

Application Type Renewal  
 Facility Type Municipal  
 Major / Minor Minor

**NPDES PERMIT FACT SHEET  
INDIVIDUAL SEWAGE**

Application No. PA0021849  
 APS ID 43544  
 Authorization ID 1545502

**Applicant and Facility Information**

Applicant Name	<u>Millerstown Municipal Authority Perry County</u>	Facility Name	<u>Millerstown STP</u>
Applicant Address	<u>PO Box 739 44 North High Street Millerstown, PA 17062-0739</u>	Facility Address	<u>116 W Juniata Parkway Millerstown, PA 17062-0739</u>
Applicant Contact	<u>Jared Wagner</u>	Facility Contact	<u>Timothy Reilly</u>
Applicant Phone	<u>(717) 513-7294</u>	Facility Phone	<u>(717) 513-7294</u>
Client ID	<u>51410</u>	Site ID	<u>248314</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Greenwood Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Perry</u>
Date Application Received	<u>October 14, 2025</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>October 27, 2025</u>	If No, Reason	<u></u>
Purpose of Application	<u>This is an application for NPDES renewal</u>		

**Summary of Review**

The application submitted by the applicant requests a NPDES renewal permit for the Millerstown Municipal Authority WWTP located at 116 W Juniata Parkway, Millerstown, PA 17062 in Perry County, municipality of Greenwood Township. The existing permit became effective on May 1, 2021 and expires(d) on April 30, 2026. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on October 14, 2025.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's receiving waters attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 0.120 MGD treatment facility. The applicant does not anticipate any proposed upgrades to the treatment facility in the next five years. The NPDES application has been processed as a Minor Sewage Facility (Level 2) due to the type of sewage and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Perry County Commissioners and Greenwood Township Supervisors, Millerstown Borough Council and the notice was received by the parties on June 20, 2025, June 7, 2025, and June 12, 2025. A planning approval letter was not necessary as the facility is neither new or expanding.

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	December 1, 2025
X		Daniel W. Martin, P.E. / Environmental Engineer Manager <i>Daniel W. Martin</i>	January 14, 2026

### Summary of Review

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be Juniata River. The sequence of receiving streams that the Juniata River discharges into the Susquehanna River which eventually drains into the Chesapeake Bay. The subject site is subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for warm water fishes (WWF) and migratory fishes (MF). No Class A Wild Trout fisheries are impacted by this discharge. The absence of high quality and/or exceptional value surface waters removes the need for an additional evaluation of anti-degradation requirements.

The Juniata River is a Category 2 and 5 stream listed in the 2024 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an impaired stream for aquatic life due to high pH from agriculture. The receiving stream is attaining for fish consumption. The receiving waters is not subject to a total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **Due to the EPA triennial review, monitoring for E. coli shall be required.**

Sludge use and disposal description and location(s): Biosolids/sewage sludge disposed at Kline's Services, LLC in East Pennfield Township, Lancaster County and at Manheim Township, Lancaster County as sewage sludge

The proposed permit will expire five (5) years from the effective date.

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

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file review, contact the SCRO File Review Coordinator at 717.705.4700.

## **1.0 Applicant**

### **1.1 General Information**

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

Facility Name: Millerstown STP

NPDES Permit # PA0021849

Physical Address: 116 West Juniata Parkway  
Millerstown, PA 17062

Mailing Address: 44 North High Street  
Millerstown, PA 17062

Contact: Jared Wagner  
Plant Manager  
(717) 513-7294  
millerstown@gmail.com

Consultant: Isaac Underhill  
Project Engineer  
Herbert, Rowland & Grubic  
(717)-564-1121  
[iunderhill@hrg-inc.com](mailto:iunderhill@hrg-inc.com)

### **1.2 Permit History**

Permit submittal included the following information.

- NPDES Application
- Flow Diagrams
- Influent Sample Data
- Effluent Sample Data

## **2.0 Treatment Facility Summary**

### **2.1.1 Site location**

The physical address for the facility is 116 West Juniata Parkway, Millerstown, PA 17062. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

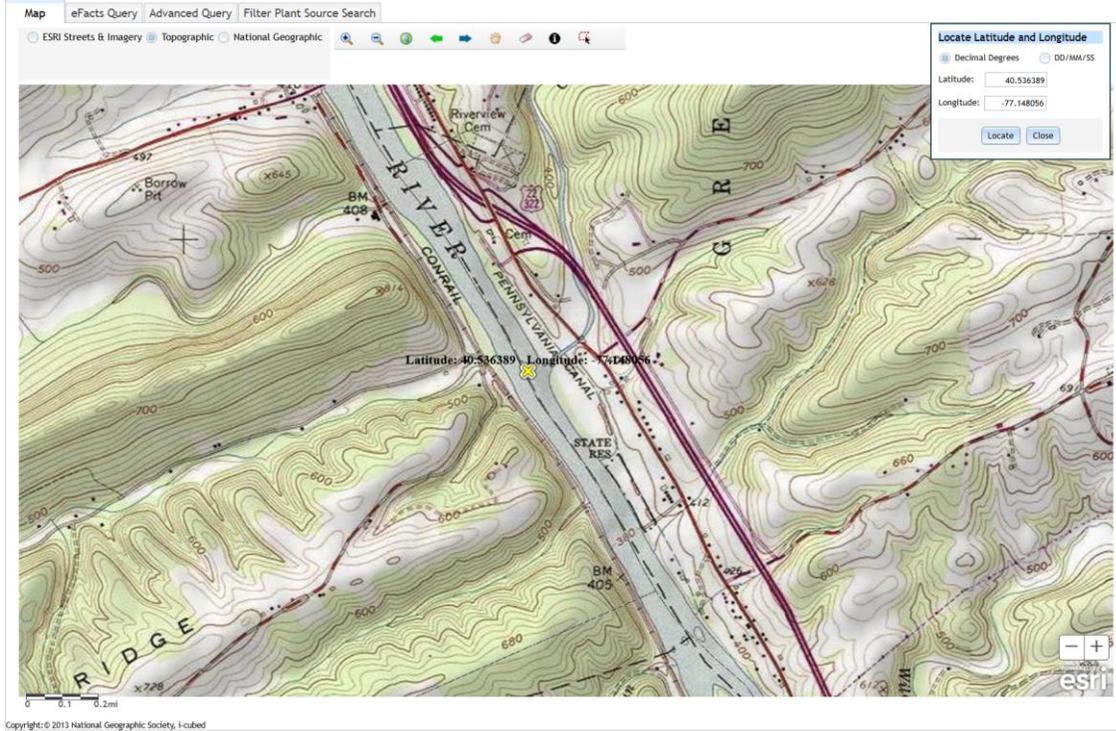
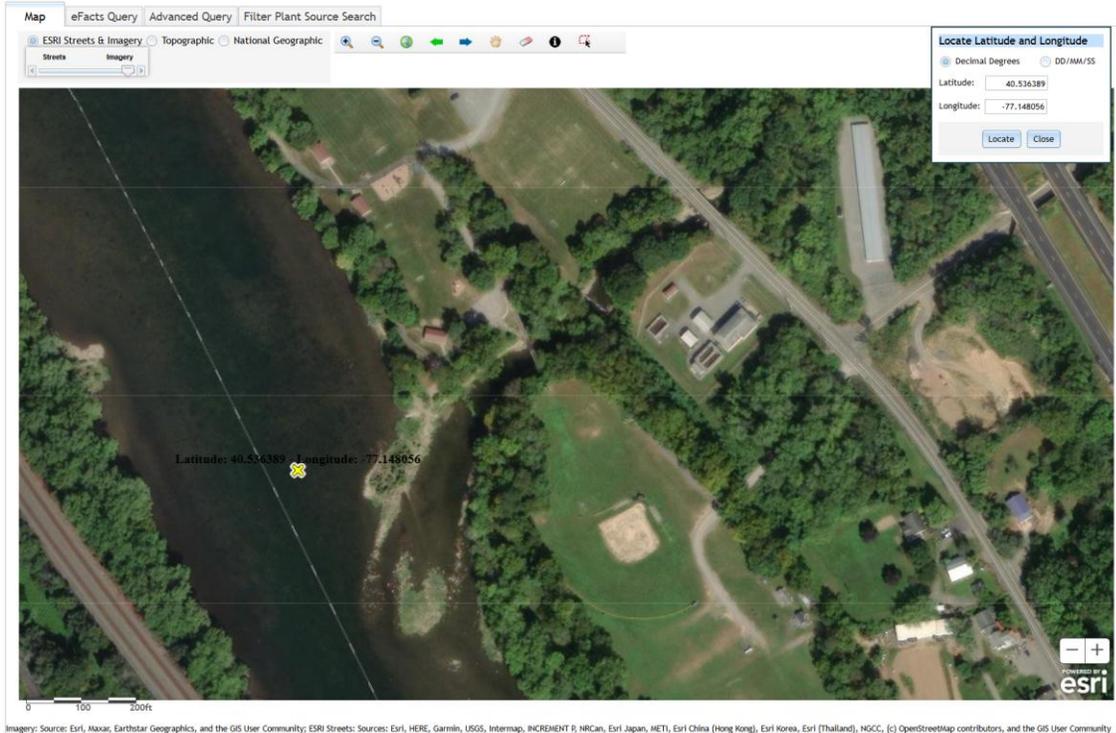


Figure 2: Aerial Photograph of the subject facility



**2.1.2 Sources of Wastewater/Stormwater**

The facility reported they do not receive industrial/commercial contributions.

The facility did not receive hauled-in wastes in the last three years and does not anticipate receiving hauled in wastes in the next five years.

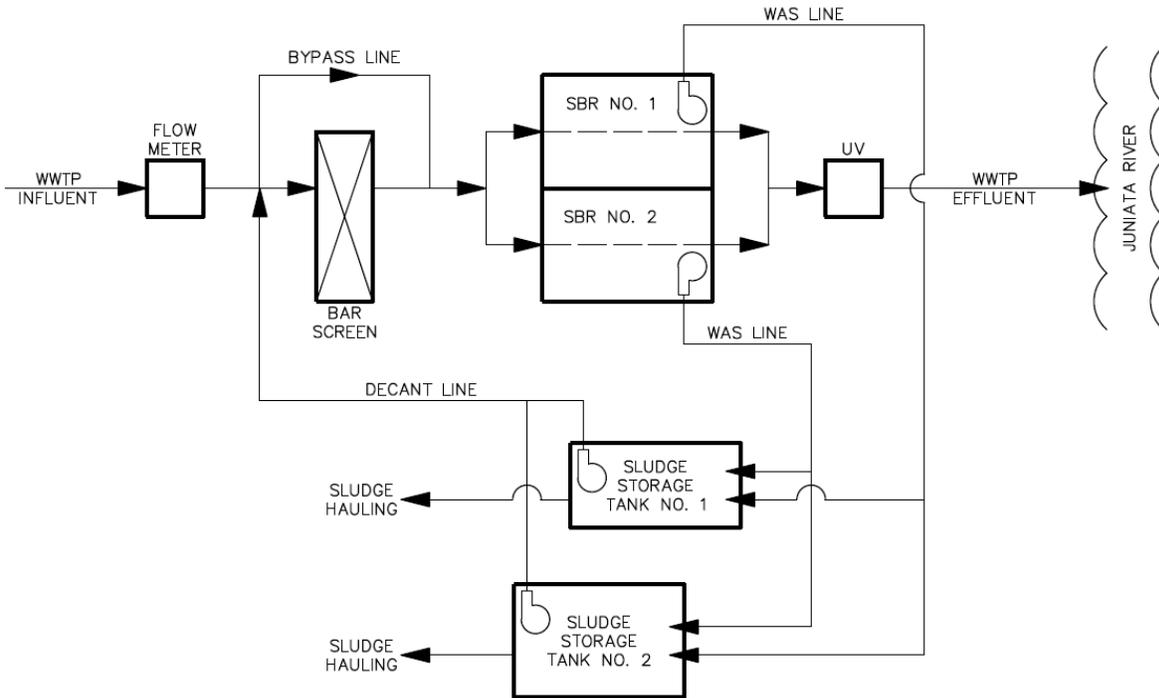
**2.2 Description of Wastewater Treatment Process**

The subject facility is a 0.120 MGD design flow facility. The subject facility treats wastewater using a SBR and an UV disinfection prior to discharge through the outfall. The facility is being evaluated for flow, pH dissolved oxygen, CBOD5, TSS, fecal coliform, UV, nitrogen species, and phosphorus. The existing permits limits for the facility is summarized in Section 2.4.

The treatment process is summarized in the table.

Treatment Facility Summary				
<b>Treatment Facility Name:</b> Millerstown STP				
<b>WQM Permit No.</b>	<b>Issuance Date</b>			
5010401	09/22/2010			
5010401	03/06/2014			
<b>Waste Type</b>	<b>Degree of Treatment</b>	<b>Process Type</b>	<b>Disinfection</b>	<b>Avg Annual Flow (MGD)</b>
Sewage	Secondary	Activated Sludge	Ultraviolet	0.12
<b>Hydraulic Capacity (MGD)</b>	<b>Organic Capacity (lbs/day)</b>	<b>Load Status</b>	<b>Biosolids Treatment</b>	<b>Biosolids Use/Disposal</b>
0.12	205	Not Overloaded	Aerobic Digestion	Other WWTP

A schematic of the process is depicted.



**2.3 Facility Outfall Information**

The facility has the following outfall information for wastewater.

<b>Outfall No.</b>	001	<b>Design Flow (MGD)</b>	.12
<b>Latitude</b>	40° 32' 11.00"	<b>Longitude</b>	-77° 8' 53.00"
<b>Wastewater Description:</b>	Sewage Effluent		

The subject facility outfall is within the vicinity of another sewage/wastewater outfall. The downstream outfall is Newport Borough MA (PA0021237) which is about 5 miles from the subject facility.

**2.3.1 Operational Considerations- Chemical Additives**

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- The facility reported that no chemicals are used in their treatment process.

**2.4 Existing NPDES Permits Limits**

The existing NPDES permit limits are summarized in the table.

**PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS**

I. A. For Outfall 001, Latitude 40° 32' 11.00", Longitude 77° 8' 53.00", River Mile Index 16.4, Stream Code 11414

Receiving Waters: Juniata River (WWF, MF)

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **May 1, 2021** through **April 30, 2026**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Instantaneous 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
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	25	40	XXX	25.0	40.0	50	2/month	8-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Suspended Solids	30	45	XXX	30.0	45.0	60	2/month	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	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
Ultraviolet light intensity (mW/cm <sup>2</sup> )	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded

Outfall001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ammonia-Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

**PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS**

I. B. For Outfall 001, Latitude 40° 32' 11.00", Longitude 77° 8' 53.00", River Mile Index 14.36, Stream Code 11414

Receiving Waters: Juniata River (WWF, MF)

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **May 1, 2021** through **April 30, 2026**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Net Total Nitrogen	Report	6697	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	974	XXX	XXX	XXX	XXX	1/month	Calculation

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

Footnotes:

(1) See Part C for Chesapeake Bay Requirements.

- (2) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events required.

### **3.0 Facility NPDES Compliance History**

#### **3.1 Summary of Inspections**

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspection.

03/29/2022: There was nothing significant to report

More recent inspection reports were not available in DEP computer system. Operations staff has been notified to conduct an inspection.

#### **3.2 Summary of DMR Data**

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility below the design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 0.096 MGD. The design capacity of the treatment system is 0.120 MGD.

The off-site laboratory used for the analysis of the parameters was ALS Middletown located at 301 Fulling Mill Road, Middletown, PA 17057.

DMR Data for Outfall 001 (from September 1, 2024 to August 31, 2025)

Parameter	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24
Flow (MGD) Average Monthly	0.034	0.049	0.082	0.096	0.056	0.059	0.059	0.037	0.052	0.041	0.039	0.040
Flow (MGD) Daily Maximum	0.050	0.108	0.183	0.200	0.095	0.160	0.151	0.074	0.169	0.101	0.092	0.077
pH (S.U.) Instantaneous Minimum	6.3	6.2	6.2	6.2	6.3	6.3	6.2	6.3	6.2	6.3	6.5	6.4
pH (S.U.) Instantaneous Maximum	7.1	6.5	6.4	6.4	6.6	6.6	6.5	6.5	6.5	6.8	6.8	6.6
DO (mg/L) Instantaneous Minimum	6.8	6.7	6.8	6.8	6.8	6.9	8.0	7.9	6.9	6.4	6.4	6.4
CBOD5 (lbs/day) Average Monthly	0.9	< 1	5	< 3	1.0	3	1	0.9	2	4	1	0.9
CBOD5 (lbs/day) Weekly Average	1.0	2	7	5	2	5	1	1	3	8	2	1.0
CBOD5 (mg/L) Average Monthly	3.3	< 2.9	8.2	< 3.6	2.5	3.1	3.0	2.5	4.2	9.6	3.1	3.1
CBOD5 (mg/L) Weekly Average	3.3	3.7	14.0	5.2	2.9	3.5	3.1	2.5	4.5	14.8	3.8	3.6
BOD5 (lbs/day) Raw Sewage Influent   Average Monthly	129	63	43	62	80	128	64	135	51	96	98	105
BOD5 (lbs/day) Raw Sewage Influent   Daily Maximum	171	71	45	73	89	205	90	165	64	137	119	105
BOD5 (mg/L) Raw Sewage Influent   Average Monthly	446	132	68	85	133	124	195	406	136	238	234	372
TSS (lbs/day) Average Monthly	4	4	4	4	4	< 5	< 2	< 2	3	6	< 2	2.0

**NPDES Permit Fact Sheet  
Millerstown STP**

**NPDES Permit No. PA0021849**

TSS (lbs/day) Raw Sewage Influent   Average Monthly	137	114	82	113	172	130	61	98	125	174	105	129
TSS (lbs/day) Raw Sewage Influent   Daily Maximum	155	131	85	123	223	189	97	175	200	193	106	140
TSS (lbs/day) Weekly Average	5	6	5	4	5	< 7	< 2	< 2	5	7	< 3	3.0
TSS (mg/L) Average Monthly	14.0	8.5	5.5	5.5	7.0	< 5.5	< 5.0	< 5.0	5.5	15.5	< 5.5	7.5
TSS (mg/L) Raw Sewage Influent   Average Monthly	483	246	127	163	282	137	191	325	212	485	281	460
TSS (mg/L) Weekly Average	19.0	11.0	6.0	6.0	8.0	6.0	5.0	< 5.0	6.0	18.0	6.0	9.0
Fecal Coliform (No./100 ml) Geometric Mean	2	< 2	< 1.0	2.0	8	29	12	< 3	< 2.0	< 4	2.0	51
Fecal Coliform (No./100 ml) Instantaneous Maximum	5	3	< 1.0	3.0	33	136	141	8	4.0	20	5.0	136
UV Intensity (mW/cm <sup>2</sup> ) Instantaneous Minimum	1.5	1.4	1.4	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.4
Nitrate-Nitrite (mg/L) Average Monthly	< 5.16	< 6.96	< 4.41	< 4.36	< 2.88	< 9.31	< 10	0.42	< 9.31	< 2.0	< 2.0	< 16.28
Nitrate-Nitrite (lbs) Total Monthly	< 45	< 104	< 88	< 105	< 52	< 290	< 97	4	< 153	< 59	< 71	< 143
Total Nitrogen (mg/L) Average Monthly	< 7.36	< 9.11	< 5.91	< 5.81	< 5.58	< 14.76	< 17.85	< 10.86	< 13.91	< 17.78	< 7.45	< 17.58
Total Nitrogen (lbs) Effluent Net   Total Monthly	< 64	< 135	< 117	< 138	< 101	< 463	< 173	< 117	< 212	< 238	< 98	< 154
Total Nitrogen (lbs) Total Monthly	< 64	< 135	< 117	< 138	< 101	< 463	< 173	< 117	< 212	< 238	< 98	< 154
Total Nitrogen (lbs) Effluent Net   Total Annual												< 1513

**NPDES Permit Fact Sheet  
Millerstown STP**

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Total Nitrogen (lbs) Total Annual												< 1513
Ammonia (lbs/day) Average Monthly	0.02	0.02	< 0.03	0.05	0.4	5	2	0.1	1.0	5	0.3	< 0.02
Ammonia (mg/L) Average Monthly	0.08	0.06	< 0.06	0.08	0.66	4.16	6.51	0.42	5.12	9.86	1.25	< 0.06
Ammonia (lbs) Total Monthly	0.6	0.8	< 1	2	12	142	63	4	45	152	10	< 0.5
Ammonia (lbs) Total Annual												< 104
TKN (mg/L) Average Monthly	2.2	2.2	1.5	1.5	2.7	5.5	7.9	2.2	4.6	12.2	2.7	1.3
TKN (lbs) Total Monthly	19	31	29	33	49	173	75	23	59	179	27	11
Total Phosphorus (lbs/day) Average Monthly	1	0.8	0.8	4	2	3	0.8	1	2.0	1.0	0.7	2
Total Phosphorus (mg/L) Average Monthly	3.9	1.7	1.3	4.6	2.9	3.0	2.3	3.3	3.1	3.2	2.0	6.2
Total Phosphorus (lbs) Effluent Net   Total Monthly	34	24	25	116	53	79	22	34	60	39	23	54
Total Phosphorus (lbs) Total Monthly	34	24	25	116	53	79	22	34	60	39	23	54
Total Phosphorus (lbs) Effluent Net   Total Annual												< 461
Total Phosphorus (lbs) Total Annual												< 461

**3.2.1 Chesapeake Bay Truing**

The table summarizes the facility's compliance/noncompliance with Chesapeake Bay cap loads.

Chesapeake Bay Annual Nutrient Summary												
Millerstown Borough												
PA0021849												
Year for Truing Period (Oct 1 - Sept 30)	Nitrogen (lbs)					Phosphorus (lbs)					Compliant with Permit Limits (Yes/No)	
	Annual Total Mass Load	Lbs Credit Purchased	Lbs from Credits Sold	Lbs Offsets Generated	Annual Net Mass Load	Annual Total Mass Load	Lbs Credit Purchased	Lbs from Credits Sold	Lbs Offsets Generated	Annual Net Mass Load	Nitrogen	Phosphorus
2021	1602				1602	672				672	Yes	Yes
2022	1133				1133	513				513	Yes	Yes
2023	1151				1151	449				449	Yes	Yes
2024	1513				1513	461				461	Yes	Yes
Notes:												
Nitrogen Annual Net Mass CAP Load =		6697	lbs									
Phosphorus Annual Net Mass CAP Load =		974	lbs									

**3.3 Non-Compliance**

**3.3.1 Non-Compliance- NPDES Effluent**

A summary of the non-compliance to the permit limits for the existing permit cycle is as follows.

From the DMR data beginning in May 1, 2021 to October 31, 2025, the following were observed effluent non-compliances.

Summary of Non-Compliance w/ NPDES Effluent Limits Beginning May 1, 2021 and Edning October 31, 2025							
MONITORING_PERIOD_BEGIN_DATE	MONITORING_PERIOD_END_DATE	SUBMISSION_DATE	REPORT_FREQUENCY_DESC	NON_COMPLIANCE_DATE	NON_COMPL_TYPE_DESC	NON_COMPL_CATEGORY_DESC	DISCHARGE_COMMENTS
8/1/2021	8/31/2021	9/24/2021	Monthly	9/24/2021		Unauthorized Discharges	heavy rainfall in a short period of time, pumps at pumping station could not keep up.
9/1/2021	9/30/2021	10/28/2021	Monthly	10/28/2021		Unauthorized Discharges	4.4 inches of rain over a short period of time caused overflow at pump station, also ground had heavy saturation from previous rain.
5/1/2022	5/31/2022	6/23/2022	Monthly	6/23/2022	Other	Other Violations	
5/1/2023	5/31/2023	6/27/2023	Monthly	6/27/2023		Unauthorized Discharges	Received 3.38 inches of rain in a couple of days
7/1/2023	7/31/2023	8/23/2023	Monthly	8/23/2023		Unauthorized Discharges	Had 4 inches of rain in a 5 hour period.
1/9/2024	1/10/2024	1/12/2024	Non-Compliance Incident	1/12/2024	Other	Other Violations	
4/3/2024	4/3/2024	4/5/2024	Non-Compliance Incident	4/5/2024		Unauthorized Discharges	received heavy rain in a four day span total amount of rain fall was 3.87 inches total resulting in pumps not being able to keep up after awhile. cleaned street no additional clean up needed at the river
8/9/2024	8/9/2024	8/12/2024	Non-Compliance Incident	8/12/2024		Unauthorized Discharges	Received large amount of rain fall in a 24 hour duration (3.21 inches )

**3.3.2 Non-Compliance- Enforcement Actions**

A summary of the non-compliance enforcement actions for the current permit cycle is as follows:

Beginning in May 1, 2021 to October 31, 2025, there were no observed enforcement actions.

**3.4 Summary of Biosolids Disposal**

A summary of the biosolids disposed of from the facility is as follows.

<b>2024</b>			
<b>Sewage Sludge / Biosolids Production Information</b>			
Hauled Off-Site			
Date (2024)	Gallons	% Solids	Dry Tons
January	12000	1.4	0.701
February	18000	1.2	0.901
March	12000	1.2	0.6
April	12000	1.1	0.55
May	18000	1.37	1.026
June	12000	1.35	0.676
July	6000	1.5	0.375
August	6000	1	0.25
September	6000	3	0.751
October	12000	1.1	0.55
November	12000	1.8	0.901
December	6000	1.6	0.4
Notes:			
Biosolids/sewage sludge disposed at Kline's Services, LLC in East Pennfield Township, Lancaster County and at Manheim Township, Lancaster County as sewage sludge			

**3.5 Open Violations**

No open violations existed as of November 2025.

**4.0 Receiving Waters and Water Supply Information Detail Summary**

**4.1 Receiving Waters**

The receiving waters has been determined to be Juniata River. The sequence of receiving streams that the Juniata River discharges into the Susquehanna River which eventually drains into the Chesapeake Bay.

**4.2 Public Water Supply (PWS) Intake**

The closest PWS to the subject facility is Newport Boro Water Auth (PWS ID #7500022) located approximately 4 miles downstream of the subject facility on the Juniata River. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

#### **4.3 Class A Wild Trout Streams**

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that no Class A Wild Trout Fishery will be impacted by this discharge.

#### **4.4 2024 Integrated List of All Waters (303d Listed Streams)**

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

**The receiving waters is listed in the 2024 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 2 and 5 waterbody. The receiving waters is impaired for aquatic life due to high pH from agriculture. The surface waters is an attaining stream that supports fish consumption. The designated use has been classified as protected waters for warm water fishes (WWF) and migratory fishes (MF).**

#### **4.5 Low Flow Stream Conditions**

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 -year time period. The facility discharge is based upon a known design capacity of the subject facility.

The closest WQN station to the subject facility is the Juniata River station at Newport, PA (WQN214). This WQN station is located approximately 4 miles downstream of the subject facility.

The closest gauge station to the subject facility is the Juniata River station at Newport, PA (USGS station number 1567000). This gauge station is located approximately 4 miles downstream of the subject facility.

For WQM modeling, pH and stream water temperature data from the water quality network station was used. pH was estimated to be 8.4 and the stream water temperature was estimated to be 23.97 C.

The hardness of the stream was estimated from the water quality network to be 97 mg/l CaCO<sub>3</sub>.

The low flow yield and the Q710 for the subject facility was estimated using StreamStats

The low flow yield is 0.119 ft<sup>3</sup>/s/mi<sup>2</sup> and the Q710 is 382 ft<sup>3</sup>/s

**4.6 Summary of Discharge, Receiving Waters and Water Supply Information**

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.12</u>
Latitude	<u>40° 32' 10.41"</u>	Longitude	<u>-77° 8' 51.14"</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>Sewage Effluent</u>			

Receiving Waters	<u>Juniata River (WWF, MF)</u>	Stream Code	<u>11414</u>
NHD Com ID	<u>66205141</u>	RMI	<u>16.5</u>
Drainage Area	<u>3200</u>	Yield (cfs/mi <sup>2</sup> )	<u>0.119</u>
Q <sub>7-10</sub> Flow (cfs)	<u>382</u>	Q <sub>7-10</sub> Basis	<u>StreamStats</u>
Elevation (ft)	<u>380</u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>12-B</u>	Chapter 93 Class.	<u>WWF, MF</u>
Existing Use	<u></u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Attaining Use(s) supports fish consumption. Impaired for fish consumption</u>		
Cause(s) of Impairment	<u>Agriculture</u>		
Source(s) of Impairment	<u>High pH</u>		
TMDL Status	<u>Not applicable</u>	Name	<u></u>

Background/Ambient Data		Data Source	
pH (SU)	<u>8.4</u>	WQN214; Median July to Sept	<u></u>
Temperature (°C)	<u>23.97</u>	WQN214; Median July to Sept	<u></u>
Hardness (mg/L)	<u>97</u>	WQN214; Historical Median	<u></u>
Other:	<u></u>		<u></u>

Nearest Downstream Public Water Supply Intake	<u>Newport Boro Water Authority</u>		
PWS Waters	<u>Juniata River</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u>12.67</u>	Distance from Outfall (mi)	<u>4</u>

**5.0: Overview of Presiding Water Quality Standards**

**5.1 General**

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET) The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

**5.2.1 Technology-Based Limitations**

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Available TBEL requirements for the state of Pennsylvania are itemized in PA Code 25, Chapter 92a.47.

The presiding sources for the basis for the effluent limitations are governed by either federal or state regulation. The reference sources for each of the parameters is itemized in the tables. The following technology-based limitations apply, subject to water quality analysis and best professional judgement (BPJ) where applicable:

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
CBOD <sub>5</sub>	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)

**5.2.2 Mass Based Limits**

For publicly owned treatment works (POTW), mass loadings are calculated based upon design flow rate of the facility and the permit limit concentration. The generalized calculation for mass loadings is shown below:

$$Quantity \left( \frac{lb}{day} \right) = (MGD)(Concentration)(8.34)$$

**5.3 Water Quality-Based Limitations**

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). The subject facility that is typically enforced is the more stringent limit of either the TBEL or the WQBEL.

Determination of WQBEL is calculated by spreadsheet analysis or by a computer modeling program developed by DEP. DEP permit engineers utilize the following computing programs for WQBEL permit limitations: (1) MS Excel worksheet for Total Residual Chlorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.1 (WQM Model) and (3) Toxics using DEP Toxics Management Spreadsheet for Toxics pollutants.

The modeling point nodes utilized for this facility are summarized below.

<b>General Data 1</b>	<b>(Modeling Point #1)</b>	<b>(Modeling Point #2)</b>	<b>(Modeling Point #3)</b>	<b>(Modeling Point #4)</b>	<b>Units</b>
Stream Code	11414	11414	11414	11414	
River Mile Index	16.5	12.67	11.93	8.32	miles
Elevation	380	369	366	361	feet
Latitude	40.536389	40.484178	40.475632	40.488507	
Longitude	-77.148056	-77.13335	-77.125903	-77.081913	
Drainage Area	3200	3350	3351	3380	sq miles
Low Flow Yield	0.119375	0.119402985	0.119402985	0.119230769	cfs/sq mile

### **5.3.1 Water Quality Modeling 7.0**

The WQM Model is a computer model that is used to determine NPDES discharge effluent limitations for Carbonaceous BOD (CBOD5), Ammonia Nitrogen (NH3-N), and Dissolved Oxygen (DO) for single and multiple point source discharges scenarios. WQM Model is a complete-mix model which means that the discharge flow and the stream flow are assumed to instantly and completely mixed at the discharge node.

WQM recommends effluent limits for DO, CBOD5, and NH3-N in mg/l for the discharge(s) in the simulation.

Four types of limits may be recommended. The limits are

- (a) a minimum concentration for DO in the discharge as 30-day average;
- (b) a 30-day average concentration for CBOD5 in the discharge;
- (c) a 30-day average concentration for the NH3-N in the discharge;
- (d) 24-hour average concentration for NH3-N in the discharge.

The WQM Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

**The applicable WQM Effluent Limit Type are discussed in Section 6 under the corresponding parameter which is either DO, CBOD, or ammonia-nitrogen.**

### **5.3.2 Toxics Modeling**

The Toxics Management Spreadsheet model is a computer model that is used to determine effluent limitations for toxics (and other substances) for single discharge wasteload allocations. This computer model uses a mass-balance water quality analysis that includes consideration for mixing, first-order decay, and other factors used to determine recommended water quality-based effluent limits. Toxics Management Spreadsheet does not assume that all discharges completely mix with the stream. The point of compliance with water quality criteria are established using criteria compliance times (CCTs). The available CCTs are either acute fish criterion (AFC), chronic fish criterion (CFC), or human health criteria (THH & CRL).

**Acute Fish Criterion (AFC)** measures the criteria compliance time as either the maximum criteria compliance time (i.e. 15 minutes travel time downstream of the current discharge) or the complete mix time whichever comes first. AFC is evaluated at Q710 conditions.

**Chronic Fish Criterion (CFC)** measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CFC is evaluated at Q710 conditions.

**Threshold Human Health (THH)** measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the estimated travel time downstream to the nearest potable water supply intake whichever comes first. THH is evaluated at Q710 conditions.

**Cancer Risk Level (CRL)** measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CRL is evaluated at Qh (harmonic mean or normal flow) conditions.

The Toxics Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

#### **5.3.2.1 Determining if NPDES Permit Will Require Monitoring/Limits in the Proposed Permit for Toxic Pollutants**

To determine if Toxics modeling is necessary, DEP has developed a Toxics Management Spreadsheet to identify toxics of concern. Toxic pollutants whose maximum concentrations as reported in the permit application or on DMRs are greater than the most stringent applicable water quality criterion are pollutants of concern. A Reasonable Potential Analysis was utilized to determine (a) if the toxic parameters modeled would require monitoring or (b) if permit limitations would be required for the parameters. The toxics reviewed for reasonable potential were the following pollutants: TDS, chloride, bromide, sulfate, total copper, total lead, and total zinc.

The NPDES application collected one sample.

Based upon the SOP- Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants (Revised January 10, 2019), monitoring and/or limits will be established as follows.

- (a) When reasonable potential is demonstrated, establish limits where the maximum reported concentration equals or exceeds 50% of the WQBEL.
- (b) For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
- (c) For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

**Applicable monitoring or permit limits for toxics are summarized in Section 6.**

**The Toxics Management Spreadsheet output has been included in Attachment B.**

#### **5.3.3 Whole Effluent Toxicity (WET)**

The facility is not subject to WET,

#### **5.4 Total Maximum Daily Loading (TMDL)**

##### **5.4.1 TMDL**

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (TMDL) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

A TMDL for a given pollutant and waterbody is composed of the sum of individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background levels. In addition, the TMDL must include an implicit or explicit margin of safety (MOS) to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving waterbody. The TMDL components are illustrated using the following equation:

$$\text{TMDL} = \sum \text{WLAs} + \sum \text{LAs} + \text{MOS}$$

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

#### **5.4.1.1 Local TMDL**

The subject facility does not discharge into a local TMDL.

#### **5.4.1.2 Chesapeake Bay TMDL Requirement**

The Chesapeake Bay Watershed is a large ecosystem that encompasses approximately 64,000 square miles in Maryland, Delaware, Virginia, West Virginia, Pennsylvania, New York and the District of Columbia. An ecosystem is composed of interrelated parts that interact with each other to form a whole. All of the plants and animals in an ecosystem depend on each other in some way. Every living thing needs a healthy ecosystem to survive. Human activities affect the Chesapeake Bay ecosystem by adding pollution, using resources and changing the character of the land.

Most of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the federal Water Pollution Control Act ("Clean Water Act"), 33 U.S.C. § 1313(d). While the Chesapeake Bay is outside the boundaries of Pennsylvania, more than half of the State lies within the watershed. Two major rivers in Pennsylvania are part of the Chesapeake Bay Watershed. They are (a) the Susquehanna River and (b) the Potomac River. These two rivers total 40 percent of the entire Chesapeake Bay watershed.

The overall management approach needed for reducing nitrogen, phosphorus and sediment are provided in the Bay TMDL document and the Phase I, II, and III WIPs which is described in the Bay TMDL document and Executive Order 13508.

The Bay TMDL is a comprehensive pollution reduction effort in the Chesapeake Bay watershed identifying the necessary pollution reductions of nitrogen, phosphorus and sediment across the seven Bay watershed jurisdictions of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia to meet applicable water quality standards in the Bay and its tidal waters.

The Watershed Implementation Plans (WIPs) provides objectives for how the jurisdictions in partnership with federal and local governments will achieve the Bay TMDL's nutrient and sediment allocations.

Phase 3 WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. The latest revision of the supplement was September 13, 2021.

The Chesapeake Bay TMDL (Appendix Q) categorizes point sources into four sectors:

- Sector A- significant sewage dischargers;
- Sector B- significant industrial waste (IW) dischargers;
- Sector C- non-significant dischargers (both sewage and IW facilities); and
- Sector D- combined sewer overflows (CSOs).

All sectors contain a listing of individual facilities with NPDES permits that were believed to be discharging at the time the TMDL was published (2010). All sectors with the exception of the non-significant dischargers have individual wasteload allocations (WLAs) for TN and TP assigned to specific facilities. Non-significant dischargers have a bulk or aggregate allocation for TN and TP based on the facilities in that sector that were believed to be discharging at that time and their estimated nutrient loads.

Cap Loads will be established in permits as Net Annual TN and TP loads (lbs/yr) that apply during the period of October 1 – September 30. For facilities that have received Cap Loads in any other form, the Cap Loads will be modified accordingly when the permits are renewed.

Offsets have been incorporated into Cap Loads in several permits issued to date. From this point forward, permits will be issued with the WLAs as Cap Loads and will identify Offsets separately to facilitate nutrient trading activities and compliance with the TMDL.

Based upon the supplement the subject facility has been categorized as a Sector C discharger. The supplement defines Sector C as a non-significant dischargers include sewage facilities (Phase 4 facilities:  $\geq 0.2$  MGD and  $< 0.4$  MGD and Phase

5 facilities: > 0.002 MGD and < 0.2 MGD), small flow/single residence sewage treatment facilities ( $\leq$  0.002 MGD), and non-significant IW facilities, all of which may be covered by statewide General Permits or may have individual NPDES permits.

At this time, there are approximately 850 Phase 4 and 5 sewage facilities, approximately 715 small flow sewage treatment facilities covered by a statewide General Permit, and approximately 300 non-significant IW facilities.

For Phase 4 sewage facilities (average annual design flow on August 29, 2005  $\geq$  0.2 MGD and < 0.4 MGD), a future decision may be made as to the establishment of Cap Loads in permits. Until then, DEP will permit Phase 4 sewage facilities as follows:

1. Renewed or amended permits for facilities that do not increase design flow (compared to the date of the latest prior permit action) will contain monitoring and reporting for TN and TP throughout the permit term at a frequency no less than monthly.
2. Renewed or amended permits that include an increase in design flow will contain Cap Loads based on the lesser of a) existing TN and TP concentrations at current design average annual flow or b) 7,306 lbs/yr TN and 974 lbs/yr TP.

If no data are available to determine existing concentrations for expanding Phase 4 or 5 facilities, default concentrations of 25 mg/l TN and 4 mg/l TP may be used (these are the average estimated concentrations of all non-significant sewage facilities).

DEP will not issue permits to existing Phase 4 and 5 facilities containing Cap Loads unless it is done on a broad scale or unless the facilities are expanding.

For new Phase 4 and 5 sewage discharges, in general DEP will issue new permits containing Cap Loads of "0" and new facilities will be expected to purchase credits and/or apply offsets to achieve compliance, with the exception of small flow and single residence facilities.

**This facility is subject to Sector C monitoring requirements. Monitoring for nitrogen species and phosphorus shall be at least 2x/month.**

### *Reporting*

Cap Loads will be established in permits as Net Annual TN and TP loads (lbs/yr) that apply during the period of October 1 – September 30.

Facilities with NPDES permits must use DEP's eDMR system for reporting, except small flow treatment facilities. An Annual DMR must be submitted by the end of the Truing Period, November 28. As attachments to the Annual DMR a facility must submit a completed Annual Chesapeake Bay Spreadsheet, available through DEP's Supplemental Reports website, which contains an Annual Nutrient Monitoring worksheet and an Annual Nutrient Budget worksheet. This Spreadsheet will be submitted once per Compliance Year only, and reflect all nutrient sample results (for the period October 1 – September 30), Credit transactions (including the Truing Period) and Offsets applied during the Compliance Year.

### **5.5 Anti-Degradation Requirement**

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost

of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

**The subject facility's discharge will be to a non-special protection waters and the permit conditions are imposed to protect existing instream water quality and uses. Neither HQ waters or EV waters is impacted by this discharge.**

### **5.6 Anti-Backsliding**

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (40 CFR 122.I.1 and 40 CFR 122.I.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

### **6.0 NPDES Parameter Details**

The basis for the proposed sampling and their monitoring frequency that will appear in the permit for each individual parameter are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, anti-degradation, or WET.

The reader will find in this section:

- a) a justification of recommended permit monitoring requirements and limitations for each parameter in the proposed NPDES permit;
- b) a summary of changes from the existing NPDES permit to the proposed permit; and
- c) a summary of the proposed NPDES effluent limits.

### **6.1 Recommended Monitoring Requirements and Effluent Limitations**

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The tables are categorized by (a) Conventional Pollutants and Disinfection, (b) Nitrogen Species and Phosphorus, (c) Toxics, and (d) Non-Conventional Pollutants, and (e) Chapter 92a.61 targeted parameters

**6.1.1 Conventional Pollutants and Disinfection**

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection			
Millerstown STP; PA0021849			
Parameter	Permit Limitation Required by <sup>1</sup> :	Recommendation	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 95.2(1).
Dissolved Oxygen	BPJ	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits shall be greater than 5.0 mg/l.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by best professional judgement.
CBOD	TBEL	Monitoring:	The monitoring frequency shall be 2x/month as an 8-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 25 lbs/day and 25 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). WQM modeling indicates that the TBEL is more stringent than the WQBEL. Thus, the permit limit is confined to TBEL.
TSS	TBEL	Monitoring:	The monitoring frequency shall be 2x/month as a 24-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 30 lbs/day and 30 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). While there is no WQM modeling for this parameter, the permit limit for TSS is generally assigned similar effluent limits as CBOD or BOD.
UV disinfection	SOP	Monitoring:	The monitoring frequency is 1/day. The facility will be required to recording the UV intensity.
		Effluent Limit:	No effluent requirements.
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised January 10, 2019), the facility will be required to have routine monitoring for UV transmittance, UV dosage, or UV intensity.
Fecal Coliform	TBEL	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-3).
		Effluent Limit:	Summer effluent limits shall not exceed 200 No./100 mL as a geometric mean. Winter effluent limits shall not exceed 2000 No./100 mL as a geometric mean.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(4) and 92a.47(a)(5).

**Notes:**

- 1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other
- 2 Monitoring frequency based on flow rate of 0.120 MGD.
- 3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97
- 4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)
- 5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

**6.1.2 Nitrogen Species and Phosphorus**

Summary of Proposed NPDES Parameter Details for Nitrogen Species and Phosphorus			
Millerstown STP; PA0021849			
Parameter	Permit Limitation Required by <sup>1</sup> :	Recommendation	
Ammonia-Nitrogen	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 2x/mo as an 8-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 2x/mo.
Nitrate-Nitrite as N	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 2x/mo as an 8-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 2x/mo.
Total Nitrogen	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/mo as an 8-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 2x/yr.
TKN	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 2x/mo as an 8-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 2x/mo.
Total Phosphorus	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 2x/mo as an 8-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 2x/mo.
Net Total Nitrogen	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/yr as a calculation
		Effluent Limit:	Effluent limits shall not exceed 6,697 lbs/yr.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 1x/yr.
Net Total Phosphorus	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/yr as a calculation
		Effluent Limit:	Effluent limits shall not exceed 974 lbs/yr.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 1x/yr.
<b>Notes:</b>			
1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other			
2 Monitoring frequency based on flow rate of 0.120 MGD.			
3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97			
4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)			
5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021			

**6.1.3 Toxics**

For Toxics Management Spreadsheet (TMS), the data for the following pollutants were entered into the worksheet: TDS, chloride, sulfate, total copper, and total zinc. The application report non detect for bromide and total lead. The application manager reviewed the laboratory data submitted for these pollutants. The RDL for bromide and total lead were entered into TMS. TMS did not recommend monitoring or effluent limits for any pollutants.

**6.1.3.1 Implementation of Regulation- Chapter 92a.61**

Chapter 92a.61 provides provisions to DEP to monitor for pollutants that may have an impact on the quality of waters of the Commonwealth.

Based upon DEP policy directives the following pollutants shall be monitored:

- Consistent with DEP Management directives issued on March 22, 2021 and in conjunction with EPA’s 2017 Triennial Review, monitoring for E. Coli shall be required. The monitoring frequency is based upon flow rate.

Summary of Proposed NPDES Parameter Details for pollutants monitored under Chapter 92a.61 Millerstown STP; PA0021849			
Parameter	Permit Limitation Required by <sup>1</sup> :	Recommendation	
E. Coli	SOP; Chapter 92a.61	Monitoring:	The monitoring frequency shall be 1x/quarter as a grab sample (SOP).
		Effluent Limit:	No effluent requirements.
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised February 5, 2024) and under the authority of Chapter 92a.61, the facility will be required to monitor for E. Coli.
Notes:			
1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other			
2 Monitoring frequency based on flow rate of 0.120 MGD.			
3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97			
4 Water Quality Antidegradation Implementation Guidance (Document # 391-0300-002)			
5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021			

**6.2 Summary of Changes From Existing Permit to Proposed Permit**

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

- **Due to the EPA triennial review, monitoring for E. coli shall be required.**

**6.3.1 Summary of Proposed NPDES Effluent Limits**

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" (362-0400-001), SOPs and/or BPJ.

The proposed NPDES effluent limitations are summarized in the table below.

**PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS**

I. A. For Outfall 001, Latitude 40° 32' 11.00", Longitude 77° 8' 53.00", River Mile Index 16.5, Stream Code 11414

Receiving Waters: Juniata River (WWF, MF)

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Instantaneous 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
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	25	40	XXX	25.0	40.0	50	2/month	8-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Suspended Solids	30	45	XXX	30.0	45.0	60	2/month	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	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	Report Daily Max	XXX	1/quarter	Grab

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ultraviolet light intensity (mW/cm <sup>2</sup> )	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
Ammonia-Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

**PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS**

I. B. For Outfall 001, Latitude 40° 32' 11.00", Longitude 77° 8' 53.00", River Mile Index 16.5, Stream Code 11414

Receiving Waters: Juniata River (WWF, MF)

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Net Total Nitrogen	Report	6697	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	974	XXX	XXX	XXX	XXX	1/month	Calculation

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

Footnotes:

(1) See Part C for Chesapeake Bay Requirements.

**6.3.2 Summary of Proposed Permit Part C Conditions**

The subject facility has the following Part C conditions.

- SBR Batch Discharge Condition
- UV Monitoring Conditions
- Hauled-in Waste Restrictions
- Chesapeake Bay Nutrient Definitions
- Solids Management for Non-Lagoon Treatment Systems

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment [redacted])
<input checked="" type="checkbox"/>	Toxics Management Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	TRC Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Design Stream Flows, 386-2000-003, 9/98.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input type="checkbox"/>	SOP: [redacted]
<input type="checkbox"/>	Other: [redacted]

14 Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania

Table 1. List of U.S. Geological Survey streamgage locations in and near Pennsylvania with updated streamflow statistics.—Continued

[Latitude and Longitude in decimal degrees; mi<sup>2</sup>, square miles]

Streamgage number	Streamgage name	Latitude	Longitude	Drainage area (mi <sup>2</sup> )	Regulated <sup>1</sup>
01561000	Brush Creek at Gapsville, Pa.	39.956	-78.254	36.8	N
01562000	Raystown Branch Juniata River at Saxton, Pa.	40.216	-78.265	756	N
01562500	Great Trough Creek near Marklesburg, Pa.	40.350	-78.130	84.6	N
01563200	Raystown Branch Juniata River below Rays Dam nr Huntingdon, Pa.	40.429	-77.991	960	Y
01563500	Juniata River at Mapleton Depot, Pa.	40.392	-77.935	2,030	Y
01564500	Aughwick Creek near Three Springs, Pa.	40.213	-77.925	205	N
01565000	Kishacoquillas Creek at Reedsville, Pa.	40.655	-77.583	164	N
01565700	Little Lost Creek at Oakland Mills, Pa.	40.605	-77.311	6.52	N
01566000	Tuscarora Creek near Port Royal, Pa.	40.515	-77.419	214	N
01566500	Cocolamus Creek near Millerstown, Pa.	40.566	-77.118	57.2	N
01567000	Juniata River at Newport, Pa.	40.478	-77.129	3,354	Y
01567500	Bixler Run near Loysville, Pa.	40.371	-77.402	15.0	N
01568000	Sherman Creek at Shermans Dale, Pa.	40.323	-77.169	207	N
01568500	Clark Creek near Carsonville, Pa.	40.460	-76.751	22.5	LF
01569000	Stony Creek nr Dauphin, Pa.	40.380	-76.907	33.2	N
01569800	Letort Spring Run near Carlisle, Pa.	40.235	-77.139	21.6	N
01570000	Conodoguinet Creek near Hogestown, Pa.	40.252	-77.021	470	LF
01570500	Susquehanna River at Harrisburg, Pa.	40.255	-76.886	24,100	Y
01571000	Paxton Creek near Penbrook, Pa.	40.308	-76.850	11.2	N
01571500	Yellow Breeches Creek near Camp Hill, Pa.	40.225	-76.898	213	N
01572000	Lower Little Swatara Creek at Pine Grove, Pa.	40.538	-76.377	34.3	N
01572025	Swatara Creek near Pine Grove, Pa.	40.533	-76.402	116	N
01572190	Swatara Creek near Inwood, Pa.	40.479	-76.531	167	N
01573000	Swatara Creek at Harper Tavern, Pa.	40.403	-76.577	337	N
01573086	Beck Creek near Cleona, Pa.	40.323	-76.483	7.87	N
01573160	Quittapahilla Creek near Belle Grove, Pa.	40.343	-76.562	74.2	N
01573500	Manada Creek at Manada Gap, Pa.	40.397	-76.709	13.5	N
01573560	Swatara Creek near Hershey, Pa.	40.298	-76.668	483	N
01574000	West Conewago Creek near Manchester, Pa.	40.082	-76.720	510	N
01574500	Codorus Creek at Spring Grove, Pa.	39.879	-76.853	75.5	Y
01575000	South Branch Codorus Creek near York, Pa.	39.921	-76.749	117	Y
01575500	Codorus Creek near York, Pa.	39.946	-76.755	222	Y
01576000	Susquehanna River at Marietta, Pa.	40.055	-76.531	25,990	Y
01576085	Little Conestoga Creek near Churchtown, Pa.	40.145	-75.989	5.82	N
01576500	Conestoga River at Lancaster, Pa.	40.050	-76.277	324	N
01576754	Conestoga River at Conestoga, Pa.	39.946	-76.368	470	N
01578310	Susquehanna River at Conowingo, Md.	39.658	-76.174	27,100	Y
01578400	Bowery Run near Quarryville, Pa.	39.895	-76.114	5.98	N
01580000	Deer Creek at Rocks, Md.	39.630	-76.403	94.4	N
01581500	Bynum Run at Bel Air, Md.	39.541	-76.330	8.52	N
01581700	Winters Run near Benson, Md.	39.520	-76.373	34.8	N
01582000	Little Falls at Blue Mount, Md.	39.604	-76.620	52.9	N
01582500	Gunpowder Falls at Glencoe, Md.	39.550	-76.636	160	Y
01583000	Slade Run near Glyndon, Md.	39.495	-76.795	2.09	N
01583100	Piney Run at Dover, Md.	39.521	-76.767	12.3	N

Table 2 27

**Table 2.** Selected low-flow statistics for streamgage locations in and near Pennsylvania.—Continued

[ft<sup>3</sup>/s; cubic feet per second; —, statistic not computed; <, less than]

Streamgage number	Period of record used in analysis <sup>1</sup>	Number of years used in analysis	1-day, 10-year (ft <sup>3</sup> /s)	7-day, 10-year (ft <sup>3</sup> /s)	7-day, 2-year (ft <sup>3</sup> /s)	30-day, 10-year (ft <sup>3</sup> /s)	30-day, 2-year (ft <sup>3</sup> /s)	90-day, 10-year (ft <sup>3</sup> /s)
01565000	1941–2008	37	17.6	18.6	28.6	20.3	32.4	24.4
01565700	1965–1981	17	.4	.4	.9	.5	1.1	.8
01566000	1913–2008	52	4.3	7.9	18.8	12.4	25.6	19.2
01566500	1932–1958	27	1.7	2.4	4.0	3.2	5.7	4.9
01567000	<sup>2</sup> 1974–2008	35	504	534	725	589	857	727
01567000	<sup>3</sup> 1901–1972	72	311	367	571	439	704	547
01567500	1955–2008	54	2.0	2.2	3.3	2.6	3.8	3.1
01568000	1931–2008	78	12.7	15.5	25.5	19.2	32.0	26.0
01568500	<sup>2</sup> 1943–1997	55	1.8	2.3	4.3	2.7	5.0	3.1
01569000	1939–1974	14	2.6	4.0	7.4	5.1	9.4	7.8
01569800	1978–2008	31	15.9	17.0	24.4	18.4	26.1	20.3
01570000	<sup>3</sup> 1913–1969	35	—	63.1	110	76.1	124	95.3
01570000	<sup>2</sup> 1971–2008	38	63.1	69.3	109	78.3	125	97.8
01570500	<sup>3</sup> 1901–1972	72	2,310	2,440	4,000	2,830	4,950	3,850
01570500	<sup>2</sup> 1974–2008	35	3,020	3,200	5,180	3,690	6,490	4,960
01571000	1941–1995	16	.1	.2	.6	.3	1.2	.8
01571500	1911–2008	62	81.6	86.8	115	94.0	124	105
01572000	1921–1984	14	2.1	2.3	4.8	3.0	6.5	4.5
01572025	1990–2008	17	15.2	16.4	26.7	18.5	34.6	27.7
01572190	1990–2008	17	19.1	20.5	36.2	23.9	45.8	35.3
01573000	1920–2008	89	18.0	22.0	52.0	30.8	69.2	50.9
01573086	1965–1981	17	.5	.6	2.6	.8	3.3	1.1
01573160	1977–1994	18	26.9	29.6	46.4	33.6	51.9	39.5
01573500	1939–1958	20	1.3	1.4	2.5	1.8	3.2	2.6
01573560	1977–2008	30	50.3	62.0	104	76.9	131	108
01574000	1930–2008	79	8.0	11.1	32.0	17.7	47.0	33.9
01574500	<sup>2</sup> 1968–2008	41	14.2	24.0	35.9	29.4	42.0	33.3
01574500	<sup>3</sup> 1930–1966	34	2.3	7.1	11.5	9.3	14.8	12.7
01575000	<sup>2</sup> 1973–1995	23	.7	1.4	6.7	3.2	12.0	9.3
01575000	<sup>3</sup> 1929–1971	43	.1	.6	10.3	2.3	15.0	6.1
01575500	<sup>2</sup> 1948–1996	49	12.1	18.7	41.3	23.9	50.0	33.8
01576000	<sup>3</sup> 1933–1972	40	2,100	2,420	4,160	2,960	5,130	4,100
01576000	<sup>2</sup> 1974–2008	35	2,990	3,270	5,680	3,980	7,180	5,540
01576085	1984–1995	12	.4	.5	.8	.7	1.2	1.2
01576500	1931–2008	78	27.2	38.6	79.4	49.1	97.3	66.1
01576754	1986–2008	23	74.2	84.9	151	106	189	147
*01578310	1969–2008	40	549	2,820	5,650	4,190	7,380	6,140
01578400	1964–1981	18	1.4	1.5	2.7	1.9	3.2	2.5
*01580000	1928–2008	81	19.7	22.8	48.1	28.1	51.8	35.4
*01581500	1946–2008	28	.2	.3	1.2	.8	1.7	1.5
*01581700	1969–2008	40	4.7	5.5	17.5	8.1	18.3	12.0
*01582000	1946–2008	63	11.3	12.5	25.0	15.5	28.0	20.3
*01582500	1979–2008	27	41.2	43.9	78.8	53.8	90.6	74.1
*01583000	1949–1981	33	.3	.3	.7	.3	1.0	.6
*01583100	1984–2008	15	2.1	2.4	5.5	3.2	6.0	4.2

**WQM 7.0 Effluent Limits**

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>					
12B	11414	JUNIATA RIVER					
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)
16.500	Millerstown STP	PA0021849-25	0.120	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			5
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)
11.930	Newport Boro	PA0021237-25	0.510	CBOD5	25		
				NH3-N	3	6	
				Dissolved Oxygen			5

**WQM 7.0 Wasteload Allocations**

SWP Basin      Stream Code                      Stream Name  
12B                      11414                                      JUNIATA RIVER

**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
16.500	Millerstown STP	1.35	50	1.35	50	0	0
12.670		NA	NA	1.35	NA	NA	NA
11.930	Newport Boro	1.35	6	1.4	6	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
16.500	Millerstown STP	.33	25	.33	25	0	0
12.670		NA	NA	.33	NA	NA	NA
11.930	Newport Boro	.33	3	.34	3	0	0

**Dissolved Oxygen Allocations**

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
16.50	Millerstown STP	25	25	25	25	5	5	0	0
12.67		NA	NA	NA	NA	NA	NA	NA	NA
11.93	Newport Boro	25	25	3	3	5	5	0	0

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
12B	11414	JUNIATA RIVER	16.500	380.00	3200.00	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.119	0.00	382.00	0.000	0.000	0.0	0.00	0.00	23.97	8.40	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
Millerstown STP	PA0021849-25	0.1200	0.1200	0.1200	0.000	25.00	6.44

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

**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
12B	11414	JUNIATA RIVER	12.670	369.00	3350.00	0.00000	0.00	<input checked="" type="checkbox"/>

**Stream Data**

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.119	0.00	0.00	0.000	0.000	0.0	0.00	0.00	23.97	8.40	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	0.00	7.00
Parameter Data							
Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)			
CBOD5	25.00	2.00	0.00	1.50			
Dissolved Oxygen	3.00	8.24	0.00	0.00			
NH3-N	25.00	0.00	0.00	0.70			

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
12B	11414	JUNIATA RIVER	11.930	366.00	3351.00	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.119	0.00	0.00	0.000	0.000	0.0	0.00	0.00	23.97	8.40	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
Newport Boro	PA0021237-25	0.5100	0.5100	0.5100	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	3.00	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
12B	11414	JUNIATA RIVER	8.320	361.00	3380.00	0.00000	0.00	<input checked="" type="checkbox"/>

**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		Stream	
									Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.119	0.00	0.00	0.000	0.000	0.0	0.00	0.00	23.97	8.40	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data							
Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00
Parameter Data							
Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)			
CBOD5	25.00	2.00	0.00	1.50			
Dissolved Oxygen	3.00	8.24	0.00	0.00			
NH3-N	25.00	0.00	0.00	0.70			

**WQM 7.0 D.O.Simulation**

<u>SWP_Basin</u>	<u>Stream_Code</u>	<u>Stream Name</u>			
12B	11414	JUNIATA RIVER			
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>		<u>Analysis pH</u>	
16.500	0.120	23.970		8.381	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>		<u>Reach Velocity (fps)</u>	
364.441	1.186	307.218		0.884	
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>		<u>Reach Kn (1/days)</u>	
2.01	0.007	0.01		0.950	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>		<u>Reach DO Goal (mg/L)</u>	
8.241	2.465	Tsvoglou		5	
<u>Reach Travel Time (days)</u>	<u>Subreach Results</u>				
0.265	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>	
	0.026	2.01	0.01	7.67	
	0.053	2.01	0.01	7.67	
	0.079	2.01	0.01	7.67	
	0.106	2.01	0.01	7.67	
	0.132	2.01	0.01	7.67	
	0.159	2.01	0.01	7.67	
	0.185	2.01	0.01	7.67	
	0.212	2.01	0.01	7.67	
	0.238	2.01	0.01	7.67	
	0.265	2.01	0.01	7.67	
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>		<u>Analysis pH</u>	
12.670	0.120	23.970		8.382	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>		<u>Reach Velocity (fps)</u>	
368.908	1.181	312.288		0.918	
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>		<u>Reach Kn (1/days)</u>	
2.01	0.005	0.01		0.950	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>		<u>Reach DO Goal (mg/L)</u>	
7.699	3.612	Tsvoglou		5	
<u>Reach Travel Time (days)</u>	<u>Subreach Results</u>				
0.049	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>	
	0.005	2.01	0.01	7.67	
	0.010	2.01	0.01	7.67	
	0.015	2.01	0.01	7.67	
	0.020	2.01	0.01	7.67	
	0.025	2.01	0.01	7.67	
	0.030	2.01	0.01	7.67	
	0.034	2.01	0.01	7.67	
	0.039	2.01	0.01	7.67	
	0.044	2.01	0.01	7.67	
	0.049	2.01	0.01	7.67	

### WQM 7.0 D.O. Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
12B	11414	JUNIATA RIVER		
<hr/>				
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>	
11.930	0.630	23.973	8.363	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>	
385.142	1.202	320.520	0.866	
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>	<u>Reach Kn (1/days)</u>	
2.05	0.033	0.01	0.950	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>	
7.668	1.165	Tsivoglou	5	
<u>Reach Travel Time (days)</u>				
0.255				
	<u>Subreach Results</u>			
	<u>TravTime</u>	<u>CBOD5</u>	<u>NH3-N</u>	<u>D.O.</u>
	(days)	(mg/L)	(mg/L)	(mg/L)
	0.025	2.05	0.01	7.67
	0.051	2.05	0.01	7.67
	0.076	2.04	0.01	7.67
	0.102	2.04	0.01	7.67
	0.127	2.04	0.01	7.67
	0.153	2.04	0.01	7.67
	0.178	2.04	0.01	7.67
	0.204	2.03	0.01	7.67
	0.229	2.03	0.01	7.67
	0.255	2.03	0.01	7.67

**WQM 7.0 Hydrodynamic Outputs**

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>								
12B		11414		JUNIATA RIVER								
RMI	Stream Flow	PWS With	Net Stream Flow	Disc Analysis Flow	Reach Slope	Depth	Width	W/D Ratio	Velocity	Reach Trav Time	Analysis Temp	Analysis pH
	(cfs)	(cfs)	(cfs)	(cfs)	(ft/ft)	(ft)	(ft)		(fps)	(days)	(°C)	
<b>Q7-10 Flow</b>												
16.500	382.00	0.00	382.00	.1856	0.00054	1.186	364.44	307.22	0.88	0.265	23.97	8.38
12.670	399.85	0.00	399.85	.1856	0.00077	1.181	368.91	312.29	0.92	0.049	23.97	8.38
11.930	399.97	0.00	399.97	.9746	0.00026	1.202	385.14	320.52	0.87	0.255	23.97	8.36
<b>Q1-10 Flow</b>												
16.500	355.26	0.00	355.26	.1856	0.00054	NA	NA	NA	0.85	0.276	23.97	8.38
12.670	371.86	0.00	371.86	.1856	0.00077	NA	NA	NA	0.88	0.051	23.97	8.38
11.930	371.97	0.00	371.97	.9746	0.00026	NA	NA	NA	0.83	0.265	23.97	8.36
<b>Q30-10 Flow</b>												
16.500	462.22	0.00	462.22	.1856	0.00054	NA	NA	NA	0.98	0.238	23.97	8.38
12.670	483.82	0.00	483.82	.1856	0.00077	NA	NA	NA	1.02	0.044	23.97	8.39
11.930	483.96	0.00	483.96	.9746	0.00026	NA	NA	NA	0.96	0.229	23.97	8.37

### WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input type="checkbox"/>
WLA Method	EMPR	Use Inputted W/D Ratio	<input type="checkbox"/>
Q1-10/Q7-10 Ratio	0.93	Use Inputted Reach Travel Times	<input type="checkbox"/>
Q30-10/Q7-10 Ratio	1.21	Temperature Adjust Kr	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	5		



## Discharge Information

Instructions Discharge Stream

Facility: Millerstown MA NPDES Permit No.: PA0021849 Outfall No.: 001

Evaluation Type Major Sewage / Industrial Waste Wastewater Description: Sewage effluent

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q <sub>7-10</sub>	Q <sub>h</sub>
0.12	100	6.44						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
<b>Group 1</b>											
Total Dissolved Solids (PWS)	mg/L	540									
Chloride (PWS)	mg/L	151									
Bromide	mg/L	1									
Sulfate (PWS)	mg/L	61.8									
Fluoride (PWS)	mg/L										
<b>Group 2</b>											
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	µg/L	5.1									
Free Cyanide	µg/L										
Total Cyanide	µg/L										
Dissolved Iron	µg/L										
Total Iron	µg/L										
Total Lead	µg/L	3									
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	µg/L	49									
Total Molybdenum	µg/L										
Acrolein	µg/L	<									
Acrylamide	µg/L	<									
Acrylonitrile	µg/L	<									
Benzene	µg/L	<									
Bromoform	µg/L	<									
Carbon Tetrachloride	µg/L	<									
Chlorobenzene	µg/L	<									
Chlorodibromomethane	µg/L	<									
Chloroethane	µg/L	<									
2-Chloroethyl Vinyl Ether	µg/L	<									







Stream / Surface Water Information

Millerstown MA, NPDES Permit No. PA0021849, Outfall 001

Instructions Discharge Stream

Receiving Surface Water Name: Juniata River No. Reaches to Model: 1

- Statewide Criteria
- Great Lakes Criteria
- ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi <sup>2</sup> )*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	011414	16.5	380	3200			Yes
End of Reach 1	011414	8.32	361	3380			Yes

Q<sub>7-10</sub>

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	16.5	0.119										97	8.4		
End of Reach 1	8.32	0.119										97	8.4		

Q<sub>n</sub>

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	16.5														
End of Reach 1	8.32														



Model Results

Millerstown MA, NPDES Permit No. PA0021849, Outfall 001

Instructions

Results

RETURN TO INPUTS

SAVE AS PDF

PRINT

All

Inputs

Results

Limits

Hydrodynamics

Wasteload Allocations

AFC

CCT (min): 15

PMF: 0.047

Analysis Hardness (mg/l): 97.031

Analysis pH: 8.12

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	13.063	13.6	1,328	Chem Translator of 0.96 applied
Total Lead	0	0		0	62.495	78.6	7,667	Chem Translator of 0.795 applied
Total Zinc	0	0		0	114.226	117	11,396	Chem Translator of 0.978 applied

CFC

CCT (min): 720

PMF: 0.326

Analysis Hardness (mg/l): 97.004

Analysis pH: 8.35

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	8.726	9.09	6,091	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.435	3.06	2,051	Chem Translator of 0.795 applied
Total Zinc	0	0		0	115.134	117	78,244	Chem Translator of 0.986 applied

THH

CCT (min): 720

PMF: 0.326

Analysis Hardness (mg/l): N/A

Analysis pH: N/A

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

**CRL**      CCT (min):       PMF:       Analysis Hardness (mg/l):       Analysis pH:

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

**Recommended WQBELs & Monitoring Requirements**

No. Samples/Month:

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			

**Other Pollutants without Limits or Monitoring**

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Copper	851	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	2,051	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	7,304	µg/L	Discharge Conc ≤ 10% WQBEL