Facility Type	**Municipal**	APS ID	**1640**
Major / Minor	**Minor**	Authorization ID	**1518473**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Mapleton Borough Area Joint Municipal Authority Huntingdon County**	Facility Name	**Mapleton Area STP**
Applicant Address	13343 Smith Valley Road, PO Box 415 Mapleton Depot, PA 17052-0415	Facility Address	13343 Smith Valley Road Mapleton Depot, PA 17052
Applicant Contact	Michael Corbin	Facility Contact	Jasper Hankey
Applicant Phone	(814) 599-2600	Facility Phone	(717) 386-7887
Client ID	81939	Site ID	459473
Ch 94 Load Status	Not Overloaded	Municipality	Union Township
Connection Status	No Limitations	County	Huntingdon
Date Application Received	March 4, 2025	EPA Waived?	Yes
Date Application Accepted	March 6, 2025	If No, Reason	
Purpose of Application	NPDES permit renewal.		

Summary of Review

JHA companies, on behalf of the Mapleton Area Joint Municipal Authority (MAJMA), applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on August 25, 2020, and became effective on September 1, 2020. The permit expires on August 31, 2025.

The facility has an average annual design flow of 0.10 MGD that discharges to Hares Valley Creek about 1600 feet upstream from its confluence with Juniata River. The application states the following flow contribution sources: Mapleton Borough (70%), and Union Township (30%).

WQM Part II No. 3197403 original was issued on December 30, 1997. WQM Part II No. 3197403 A-1 amendment was issued on December 10, 2014 to replace OD impellers in both pumps at pump station No. 1; and for installing new fine screen, bar screen, and two identical new UV units. WQM Part II permit No. 3197403 A-2 amendment was issued on March 3, 2017 to upgrade the clarifier to handle an average flow of 0.05 MGD & a peak hourly flow of 0.125 MGD with a recirculation flow of 0.05 MGD, and a Duplex Return Activated Sludge/Waste Activated Sludge (RAS/WAS) pumps which are each rated at 40 gpm @10 TDH.

Sludge use and disposal description and location(s): N/A because sludge is hauled by Keystone Renewable Waste Solutions.

Changes from the previous permit: The E. Coli monitoring and report requirements will be added to the proposed permit.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted. A public notice of the draft permit will be published in the *Pennsylvania Bulletin* for public comments for 30 days.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	August 15, 2025
x		*Maria D. Bebenek* for Daniel W. Martin, P.E. / Environmental Engineer Manager	September 18, 2025

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.1
Latitude	40º 23' 52.15"	Longitude	-77º 56' 43.55"
Quad Name	Mount Union	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Hares Valley Creek (TSF)	Stream Code	13270
NHD Com ID	66209991	RMI	0.3
Drainage Area	13.1 mi.^{2}	Yield (cfs/mi^2)	0.03
Q_{7-10} Flow (cfs)	0.39	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	573.41	Slope (ft/ft)	
Watershed No.	12-C	Chapter 93 Class.	TSF
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	Mifflintown Municipal Authority, Juniata County		
PWS Waters	Juniata River	Flow at Intake (cfs)	
PWS RMI	34.39 miles	Distance from Outfall (mi)	Approximate 51 miles

Changes Since Last Permit Issuance:

Drainage Area:
The discharge is to Little Juniata River at RMI 0.3 mile. A drainage area upstream of the discharge is estimated to be 13.1 mi.^{2}, according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow
According to USGS StreamStats, the point of first use at the confluence with Hares Valley Creek (Stream Code 13270) has a Q_{7-10} of 0.39 cfs and a drainage area of 13.1 mi.^{2}, which results in a Q_{7-10} low flow yield of 0.03 cfs/mi.^{2}. This information is used to obtain a chronic or 30-day (Q_{30-10}), and an acute or 1-day (Q_{1-10}) exposure stream flow for the discharge point as follows (Guidance No. 391-2000-023):

Q_{7-10} = 0.39 cfs
Low Flow Yield = 0.39 cfs / 13.1 mi.^{2} = 0.03 cfs/mi.^{2}
Q_{30-10} = 1.36 * 0.39 cfs = 0.53 cfs
Q_{1-10} = 0.64 * 0.39 cfs = 0.25 cfs

The resulting Q_{7-10} dilution ratio is: Q_{stream} / $Q_{discharge}$ = 0.39 cfs / [0.1 MGD * (1.55 cfs/MGD)] = 2.52:1

Hares Valley Creek
25 Pa. Code § 93.9n classifies Hares Valley Creek as Trout Stocking Fishes (TSF) surface water. Based on the 2024 Integrated Report, Hares Valley Creek, assessment unit ID 9867, is not impaired. A TMDL currently does not exist for this stream segment, therefore, no TMDL has been taken into consideration during this review.

Public Water Supply
The closest water supply intake is located downstream from the discharge in the Mifflintown Municipal Authority, Juniata County approximately 51.0 miles from the point of discharge. Given the nature and dilution, the discharge is not expected to significantly impact the water supply.

Treatment Facility Summary

Treatment Facility Name: Mapleton Area STP

WQM Permit No.	Issuance Date
3197403	12/30/1997
3197403 A-1	12/10/2014
3197403 A-2	3/03/2017

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia Reduction	Extended Aeration	Ultraviolet	0.1

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.1	200	Not Overloaded	Dewatering	Landfill

Changes Since Last Permit Issuance:

Other Comments:
The WWTP train is as follows:

Comminutor (1) ⇒ Bar Screen (1) ⇒ Equalization Tanks (3) ⇒ Aeration Tanks (12) ⇒ Clarifiers (4) ⇒ Ultraviolet Disinfection Units (2) ⇒ Sludge Holding units (3) ⇒ Sludge Bagger (1) ⇒ Discharge (outfall 001)

Ultraviolet is used for disinfection.

Sodium bicarbonate is used for alkalinity adjustment.

There are no industrial or commercial users.

The total sewage sludge/biosolids production within the facility for the previous year was 1.9 dry tons.

Compliance History	
Summary of DMRs:	DMRs reported last 12 months are summarized in next page.
Summary of Inspections:	10/17/2024: Mr. Clark, DEP WQS, conducted compliance evaluation inspection. There were no violations noted during inspection. The field sample test results were within the permit limits. 6/7/2023: Mr. Clark, DEP WQS, conducted compliance evaluation inspection. There were no violations noted during inspection. The field sample test results were within the permit limits. Recommendations were to have the five years of sludge hauling records on site for review and investigate the cause of excessive inflow and infiltration (I & I) in the collection system and make repairs as necessary.
Other Comments:	There are currently no open violations associated with the permittee or the facility.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from July 1, 2024 to June 30, 2025)

Parameter	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24
Flow (MGD) Average Monthly	0.0482	0.0524	0.058543	0.04967	0.04132	0.030984	0.04835	0.03305	0.03005	0.0359	0.04583	0.03324
Flow (MGD) Daily Maximum	0.1672	0.1695	0.389	0.4078	0.09958	0.048	0.14776	0.06765	0.05787	0.0515	0.26884	0.07669
pH (S.U.) Daily Minimum	6.35	6.18	6.44	6.22	6.44	6.53	6.27	6.0	6.09	6.24	6.45	5.98
pH (S.U.) Instantaneous Maximum	7.18	7.32	7.30	7.22	7.3	7.59	7.85	7.98	7.54	7.65	7.67	7.65
DO (mg/L) Daily Minimum	5.04	5.04	5.18	5.29	5.04	5.28	6.3	6.56	7.31	6.51	5.41	5.79
CBOD5 (lbs/day) Average Monthly	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 0.8	< 2.0	< 0.8	< 0.7	< 0.7	< 2.0	< 0.8
CBOD5 (lbs/day) Weekly Average	< 4.0	< 4.0	4.0	3.0	2.0	< 1.0	2.0	< 1.0	0.9	< 1.0	< 3.0	2.0
CBOD5 (mg/L) Average Monthly	< 3.0	< 3.0	< 4.0	< 5.0	< 4.0	< 3.0	< 4.0	< 3.0	< 3.0	< 3.0	< 3.0	< 4.0
CBOD5 (mg/L) Weekly Average	< 3.0	3.0	7.0	6.0	6.0	< 3.0	5.0	< 3.0	5.0	5.0	< 3.0	5.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	87	712	45	108	76	55	93	57	49	68	46	69
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	180	1461	59	202	124	62	155	74	74	52	64	143
BOD5 (mg/L) Raw Sewage Influent Average Monthly	148	211	146	297	265	202	233	218	187	203	173	189
TSS (lbs/day) Average Monthly	< 2.0	< 0.9	< 3.0	3.0	2.0	1.0	7.0	< 1.0	< 0.4	< 0.7	< 1.0	< 0.6
TSS (lbs/day) Raw Sewage Influent Average Monthly	51	325	21	55	46	41	57	19	20	15	16	17
TSS (lbs/day) Raw Sewage Influent Daily Maximum	106	851	30	171	62	62	95	36	32	24	29	29
TSS (lbs/day) Weekly Average	6.0	< 2.0	10.0	7.0	5.0	2.0	21.0	3.0	0.7	2.0	< 2.0	1.0

TSS (mg/L) Average Monthly	< 3.0	< 2.0	< 5.0	8.0	6.0	5.0	14.0	< 5.0	< 2.0	< 3.0	< 2.0	< 3.0
TSS (mg/L) Raw Sewage Influent Average Monthly	85	85	67	126	157	149	153	70	79	58	60	49
TSS (mg/L) Weekly Average	4.0	3.0	15.0	18.0	14.0	7.0	42.0	11.0	4.0	4.0	3.0	4.0
Fecal Coliform (No./100 ml) Geometric Mean	< 4.0	< 6.0	< 9	< 7.0	< 7.0	< 4.0	< 9.0	< 27	< 8.0	< 9.0	< 9.0	< 91
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 4.0	20.4	25.2	39.2	16.4	4.0	30.0	839.2	48.8	110	31	3842.4
UV Transmittance (%) Daily Minimum	26.6	39.8	0.2	17.3	0.2	12.4	6.7	0.2	11	5.3	5.6	13.9
Nitrate-Nitrite (mg/L) Average Monthly	11.77	18.5	19.88	22.34	24.02	31.12	< 29.94	< 32.33	< 30.08	< 29.35	25.85	34.912
Total Nitrogen (mg/L) Average Monthly	< 12.34	< 18.75	< 20.873	25.4851	< 25.44	< 31.62	< 30.645	32.83	< 30.58	< 29.85	25.85	34.912
Ammonia (lbs/day) Average Monthly	< 0.06	< 0.05	< 0.05	< 0.05	0.1	< 0.09	< 0.1	< 0.03	< 0.02	< 0.02	< 0.1	< 0.02
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1169	0.1252	0.375	< 0.2801	< 0.232	< 0.1	< 0.1102	< 0.1251	< 0.2678	< 0.09131
TKN (mg/L) Average Monthly	< 0.5647	< 0.5	< 0.997	< 3.1501	< 1.423	< 0.5	< 0.707	< 3.2	< 0.5	< 0.5	< 0.5	< 0.5
Total Phosphorus (mg/L) Average Monthly	4.09	4.09	4.41	4.93	3.93	4.37	4.81	6.68	6.1	7.5	5.76	7.9

Existing Effluent Limitations and Monitoring Requirements

Outfall 001,

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
$CBOD_5$	21.0	33.0 Wkly Avg	XXX	25.0	40.0	50.0	1/week	24-Hr Composite
TSS	25.0	38.0 Wkly Avg	XXX	30.0	45.0	60.0	1/week	24-Hr Composite
BOD_5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Ammonia May 1 - Oct 31	4.2	XXX	XXX	5.0	XXX	10.0	1/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	12.5	XXX	XXX	15.0	XXX	30.0	1/week	24-Hr Composite
TKN	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.1
Latitude 40º 23' 52.15" **Longitude** -77º 56' 43.55"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

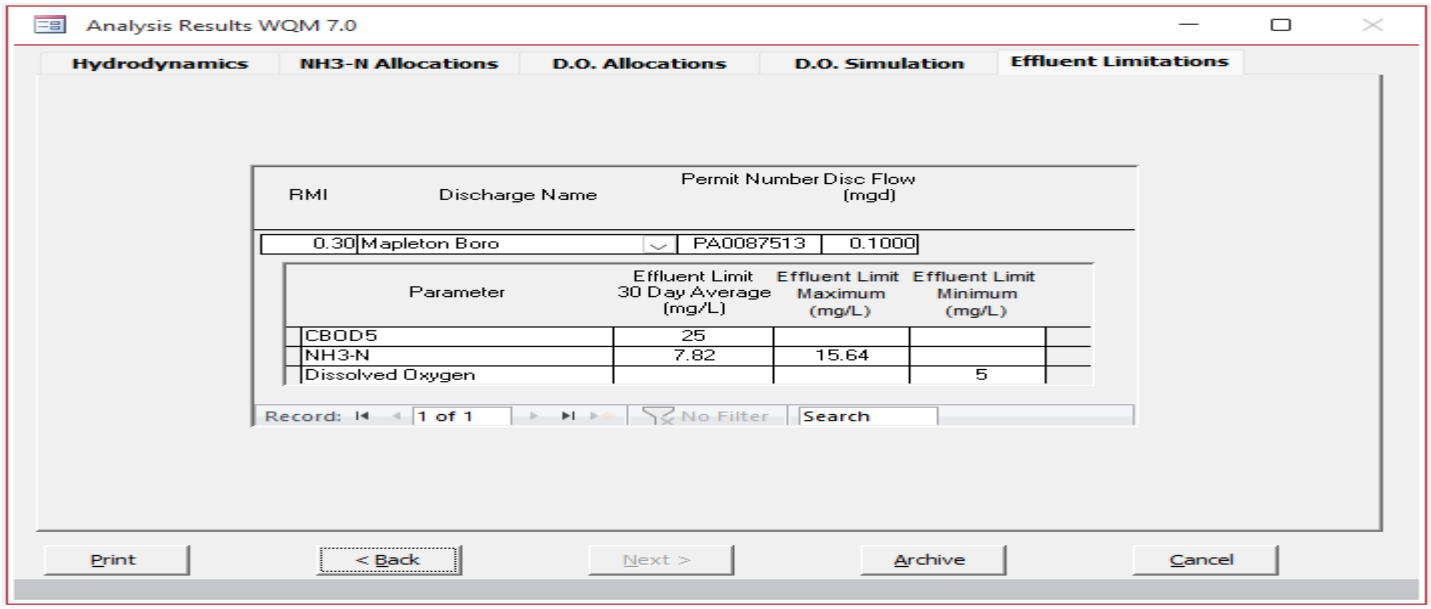
Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	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 UV disinfection.

Water Quality-Based Limitations

Ammonia (NH_3-N):
NH_3N calculations are based on the Department's Implementation Guidance of Section 93.7 Ammonia Criteria, dated 11/4/97 (ID No. 391-2000-013). The following data is necessary to determine the in-stream NH_3-N criteria used in the attached WQM 7.0 computer model of the stream:

*	Discharge pH	=	7.0	(Default)
*	Discharge Temperature	=	25°C	(Default)
*	Stream pH	=	7.0	(Default)
*	Stream Temperature	=	20ºC	(Default)
*	Background NH_3-N	=	0 mg/L	(Default)



The printout of the WQM 7.0 output indicates that at a discharge of 0.1 MGD, limits (rounded according to the NPDES Technical Guidance 362-0400-001) of 7.82 mg/L NH_3-N as a monthly average and 15.64 mg/L NH_3-N instantaneous maximum are necessary to protect the aquatic life from toxicity effects.

The more stringent summer in existing limits of 5.0 mg/L monthly average & 10.0 mg/L IMAX will remain in the proposed permit due to anti-backsliding requirements. The winter effluent limit will be set at three-times the summer limits. Recent DMRs and inspection reports indicate that the facility has been consistently achieving these limits. Mass limits are calculated as follows:

Summer average monthly mass limit: 5.0 mg/L x 0.1 MGD x 8.34 = 4.17 (4.2) lbs/day
Winter average monthly mass limit: 4.2 lbs/day x 3 = 12.51 (12.5) lbs/day

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$):
The attached computer printout of the WQM 7.0 stream model indicates that a monthly average limit of 25.0 mg/L, or secondary treatment, is adequate to protect the water quality of the stream. Therefore, the existing limits of 25.0 mg/L monthly average (AML), 40.0 mg/l average weekly limit (AWL), and 50.0 mg/L instantaneous maximum will remain in the proposed permit as per guidance document 391-2000-014. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits. Mass limits are calculated as follows:

Average monthly mass limit: 25.0 mg/L x 0.1 MGD x 8.34 = 20.85 (21.0) lbs/day
Average weekly mass limit: 40.0 mg/L x 0.1 MGD x 8.34 = 33.36 (33.0) lbs/day

Total Suspended Solids (TSS):
The existing technology-based limits of 30.0 mg/L average monthly, 45.0 mg/L average weekly, and 60.0 mg/L instantaneous maximum will remain in the permit based on the minimum level of effluent quality attainable by secondary treatment based on 25 Pa. Code § 92a.47. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits. Mass limits are calculated as follows:

Average monthly mass limit: 30.0 mg/L x 0.1 MGD x 8.34 = 25.0 lbs/day
Average weekly mass limit: 45.0 mg/L x 0.1 MGD x 8.34 = 37.5 (38.0) lbs/day

Dissolved Oxygen (D.O.):
A minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. This is consistent with the previous permit and current Department criteria.

pH:
The effluent discharge pH should remain above 6 and below 9 standard units according to 25 Pa. Code § 95.2(1).

Fecal Coliform:
The recent coliform guidance in 25 Pa. Code § 92a.47.(a)(4) requires a summer technology limit of 200/100 ml as a geometric mean and an instantaneous maximum not greater than 1,000/100 ml and 25 Pa. Code § 92a.47.(a)(5) requires a winter limit of 2,000/100 ml as a geometric mean and an instantaneous maximum not greater than 10,000/100 ml.

E. Coli:
As recommended by DEP's SOP No. BCW-PMT-033, version 2.0 revised February 5, 2024, a routine monitoring for E. Coli will be included in the proposed permit under 25 Pa. Code § 92a.61. This requirement applies to all sewage dischargers greater than 0.002 MGD in their new and reissued permits. A monitoring frequency of 1/quarter will be included in the permit to be consistent with the recommendation from this SOP.

Ultraviolet (UV):
Since UV is used for disinfection, routine monitoring of UV light transmittance (%) will remain in the proposed permit.

Toxics:
This is a minor sewage facility receiving domestic wastewater only and the current application does not require sampling of toxic pollutants (or heavy metals) for those facilities with design flows less than 0.1 MGD. Therefore, no reasonable potential analysis for toxic pollutants has been performed for this permit renewal.

Stormwater:
There is no stormwater outfall associated with this facility.

Chesapeake Bay Strategy:
The Department formulated a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). Sewage discharges have been prioritized by Central Office based on their delivered TN loadings to the Bay. The highest priority (Phases I, II, and III) dischargers will receive annual loading caps based on their design flow on August 29, 2005 and concentrations of 6 mg/L TN and 0.8 mg/L TP. These limits may be achieved through a combination of treatment technology, credits, or offsets. Phase IV (0.2 -0.4 MGD) will be required to monitor and report TN and TP during permit renewal monthly and Phase V (below 0.2 MGD) will monitor during current permit renewal once a year. However, any facility in Phases IV and V that undergoes expansion is subjected to cap load right away. This plant, classified as a phase V, will be required to monitor and report for Total Phosphorus, Nitrate-Nitrite as N, Total Kjeldahl Nitrogen, and Total Nitrogen. The weekly "Monitor & Report" requirements for TP, Nitrate-Nitrite as N, and Total Kjeldahl Nitrogen; and monthly calculation "Monitor & Report" for TN will remain in the proposed permit.

Antidegradation (93.4):
The effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High-Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

303d Listed Streams:
The discharge is not located on a 303d listed stream segment. The stream segment that receives the discharge is listed as attaining its uses for aquatic life and fish consumption.

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

WQM 7.0 Data:

*	Discharge pH	=	7.0	(Default)
*	Discharge Temperature	=	25°C	(Default)
*	Stream pH	=	7.0	(Default)
*	Stream Temperature	=	20°C	(Default)
*	Background NH_3-N	=	0 mg/L	(Default)

Node 1: Outfall 001 on Hares Valley Creek (13270)
- Elevation: 573.41 ft (USGS National Map Viewer)
- Drainage Area: 13.1 $mi.^2$ (USGS PA StreamStats)
- River Mile Index: 0.3 (PA DEP eMapPA)
- Q_{7-10} Low Flow Yield: 0.030 $cfs/mi.^2$
- Discharge Flow: 0.10 MGD (NPDES permit)

Node 2: Just before confluence Hares Valley Creek to Juniata River
- Elevation: 562.64 ft (USGS National Map Viewer)
- Drainage Area: 2030 $mi.^2$ (USGS PA StreamStats)
- River Mile Index: 0.001 (PA DEP eMapPA)
- Q_{7-10} Low Flow Yield: 0.030 $cfs/mi.^2$
- Discharge Flow: 0.000 MGD

Analysis Results WQM 7.0

Hydrodynamics | NH3-N Allocations | D.O. Allocations | D.O. Simulation | Effluent Limitations

RMI	Discharge Name	Permit Number	Disc Flow (mgd)
0.30	Mapleton Boro	PA0087513	0.1000

Parameter	Effluent Limit 30 Day Average (mg/L)	Effluent Limit Maximum (mg/L)	Effluent Limit Minimum (mg/L)
CBOD5	25		
NH3-N	7.82	15.64	
Dissolved Oxygen			5

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rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
13C	13270	HARES VALLEY 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)
0.300	Mapleton Boro	PA0087513	0.100	CBOD5	25		
				NH3-N	7.82	15.64	
				Dissolved Oxygen			5

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rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
13C	13270	HARES VALLEY 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
0.300	Mapleton Boro	14.31	37.58	14.31	37.58	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
0.300	Mapleton Boro	1.76	7.82	1.76	7.82	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
0.30	Mapleton Boro	25	25	7.82	7.82	5	5	0	0

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rptDOSim

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
12C	13270	HARES VALLEY CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.300	0.100	21.412	7.000
Reach Width (ft)	Reach Depth (ft)	Reach WDRatio	Reach Velocity (fps)
13.115	0.478	27.440	0.087
Reach CBOD5 (mg/L)	Reach Kc (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
8.50	1.209	2.21	0.760
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
7.327	17.175	Owens	5
Reach Travel Time (days)			
0.209			

Subreach Results

Trav.Time (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.021	8.27	2.17	7.39
0.042	8.05	2.14	7.44
0.063	7.84	2.10	7.48
0.084	7.63	2.07	7.52
0.105	7.42	2.04	7.56
0.125	7.22	2.00	7.60
0.146	7.02	1.97	7.63
0.167	6.85	1.94	7.66
0.188	6.67	1.91	7.69
0.209	6.49	1.88	7.72

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rptModelSpecs

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
W/A 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		

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rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
12C	13270	HARES VALLEY CREEK

RMI	Stream Flow (cfs)	PWS Wth (cfs)	Net Stream Flow (cfs)	Dis. Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.300	0.29	0.00	0.39	.1547	0.00682	.478	13.11	27.44	0.09	0.209	21.41	7.00
Q1-10 Flow												
0.300	0.25	0.00	0.25	.1547	0.00682	NA	NA	NA	0.07	0.247	21.90	7.00
Q30-10 Flow												
0.300	0.53	0.00	0.53	.1547	0.00682	NA	NA	NA	0.10	0.184	21.12	7.00

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rptGeneral

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
12C	13270	HARES VALLEY CREEK	0.300	573.41	13.10	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfs/mi)	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	0.000	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
Mapleton Boro	PA0087513	0.1000	0.1000	0.1000	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	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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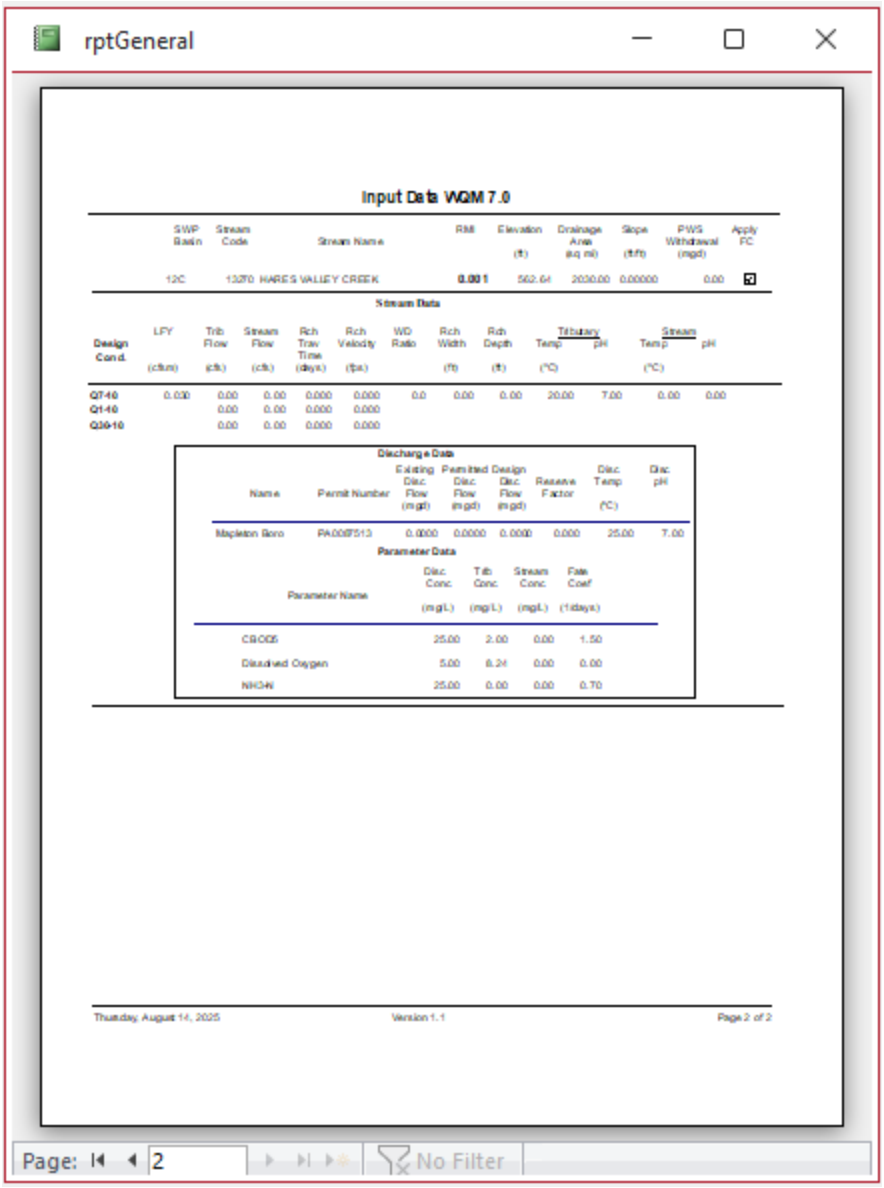
rptGeneral
Input Data WQM 7.0
SWP Basin
Stream Code
Stream Name
RMI
Elevation (ft)
Drainage Area (sq mi)
Slope (ft/ft)
PWS Withdrawal (mgd)
Apply FC
12C
13270
HARES VALLEY CREEK
0.001
562.64
2030.00
0.00000
0.00
Stream Data
Design Cond.
LFY (cfsm)
Trib Flow (cfs)
Stream Flow (cfs)
Rch Trav Time (days)
Rch Velocity (fps)
WD Ratio
Rch Width (ft)
Rch Depth (ft)
Tributary Temp (°C)
Tributary pH
Stream Temp (°C)
Stream pH
Q7-10
Q1-10
Q30-10
0.030
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.000
0.000
0.000
0.000
0.000
0.000
0.0
0.00
0.00
20.00
7.00
0.00
0.00
Discharge Data
Name
Permit Number
Existing Disc Flow (mgd)
Permitted Disc Flow (mgd)
Design Disc Flow (mgd)
Reserve Factor
Disc Temp (°C)
Disc pH
Mapleton Boro
PA0087513
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
5.00
8.24
0.00
0.00
NH3-N
25.00
0.00
0.00
0.70
Thursday, August 14, 2025
Version 1.1
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2
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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.

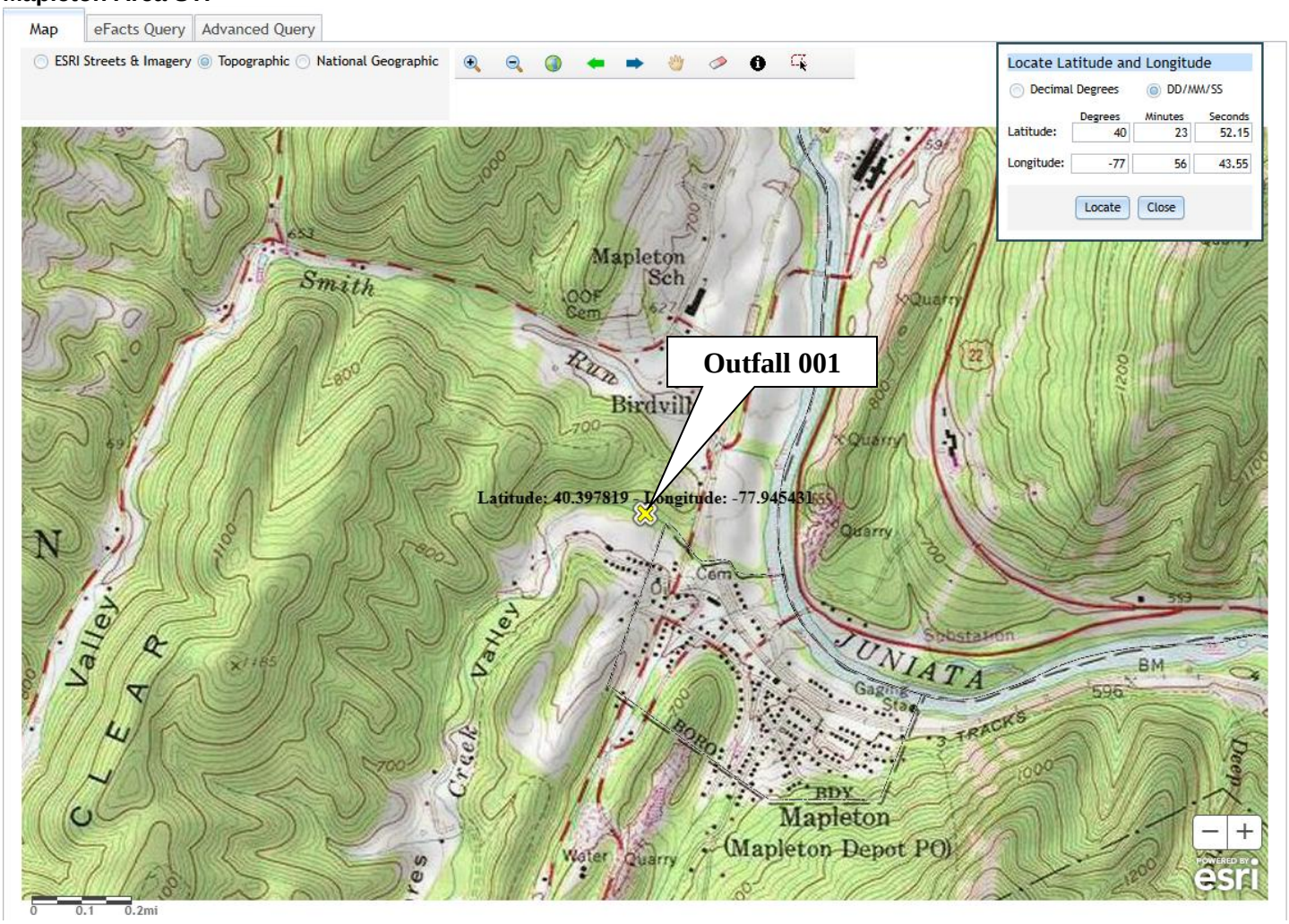
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

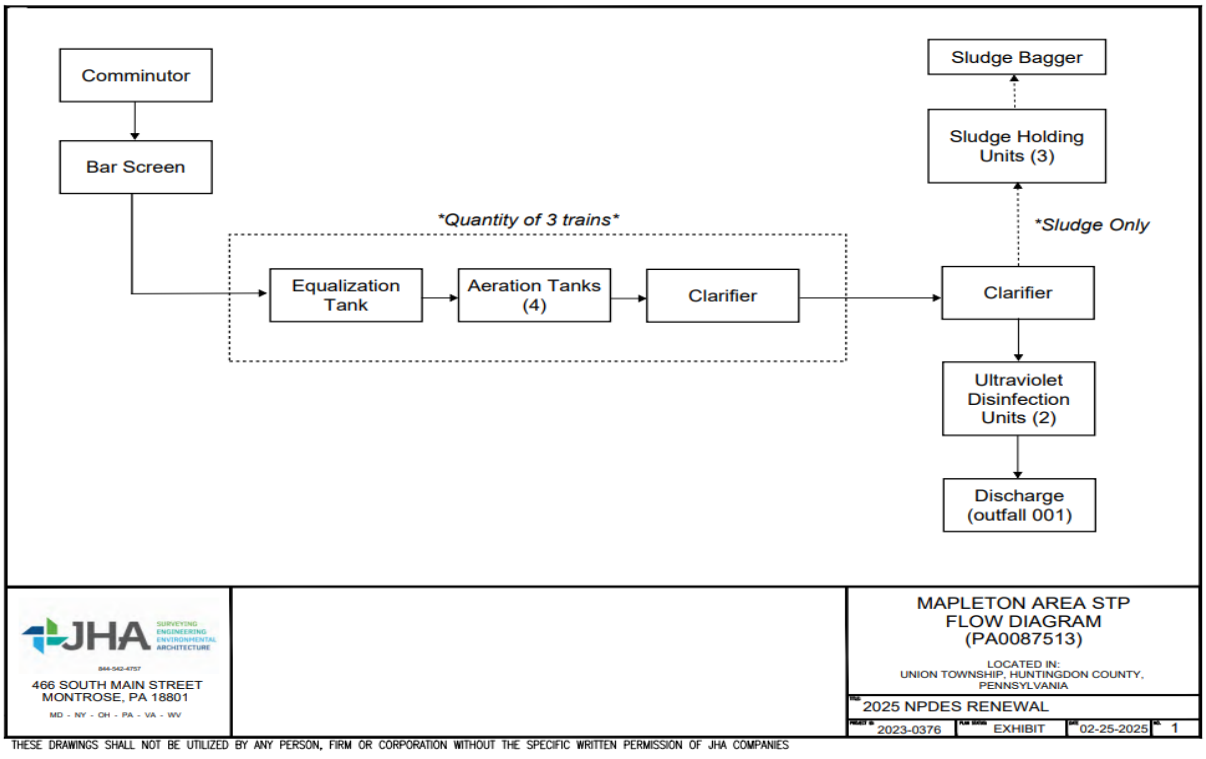
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
$CBOD_5$	21.0	33.0	XXX	25.0	40.0	50.0	1/week	24-Hr Composite
BOD_5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	25.0	38.0	XXX	30.0	45.0	60.0	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Ammonia Nov 1 - Apr 30	12.5	XXX	XXX	15.0	XXX	30.0	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	4.2	XXX	XXX	5.0	XXX	10.0	1/week	24-Hr Composite
TKN	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation

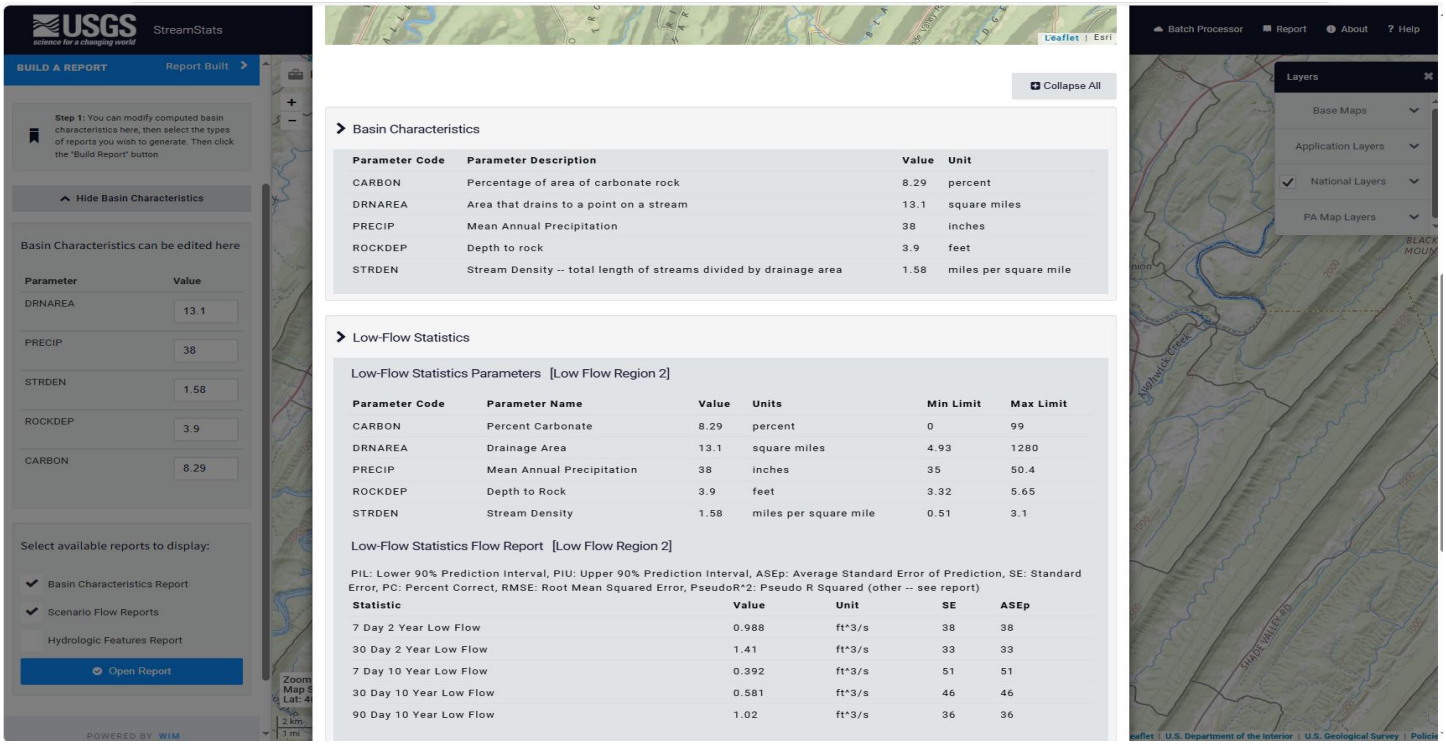
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite

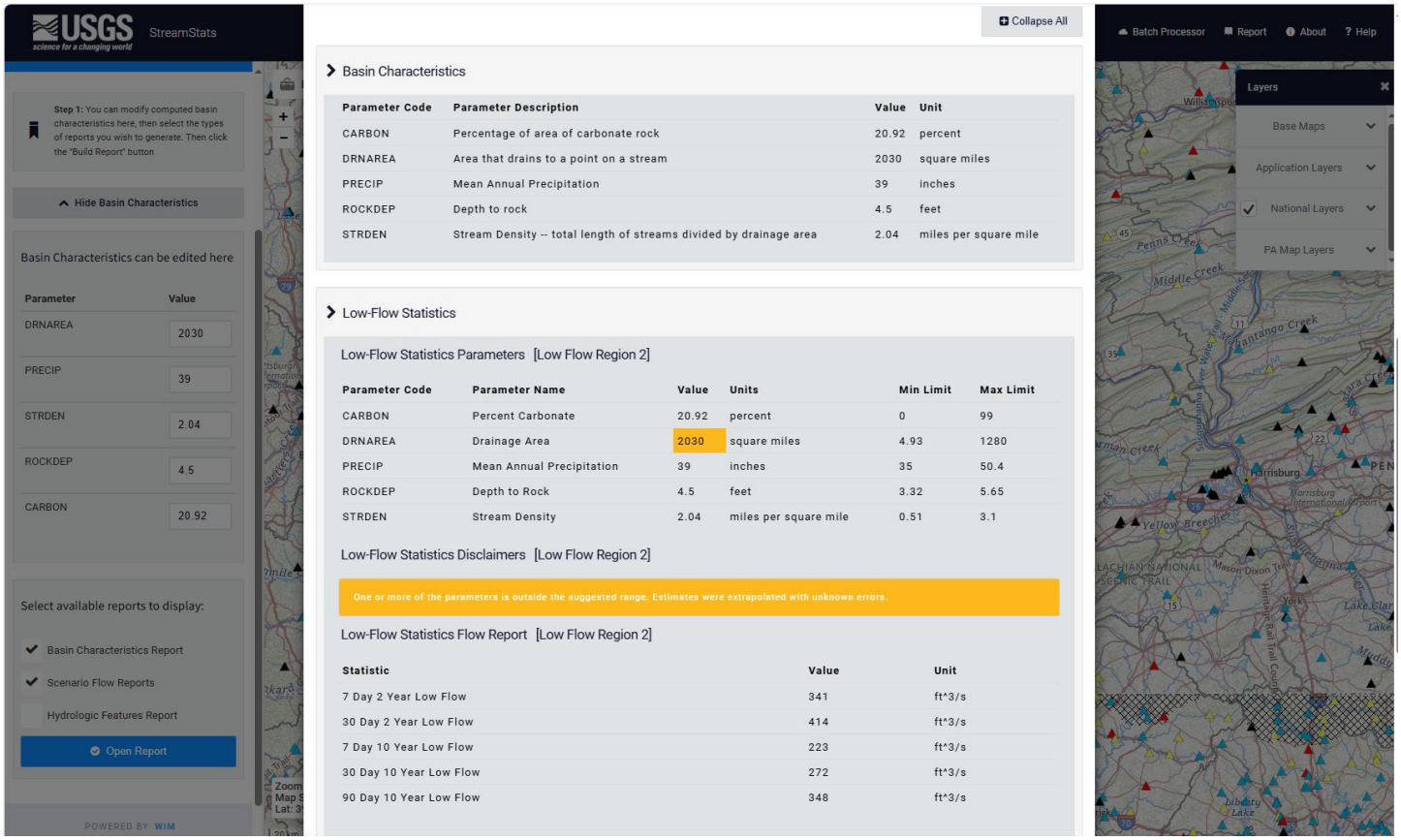
Compliance Sampling Location:

Other Comments:


Map
eFacts Query
Advanced Query
ESRI Streets & Imagery
Topographic
National Geographic
Locate Latitude and Longitude
Decimal Degrees
DD/MM/SS
Degrees Minutes Seconds
Latitude: 40 23 52.15
Longitude: -77 56 43.55
Locate
Close
Outfall 001
Latitude: 40.397819 - Longitude: -77.945431
Mapleton Sch
Smith
Run
Birdvill
Quarry
Cem
Substation
JUNIATA
BM
596
3 TRACKS
BORO
BDY
Mapleton
(Mapleton Depot PO)
Water
Valley
CLEAR
Creek
Deep
0 0.1 0.2mi
esri


Comminutor
Bar Screen
Quantity of 3 trains
Equalization Tank
Aeration Tanks (4)
Clarifier
Sludge Bagger
Sludge Holding Units (3)
*Sludge Only
Clarifier
Ultraviolet Disinfection Units (2)
Discharge (outfall 001)
JHA
SURVEYING ENGINEERING ENVIRONMENTAL ARCHITECTURE
844-542-4757
466 SOUTH MAIN STREET
MONTROSE, PA 18801
MD - NY - OH - PA - VA - WV
MAPLETON AREA STP
FLOW DIAGRAM
(PA0087513)
LOCATED IN:
UNION TOWNSHIP, HUNTINGDON COUNTY, PENNSYLVANIA
2025 NPDES RENEWAL
2023-0376
EXHIBIT
02-25-2025
1
THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF JHA COMPANIES


USGS StreamStats
BUILD A REPORT
Report Built
Step 1: You can modify computed basin characteristics here, then select the types of reports you wish to generate. Then click the "Build Report" button
Hide Basin Characteristics
Basin Characteristics can be edited here
Parameter
Value
DRNAREA
13.1
PRECIP
38
STRDEN
1.58
ROCKDEP
3.9
CARBON
8.29
Select available reports to display:
Basin Characteristics Report
Scenario Flow Reports
Hydrologic Features Report
Open Report
POWERED BY WIM
Collapse All
Basin Characteristics
Parameter Code
Parameter Description
Value
Unit
CARBON
Percentage of area of carbonate rock
8.29
percent
DRNAREA
Area that drains to a point on a stream
13.1
square miles
PRECIP
Mean Annual Precipitation
38
inches
ROCKDEP
Depth to rock
3.9
feet
STRDEN
Stream Density -- total length of streams divided by drainage area
1.58
miles per square mile
Low-Flow Statistics
Low-Flow Statistics Parameters [Low Flow Region 2]
Parameter Code
Parameter Name
Value
Units
Min Limit
Max Limit
CARBON
Percent Carbonate
8.29
percent
0
99
DRNAREA
Drainage Area
13.1
square miles
4.93
1280
PRECIP
Mean Annual Precipitation
38
inches
35
50.4
ROCKDEP
Depth to Rock
3.9
feet
3.32
5.65
STRDEN
Stream Density
1.58
miles per square mile
0.51
3.1
Low-Flow Statistics Flow Report [Low Flow Region 2]
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
0.988
ft^3/s
38
38
30 Day 2 Year Low Flow
1.41
ft^3/s
33
33
7 Day 10 Year Low Flow
0.392
ft^3/s
51
51
30 Day 10 Year Low Flow
0.581
ft^3/s
46
46
90 Day 10 Year Low Flow
1.02
ft^3/s
36
36
Batch Processor
Report
About
Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers


USGS StreamStats
Step 1: You can modify computed basin characteristics here, then select the types of reports you wish to generate. Then click the "Build Report" button
Hide Basin Characteristics
Basin Characteristics can be edited here
Parameter
Value
DRNAREA
2030
PRECIP
39
STRDEN
2.04
ROCKDEP
4.5
CARBON
20.92
Select available reports to display:
Basin Characteristics Report
Scenario Flow Reports
Hydrologic Features Report
Open Report
POWERED BY WIM
Collapse All
Basin Characteristics
Parameter Code
Parameter Description
Value
Unit
CARBON
Percentage of area of carbonate rock
20.92
percent
DRNAREA
Area that drains to a point on a stream
2030
square miles
PRECIP
Mean Annual Precipitation
39
inches
ROCKDEP
Depth to rock
4.5
feet
STRDEN
Stream Density -- total length of streams divided by drainage area
2.04
miles per square mile
Low-Flow Statistics
Low-Flow Statistics Parameters [Low Flow Region 2]
Parameter Code
Parameter Name
Value
Units
Min Limit
Max Limit
CARBON
Percent Carbonate
20.92
percent
0
99
DRNAREA
Drainage Area
2030
square miles
4.93
1280
PRECIP
Mean Annual Precipitation
39
inches
35
50.4
ROCKDEP
Depth to Rock
4.5
feet
3.32
5.65
STRDEN
Stream Density
2.04
miles per square mile
0.51
3.1
Low-Flow Statistics Disclaimers [Low Flow Region 2]
One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.
Low-Flow Statistics Flow Report [Low Flow Region 2]
Statistic
Value
Unit
7 Day 2 Year Low Flow
341
ft^3/s
30 Day 2 Year Low Flow
414
ft^3/s
7 Day 10 Year Low Flow
223
ft^3/s
30 Day 10 Year Low Flow
272
ft^3/s
90 Day 10 Year Low Flow
348
ft^3/s
Batch Processor
Report
About
Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers
Harrisburg

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: BCW-PMT-033
☐	Other: