Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0023540**
Facility Type	**Municipal**	APS ID	**12596**
Major / Minor	**Minor**	Authorization ID	**1455772**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Berks Montgomery Municipal Authority**	Facility Name	**Berks Montgomery Morysville STP**
Applicant Address	136 Municipal Drive, PO Box 370	Facility Address	Farmington Avenue
	Gilbertsville, PA 19525-9463		Gilbertsville, PA 19525
Applicant Contact	Keith Corson	Facility Contact	Keith Corson
Applicant Phone	(610) 367-1460	Facility Phone	(610) 367-1460
Client ID	74604	Site ID	451554
Ch 94 Load Status	Not Overloaded	Municipality	Colebrookdale Township
Connection Status	No Limitations	County	Berks
Date Application Received	September 21, 2023	EPA Waived?	Yes
Date Application Accepted	October 2, 2023	If No, Reason	

Purpose of Application: NPDES permit renewal.

Summary of Review

System Design Engineering, Inc. on behalf of the Berks-Montgomery Municipal Authority (Authority/Permittee), applied to the Pennsylvania Department of Environmental Protection (DEP) for issuance of the NPDES permit. The permit was reissued on March 28, 2019 and became effective on April 1, 2019. The permit expired on March 31, 2024 but the terms and conditions of the permit have been administratively extended since that time.

The average annual design flow is 0.32 MGD, and hydraulic design capacity is 0.38 MGD, and the organic loading capacity is 614 lbs BOD_5/day. The renewal application indicated the STP receives its 99% from the Colebrookdale Township and 1% from Douglass Township.

The WQM Part II permit No. 0699401 was issued on 4/26/1999. The WQM Part II permit No. 0622406 was issued on 12/1/2022.

Sludge use and disposal description and location(s): N/A because sludge hauled by Clemens Septic Service.

DRBC Docket No. D-1973-060 CP-5 approval date was 6/5/2024 and expiration date is 6/5/2029.

Changes from the previous permit: E. Coli monitoring and report requirements will add 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	October 18, 2024
X		*Maria D. Bebenek for* Daniel W. Martin, P.E. / Environmental Engineer Manager	October 22, 2024

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.32
Latitude	40º 19' 15.56"	Longitude	-75º 39' 3.81"
Quad Name	Boyertown	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Ironstone Creek	Stream Code	1658
NHD Com ID	25965160	RMI	4.0
Drainage Area	7.23 mi.^{2}	Yield (cfs/mi^2)	See comments below
Q_{7-10} Flow (cfs)	See comments below	Q_{7-10} Basis	See comments below
Elevation (ft)	312	Slope (ft/ft)	
Watershed No.	3-D	Chapter 93 Class.	TSF, MF
Existing Use	CWF (COLD WATER FISHES)	Existing Use Qualifier	Cold Water Community
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	PA American Royersford - Phoenixville		
PWS Waters	Schuylkill River	Flow at Intake (cfs)	
PWS RMI	46.5 miles	Distance from Outfall (mi)	Approximate 16.0

Changes Since Last Permit Issuance:

Drainage Area
The discharge is to Ironstone Creek 01658 at RMI 4.0. A drainage area upstream of the discharge point is estimated to be 7.23 sq.mi. according to USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow
USGS StreamStats produced a Q_{7-10} flow of 2.41 cfs. However, the drainage area used in regression equations to calculate the low flow statistics is lower than the minimum required value; therefore, the produced Q_{7-10} flow may not be entirely accurate. Consequently, flows measured at USGS gage station on the Manatawny Creek (station No. 01471980) have been correlated with the stream conditions at the point of discharge as follows:

$$\text{Low Flow Yield} = Q_{7\text{-}10gage} / \text{Drainage Area}_{gage} = 22.9 \text{ cfs} / 85.5 \text{ sq.mi.} = 0.27 \text{ cfs/sq.mi.}$$
$$Q_{7\text{-}10site} = \text{Low Flow Yield} * \text{Drainage Area}_{site} = 0.27 \text{ cfs/sq.mi} * 7.23 \text{ sq.mi.} = 1.95 \text{ cfs.}$$

Ironstone Creek
Under Pa Code §93.9f, the Ironstone Creek basin is designated as trout stocking and migratory fishes. The main stem, Schuylkill River is also designated as warm water and migratory fishes. No special protection water(s) is therefore impacted by this discharge. No Class A Wild Trout fishery is impacted by this discharge. Pennsylvania's 2024 integrated water quality report indicates: assessment ID 9978 is not impaired, and assessment ID 19202 is impaired for recreational use resulting from pathogens.

Public Water Supply Intake
The fact sheet developed for the last permit renewal indicates that the nearest downstream public water supply intake is the PA American Royersford - Phoenixville, located on the Schuylkill River approximately 16.0 miles from the discharge. Given the distance, the discharge is not expected to significantly affect the water supply.

Treatment Facility Summary				
Treatment Facility Name: Berks-Montgomery Morysville STP				
WQM Permit No.	**Issuance Date**			
0699401	4/16/1999			
0622406	12/1/2022			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Total Nitrogen Reduction	Contact Stabilization	Ultraviolet	0.32
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.38	614	Not Overloaded	Anaerobic Digestion	Landfill

Changes Since Last Permit Issuance:

Other Comments:

The WWTP train after construction will be as follows:

Comminution (1) → primary settling (1) → 1st aeration Tank (1) → 1st intermediate settling tank → 2nd aeration tank → 2nd intermediate settling tank → nitrification/denitrification (aeration) → final settling → UV disinfection → Discharge to Ironstone Creek

Due to the DEP letter for temporary approval for Chlorine Disinfection during the installation of an UV unit on 5/3/2024, the update from the facility states: "the installation of a new replacement UV unit was completed during the week of September 9, 2024. The start-up of the new UV unit occurred on 9/12/2024", *see the update email on this fact sheet page 19*.

Biosolids:
The total sewage sludge/biosolids production within the facility for the previous year was 11.667 dry tons.

Compliance History	
Summary of DMRs:	A summary of past 12-month DMR is presented on the next page.
Summary of Inspections:	9/2/2020: Ms. Tomtishen, DEP Water Quality Specialist, conducted an administrative inspection. No issues were specified on the inspection report. The field test results were within permit limit.
Other Comments:	There is currently no open violation associated with this facility or permittee.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from September 1, 2023 to August 31, 2024)

Parameter	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23
Flow (MGD) Average Monthly	0.196	0.183	0.178	0.224	0.338	0.292	0.248	0.330	0.254	0.142	0.142	0.16
Flow (MGD) Daily Maximum	0.353	0.245	0.234	0.280	0.668	0.431	0.481	0.550	0.485	0.219	0.178	0.307
pH (S.U.) Instantaneous Minimum	7.0	7.1	6.9	7.2	7.0	7.2	7.2	6.8	7.1	7.1	7.3	7.3
pH (S.U.) Instantaneous Maximum	7.5	7.5	7.6	7.5	7.6	7.5	8.0	7.8	7.8	7.6	7.6	7.8
DO (mg/L) Instantaneous Minimum	6.8	8.2	7.6	9.1	8.6	9.3	9.1	8.6	9.9	8.3	8.4	8.1
CBOD5 (lbs/day) Average Monthly	11.2	11.0	9.3	10.7	14.2	< 16.1	12.3	13.0	16.4	11.7	10.5	10.2
CBOD5 (lbs/day) Weekly Average	12.2	13.1	11.3	11.7	22.9	29.3	14.3	18.5	19.8	16.0	12.0	12.3
CBOD5 (mg/L) Average Monthly	7.0	7.0	6.0	6.0	6.0	< 7.0	6.0	5.0	8.0	10.0	9.0	7.0
CBOD5 (mg/L) Weekly Average	9.0	9.0	8.0	6.0	11.0	12.0	8.0	6.0	11.0	15.0	10.0	9.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	272	290	219	245	244	375	173	135	318	237	237	234
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	287	405	289	288	375	583	246	160	623	347	340	306
BOD5 (mg/L) Raw Sewage Influent Average Monthly	172	188	149.3	127	101.6	161	91.6	56	173.2	216	201	167.7
TSS (lbs/day) Average Monthly	6.2	16.5	14.0	11.3	11.1	9.4	14.6	9.4	12.4	7.1	6.7	7.9
TSS (lbs/day) Raw Sewage Influent Average Monthly	218	232	186	240	297	373	134	93	326	175	191	230
TSS (lbs/day) Raw Sewage Influent Daily Maximum	241	366	295	306	468	587	248	113	750	312	358	403

TSS (lbs/day) Weekly Average	8.3	32.8	20.4	14.4	16.4	11.8	18.2	17.0	26.2	8.1	10.2	12.7
TSS (mg/L) Average Monthly	4.0	10.8	9.8	5.9	4.4	4.1	7.6	3.6	5.7	6.3	5.8	5.6
TSS (mg/L) Raw Sewage Influent Average Monthly	138	150.8	126.8	125	127	160.9	73	38.9	181	159	161.1	168
TSS (mg/L) Weekly Average	6.0	23.0	16.0	7.0	6.0	6.0	11.0	6.0	10.0	8.0	9.0	9.0
Total Dissolved Solids (lbs/day) Average Quarterly			1393			1034			448			724
Total Dissolved Solids (mg/L) Average Quarterly			424.0			486.0			378.0			376.0
Fecal Coliform (No./100 ml) Geometric Mean	148.0	84.0	< 1.0	16.0	< 9.0	37.0	57.0	< 68.0	76.0	< 177.0	< 4.0	< 3.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	3000	3700	3	71	1700	204	164	284	236	9100	473	19
UV Intensity (mW/cm²) Instantaneous Minimum	36.35	29.59	29.85	30.21	30.58	30.94	31.31	31.66	9.5	9.52	144.15	104.59
Total Nitrogen (lbs/day) Average Quarterly			27			36			22			34
Total Nitrogen (mg/L) Average Quarterly			8.31			16.8			18.9			17.6
Ammonia (lbs/day) Average Monthly	< 0.20	< 0.20	< 0.20	0.50	< 1.66	< 0.7	0.6	< 0.4	0.7	< 0.6	< 0.05	< 0.20
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.2	0.1	< 0.8	< 0.3	0.3	< 0.2	0.3	< 0.6	< 0.05	< 0.1
Total Phosphorus (lbs/day) Average Quarterly			3			4			4			4
Total Phosphorus (mg/L) Average Quarterly			0.91			2.1			3.18			2.26
Total Copper (lbs/day) Average Monthly	0.020	0.030	0.030	0.030	0.020	0.030	0.020	0.020	0.020	0.030	0.010	0.010
Total Copper (mg/L) Average Monthly	0.010	0.016	0.020	0.010	0.008	0.010	0.009	0.008	0.010	0.0245	0.010	0.009
Total Copper (mg/L) Weekly Average	0.01	0.026	0.030	0.01	0.01	0.03	0.01	0.009	0.01	0.052	0.010	0.01

Existing Effluent Limitations and Monitoring Requirements

Outfall 001,

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2)	Required
	Average Monthly	Weekly Average	Instant. Minimum	Average Monthly	Weekly Average	Instant. Maximum	Measurement Frequency	Sample Type
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
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Light Intensity (mW/cm^2)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
CBOD5	66.7	106.7	XXX	25.0	40.0	50	1/week	24-Hr Composite
BOD5 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	80.1	120.1	XXX	30.0	45.0	60	1/week	24-Hr Composite
Fecal Coliform Oct 1 - Apr 30	XXX	XXX	XXX	2,000.0 Geo Mean	XXX	10,000	1/week	Grab
Fecal Coliform May 1 - Sep 30	XXX	XXX	XXX	200.0 Geo Mean	XXX	1,000	1/week	Grab
Ammonia Nov 1 - Apr 30	20.0	XXX	XXX	7.5	XXX	15	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	6.67	XXX	XXX	2.5	XXX	5	1/week	24-Hr Composite
Total Copper	0.035	XXX	XXX	0.013	0.02	0.026	1/week	24-Hr Composite
TDS	Report Quarterly Average	XXX	XXX	1000.0 Quarterly Average	XXX	2,500	1/Quarter	24-Hr Composite
Total Nitrogen	Report Quarterly Average	XXX	XXX	Report Quarterly Average	XXX	XXX	1/Quarter	24-Hr Composite
Total Phosphorus	Report Quarterly Average	XXX	XXX	Report Quarterly Average	XXX	XXX	1/Quarter	24-Hr Composite

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.32
Latitude 40º 19' 15.56" **Longitude** -75º 39' 3.81"
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	DRBC Regulations
$CBOD_5$	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)	
Ammonia	20	Average Monthly			18 CFR Part 410
Total Dissolved Solids	1000 (unless DRBC approves a different limit after a TDS determination)	Average Monthly			18 CFR Part 410

Comments:

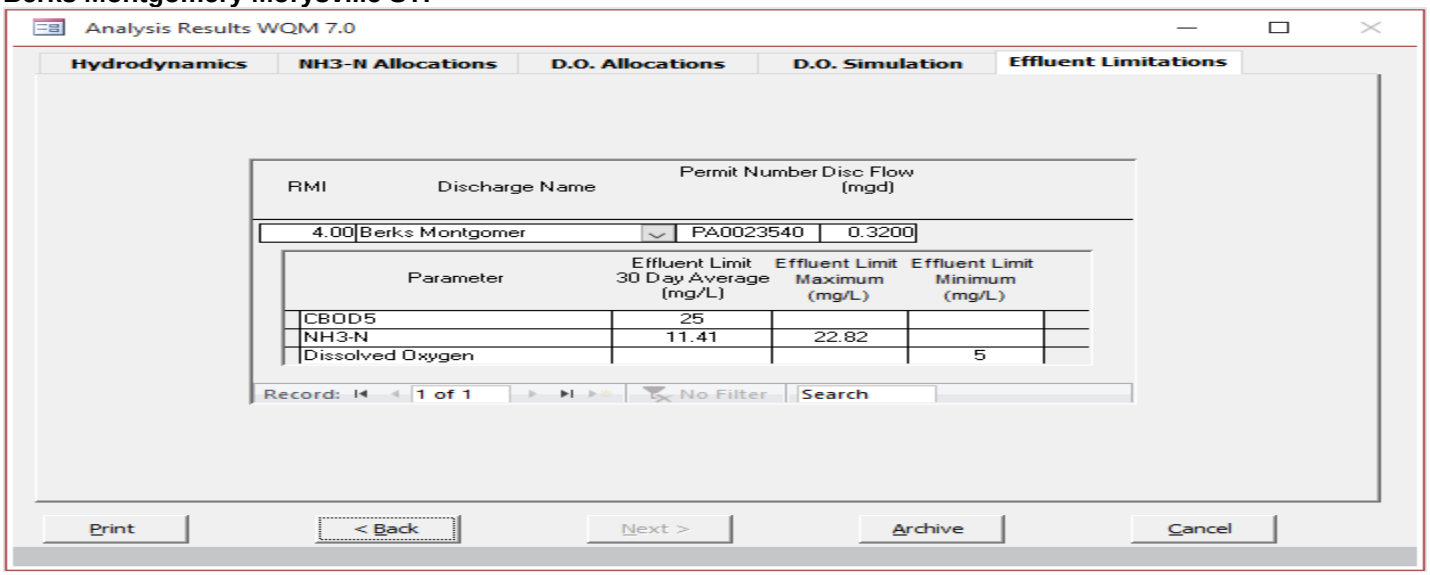
Water Quality-Based Limitations

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$):
The attached computer printout of the WQM 7.0 stream model (ver. 1.1) indicates that a monthly average limit of 25.0 mg/L, or secondary treatment, is adequate to protect the water quality of the stream. This limit is consistent with the before upgrade permit. Therefore, the limits of 25.0 mg/L monthly average (AML), 40.0 mg/L weekly average, and 50.0 mg/L instantaneous maximum will remain in the amendment permit. Mass limits are calculated as follows:

Average monthly mass limit: 25.0 mg/L x 0.32 MGD x 8.34 = 66.72 (66.7) lbs/day
Weekly Average mass limit: 40.0 mg/L x 0.32 MGD x 8.34 = 106.75 (106.7) lbs/day

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)



Regarding NH_3-N limits, the attached computer printout of the WQM 7.0 stream model (version 1.1) indicates that a limit of 11.41 mg/L as a monthly average and 22.82 mg/L instantaneous maximum (IMAX) are necessary to protect the aquatic life from toxicity effects at the point of discharge. However, the existing summer limits of 2.5 mg/L monthly average & 5.0 mg/L IMAX are more stringent and will remain in the proposed permit. Per anti-backsliding policy, the existing winter average monthly limit of 7.5 mg/L & IMAX limit of 15.0 mg/L will remain in place. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits.

Summer average monthly mass limit: 2.5 mg/L x 0.32 MGD x 8.34 = 6.67 lbs/day
Winter average monthly mass limit: 7.5 mg/L x 0.32 MGD x 8.34 = 20.0 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).

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 amendment permit based on the minimum level of effluent quality attainable by secondary treatment based on 25 Pa. Code § 92a.47. Mass limits are calculated as follows:

Average monthly mass limit: 30.0 mg/L x 0.32 MGD x 8.34 = 80.06 (80.1) lbs/day
Average weekly mass limit: 45.0 mg/L x 0.32 MGD x 8.34 = 120.096 (120.1) lbs/day

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.

Influent BOD_5 and TSS Monitoring:
The amendment permit will continue influent BOD_5 and TSS weekly monitoring at the same frequency as is done for effluent in order to implement Chapter 94.12 and assess percent removal requirements, per DEP policy.

Total Dissolved Solids (TDS):
Additionally, DRBC's regulations, 18 CFR Part 410 Section 3.10.4D.2., state: "Total dissolved solids shall not exceed 1,000 mg/L, or a concentration established by the Commission which is compatible with designated water uses and stream quality objectives, and recognizes the need for reserve capacity to serve future dischargers."

Therefore, the existing TDS limit 1,000.0 mg/L average monthly & 2,500.0 mg/L IMAX will remain in the proposed permit.

And maximum TDS reported in the application from effluent sampling was 1000 mg/L. The TDS baseline is calculated as:

1,000 mg/l x 0.32 MGD x 8.34 c.f. = 2,668.8 lbs/day

UV:
The UV system daily monitor and report the UV light intensity (mW/cm^2) will remain in the proposed permit.

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

Toxics:
The data was analyzed based on the guidelines found in DEP's Water Quality Toxics Management Strategy (Document No. 361-0100-003, version 1.4, revised 5/2023) and DEP's SOP No. BPNPSM-PMT-033. Spreadsheet results are attached to this fact sheet. The Toxics Management Spreadsheet uses the following logic:

a. Establish average monthly and IMAX limits in the draft permit where the maximum reported concentration 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.

Therefore, the results are as follows.

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

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	0.12	0.18	0.044	0.069	0.11	mg/L	0.044	AFC	Discharge Conc ≥ 50% WQBEL (RP)

Monitoring is recommended for Total Copper, the limits of 0.044 mg/L average monthly, 0.069 mg/L maximum daily, and 0.11 mg/L IMAX; and 0.12 lbs/day AML & 0.18 lbs/day MDL. Therefore, the existing permit limits of 0.013 mg/L average monthly, 0.02 mg/L average weekly, & 0.026 mg/L IMAX; and 0.035 lbs/day AML are more stringent and will remain in the proposed permit.

Total Nitrogen & Total Phosphorus:
To gather data on the impact of nutrients in surface waters, a monitoring requirement for Total Nitrogen and Total Phosphorus will remain in the proposed permit in accordance with the DEP's Standard Operating Procedure for Establishing Effluent Limitations for individual Sewage permits and as authorized by Chapter 92a.61. Because the downstream water, the flows into Ironstone Creek, has already been identified as impaired for Recreation use due to pathogens, the monitoring frequency included in the renewal permit is one per month, per the Permit Writers' Manual No. 362-0400-001.

Additional Considerations

Flow Monitoring
Flow monitoring will remain in the permit and is required by 40 CFR § 122.44(i)(1)(ii).

Antidegradation
The proposed limits will protect the designated and existing uses of the receiving water consistent with the State's Antidegradation regulations and policy. No Exceptional Value or High-Quality water will be impacted.

303(d) Listed Streams

The receiving stream has been assessed as impaired and included on the State's 2016 Integrated Water Quality Report as impaired for recreational use due to pathogens. (This report is forwarded to EPA to satisfy the federal 303(d) list requirements.) The 2016 Report shows that Ironstone Creek was "listed" in 2016 and that a TMDL is scheduled for 2029. This renewal permit does not increase the discharge flow; it does include limits for Fecal Coliform that are intended to meet Chapter 93 criterion for bacteria. This renewal permit should not contribute to the impairment.

WQM 7.0:

The following data were used in the attached computer model (WQM 7.0) of the stream:

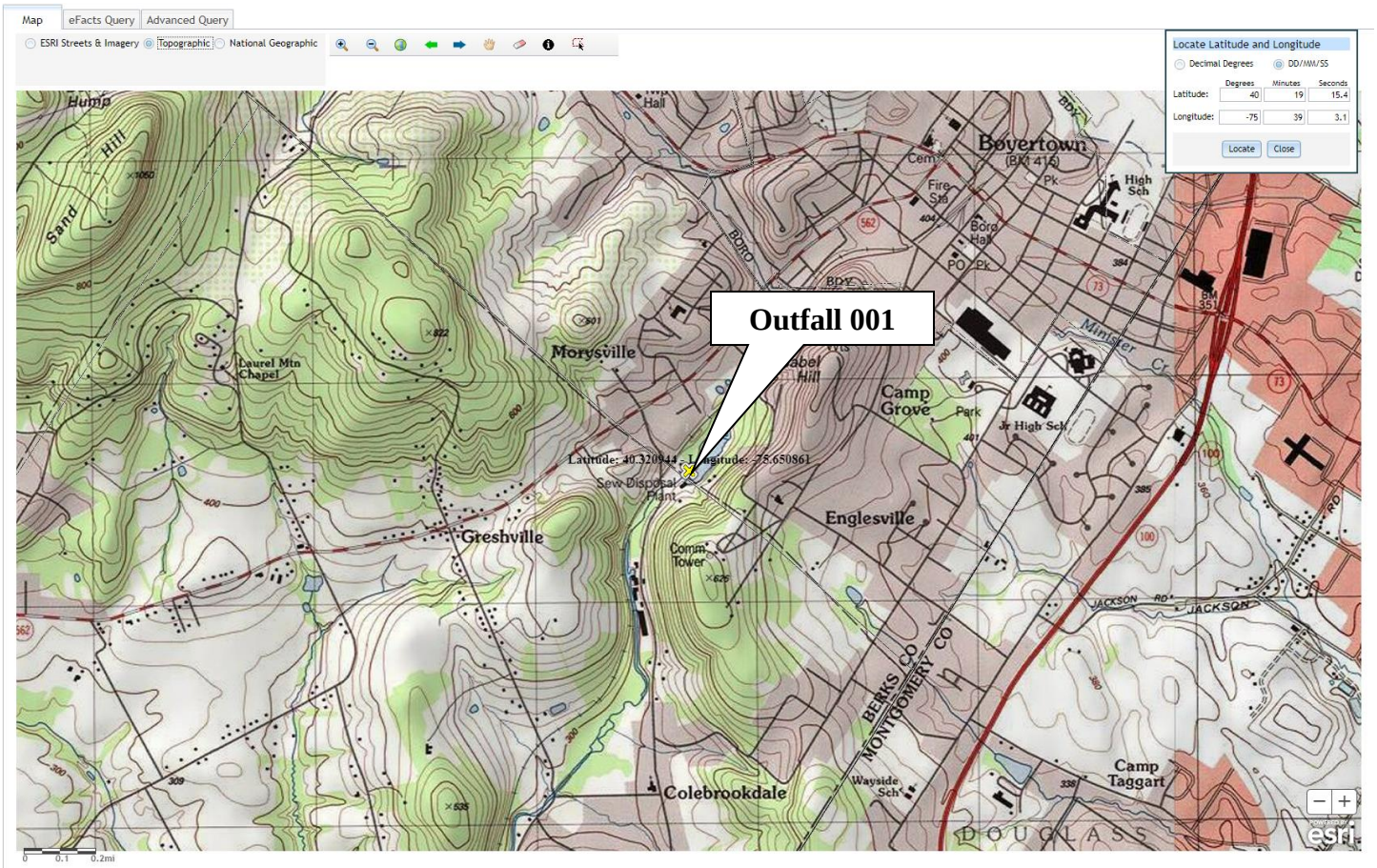
*	Discharge pH	=	7.0	(Default)
*	Discharge Temperature	=	25°C	(Default)
*	Stream pH	=	7.0	(Default)
*	Stream Temperature	=	20°C	(Default)
*	Background NH_3-N	=	0 mg/L	(Default)

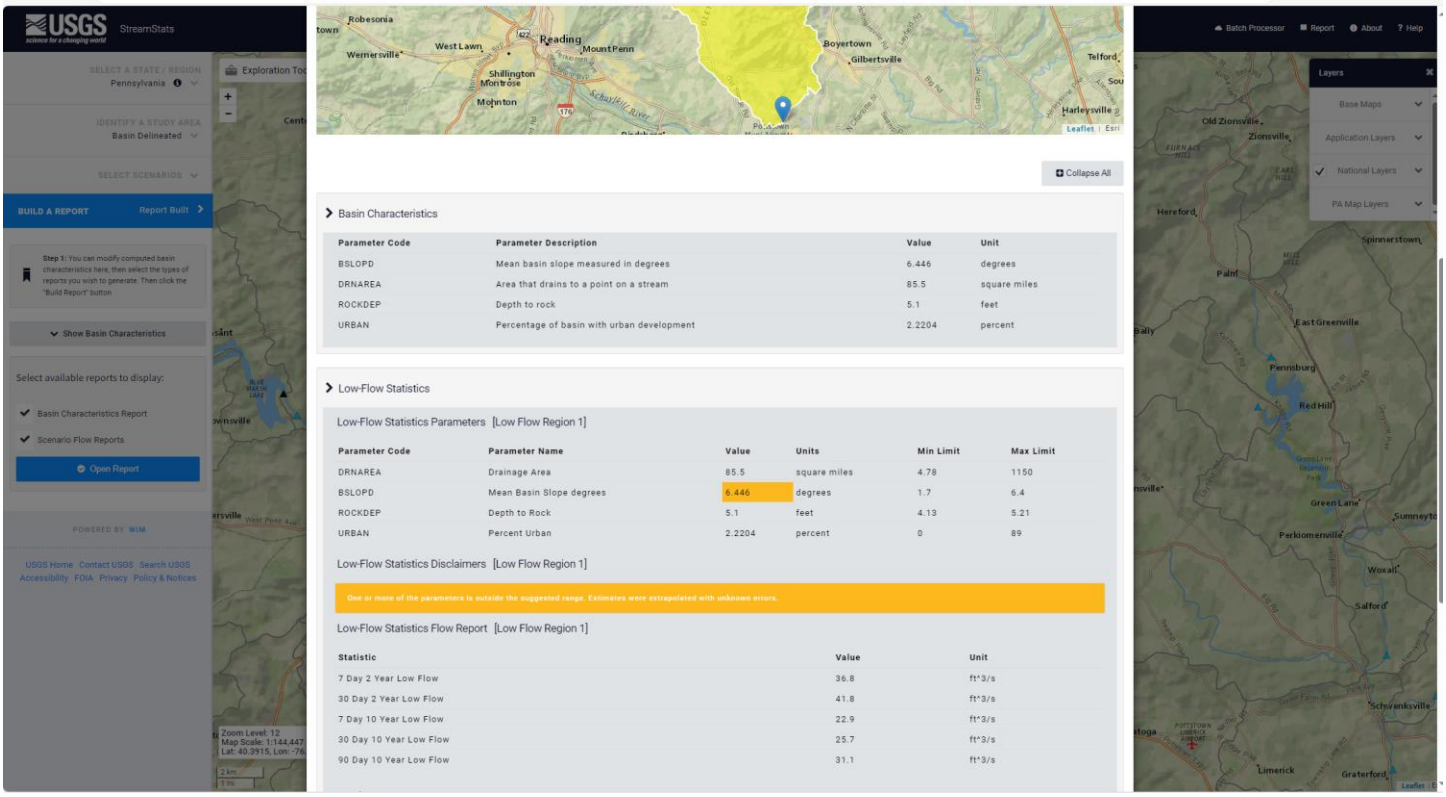
Node 1: Outfall 001 to Ironstone Creek (01658)

Elevation:	312.0 ft (USGS National Map Viewer)
Drainage Area:	7.23 mi^2 (USGS PA StreamStats)
River Mile Index:	4.0 (PA DEP eMapPA)
Low Flow Yield:	0.27 cfs/mi^2
Discharge Flow:	0.32 MGD

Node 2: At confluence with Ironstone Creek (01658)

Elevation:	192.0 ft (USGS National Map Viewer)
Drainage Area:	9.72 mi^2 (USGS PA StreamStats)
River Mile Index:	1.095 (PA DEP eMapPA)
Low Flow Yield:	0.27 cfs/mi^2
Discharge Flow:	0.0 MGD




USGS StreamStats
Pennsylvania
Basin Delineated
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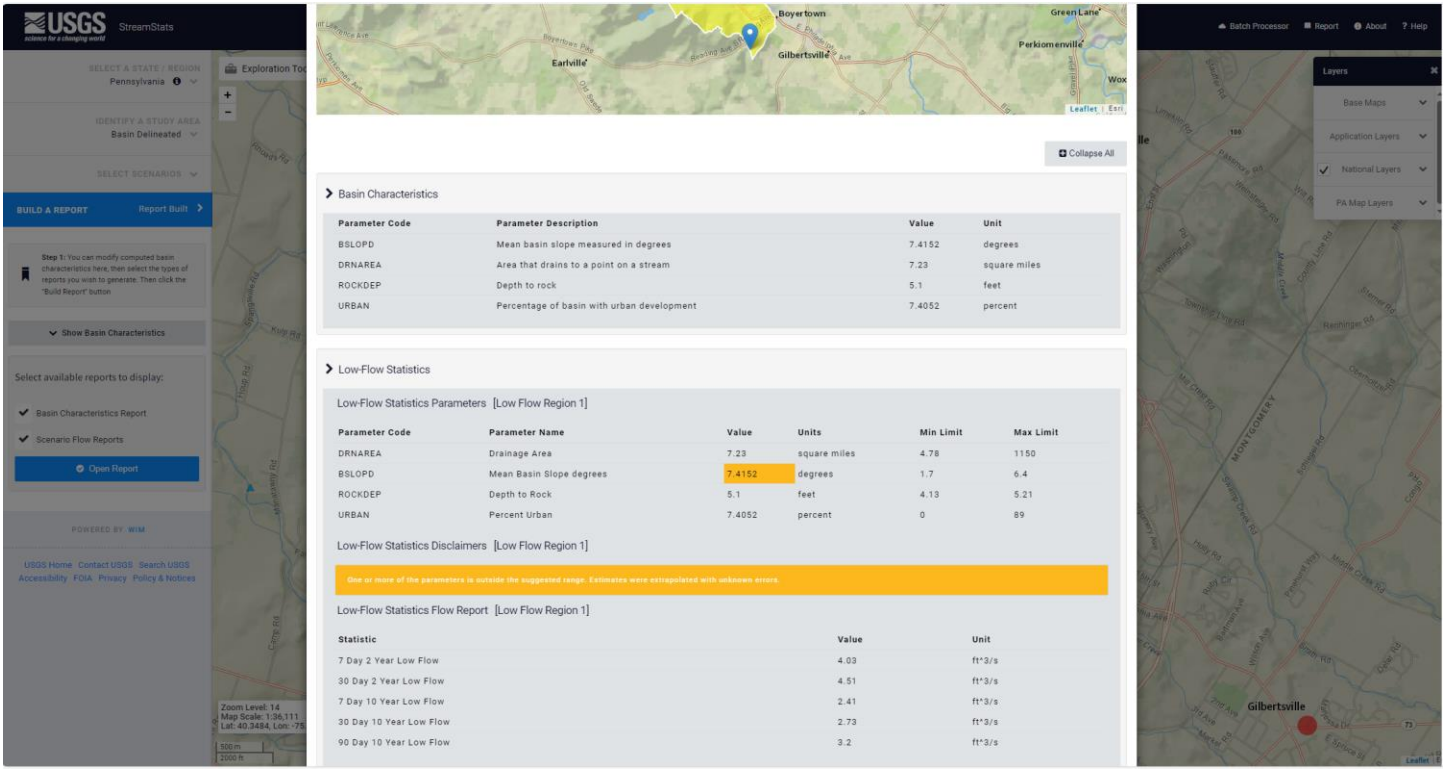
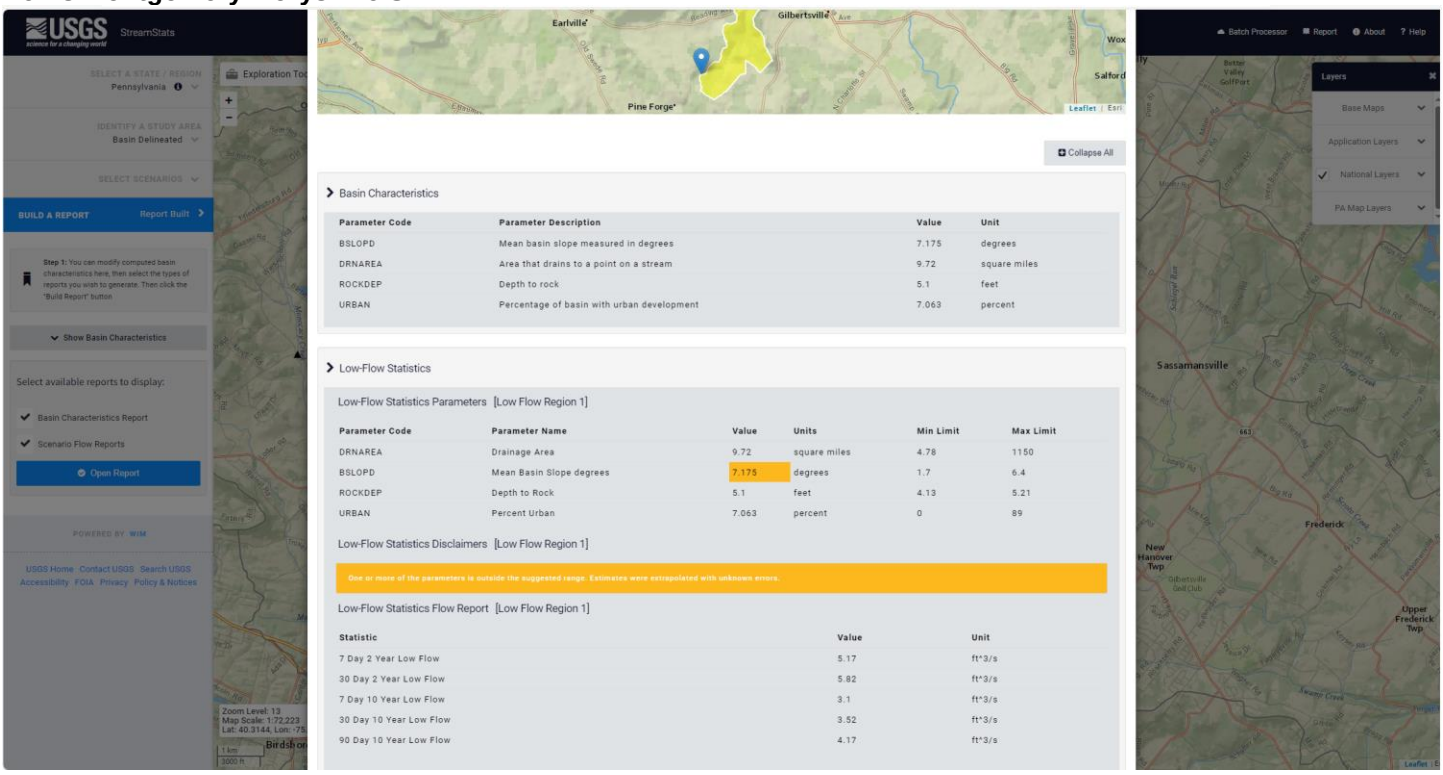
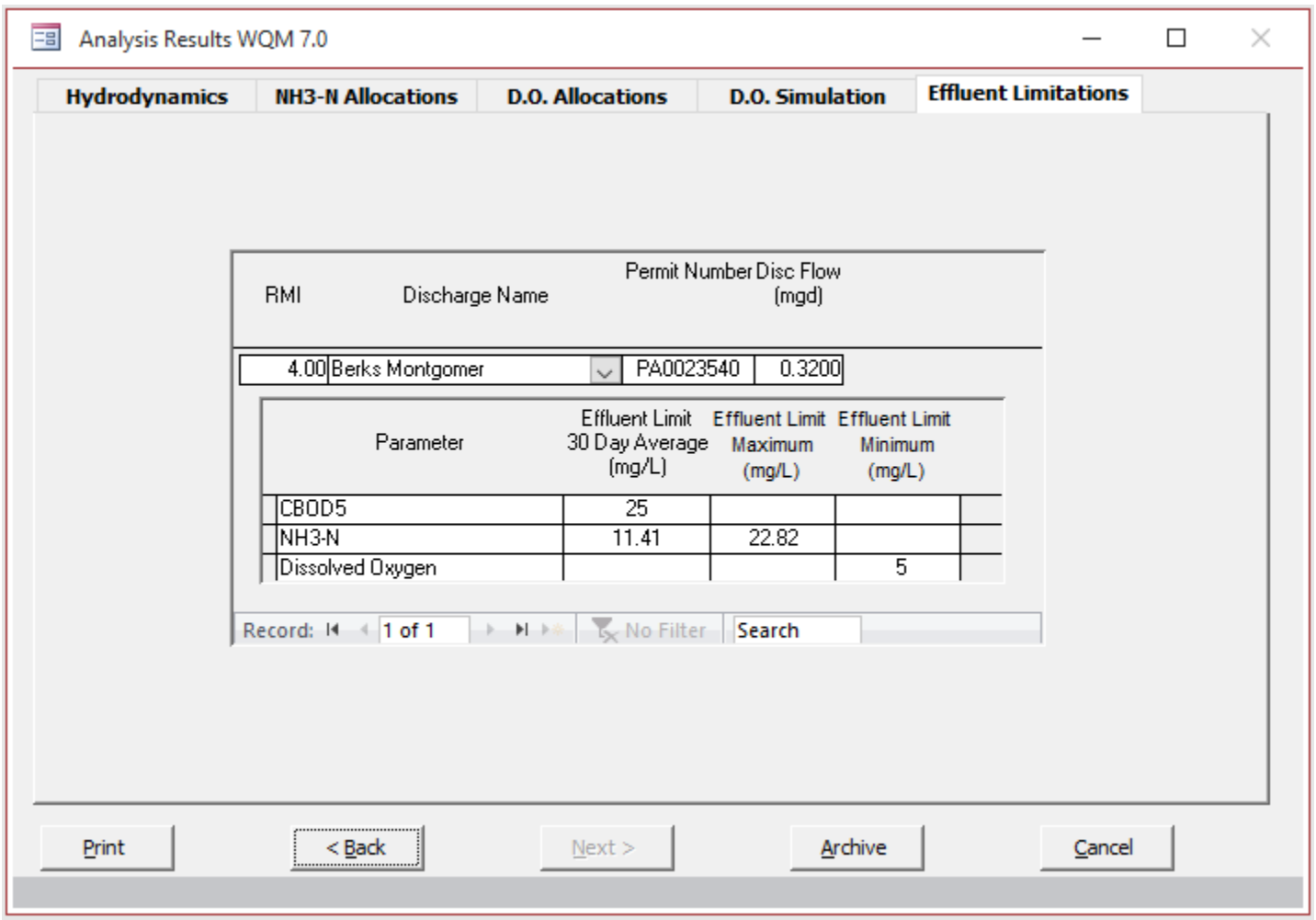
Report Built
Show Basin Characteristics
Select available reports to display:
Basin Characteristics Report
Scenario Flow Reports
Open Report
Reading
Wernersville
West Lawn
Mount Penn
Shillington
Mohnton
Boyertown
Gilbertsville
Collapse All
Basin Characteristics
Parameter Code | Parameter Description | Value | Unit
BSLOPD | Mean basin slope measured in degrees | 6.446 | degrees
DRNAREA | Area that drains to a point on a stream | 85.5 | square miles
ROCKDEP | Depth to rock | 5.1 | feet
URBAN | Percentage of basin with urban development | 2.2204 | percent
Low-Flow Statistics
Low-Flow Statistics Parameters [Low Flow Region 1]
Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit
DRNAREA | Drainage Area | 85.5 | square miles | 4.78 | 1150
BSLOPD | Mean Basin Slope degrees | 6.446 | degrees | 1.7 | 6.4
ROCKDEP | Depth to Rock | 5.1 | feet | 4.13 | 5.21
URBAN | Percent Urban | 2.2204 | percent | 0 | 89
Low-Flow Statistics Disclaimers [Low Flow Region 1]
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 1]
Statistic | Value | Unit
7 Day 2 Year Low Flow | 36.8 | ft^3/s
30 Day 2 Year Low Flow | 41.8 | ft^3/s
7 Day 10 Year Low Flow | 22.9 | ft^3/s
30 Day 10 Year Low Flow | 25.7 | ft^3/s
90 Day 10 Year Low Flow | 31.1 | ft^3/s
Batch Processor
Report
About
Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers
Old Zionsville
Zionsville
Hereford
Spinnerstown
Palmf
East Greenville
Pennsburg
Red Hill
Green Lane
Perkiomenville
Woxall
Salford
Schwenksville
Limerick
Graterford


USGS StreamStats
Pennsylvania
Basin Delineated
BUILD A REPORT
Report Built
Show Basin Characteristics
Select available reports to display:
Basin Characteristics Report
Scenario Flow Reports
Open Report
Earlville
Boyertown
Gilbertsville
Green Lane
Perkiomenville
Collapse All
Basin Characteristics
Parameter Code | Parameter Description | Value | Unit
BSLOPD | Mean basin slope measured in degrees | 7.4152 | degrees
DRNAREA | Area that drains to a point on a stream | 7.23 | square miles
ROCKDEP | Depth to rock | 5.1 | feet
URBAN | Percentage of basin with urban development | 7.4052 | percent
Low-Flow Statistics
Low-Flow Statistics Parameters [Low Flow Region 1]
Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit
DRNAREA | Drainage Area | 7.23 | square miles | 4.78 | 1150
BSLOPD | Mean Basin Slope degrees | 7.4152 | degrees | 1.7 | 6.4
ROCKDEP | Depth to Rock | 5.1 | feet | 4.13 | 5.21
URBAN | Percent Urban | 7.4052 | percent | 0 | 89
Low-Flow Statistics Disclaimers [Low Flow Region 1]
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 1]
Statistic | Value | Unit
7 Day 2 Year Low Flow | 4.03 | ft^3/s
30 Day 2 Year Low Flow | 4.51 | ft^3/s
7 Day 10 Year Low Flow | 2.41 | ft^3/s
30 Day 10 Year Low Flow | 2.73 | ft^3/s
90 Day 10 Year Low Flow | 3.2 | ft^3/s
Batch Processor
Report
About
Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers
Gilbertsville


USGS StreamStats
Earlville
Gilbertsville
Pine Forge
Basin Characteristics
Parameter Code | Parameter Description | Value | Unit
BSLOPD | Mean basin slope measured in degrees | 7.175 | degrees
DRNAREA | Area that drains to a point on a stream | 9.72 | square miles
ROCKDEP | Depth to rock | 5.1 | feet
URBAN | Percentage of basin with urban development | 7.063 | percent
Low-Flow Statistics
Low-Flow Statistics Parameters [Low Flow Region 1]
Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit
DRNAREA | Drainage Area | 9.72 | square miles | 4.78 | 1150
BSLOPD | Mean Basin Slope degrees | 7.175 | degrees | 1.7 | 6.4
ROCKDEP | Depth to Rock | 5.1 | feet | 4.13 | 5.21
URBAN | Percent Urban | 7.063 | percent | 0 | 89
Low-Flow Statistics Disclaimers [Low Flow Region 1]
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 1]
Statistic | Value | Unit
7 Day 2 Year Low Flow | 5.17 | ft^3/s
30 Day 2 Year Low Flow | 5.82 | ft^3/s
7 Day 10 Year Low Flow | 3.1 | ft^3/s
30 Day 10 Year Low Flow | 3.52 | ft^3/s
90 Day 10 Year Low Flow | 4.17 | ft^3/s
Sassamansville
Frederick


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)
4.00
Berks Montgomer
PA0023540
0.3200
Parameter
Effluent Limit 30 Day Average (mg/L)
Effluent Limit Maximum (mg/L)
Effluent Limit Minimum (mg/L)
CBOD5
25
NH3-N
11.41
22.82
Dissolved Oxygen
5
Record: 1 of 1
No Filter
Search
Print
< Back
Next >
Archive
Cancel

rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
03D	1658	IRONSTONE CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Eff. Limit 30-day Ave. (mg/L)	Eff. Limit Maximum (mg/L)	Eff. Limit Minimum (mg/L)
4.000	Berks Montgomer	PA0023540	0.320	CBOD5	25		
				NH3-N	11.41	22.82	
				Dissolved Oxygen			5

Wednesday, October 16, 2024 Version 1.1 Page 1 of 1

Page: 1 No Filter

rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
03D	1658	IRONSTONE 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
4.000	Berks Montgomer	14.9	50	14.9	50	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
4.000	Berks Montgomer	1.79	11.41	1.79	11.41	0	0

Dissolved Oxygen Allocations

		CBOD5		NH3-N		Dissolved Oxygen			
RMI	Discharge Name	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Critical Reach	Percent Reduction
4.00	Berks Montgomer	25	25	11.41	11.41	5	5	0	0

Wednesday, October 16, 2024 Version 1.1 Page 1 of 1

Page: 1 No Filter

rptDOSim

WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name
03D	1658	IRONSTONE CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
4.000	0.320	21.011	7.000
Reach Width (ft)	Reach Depth (ft)	Reach W/D Ratio	Reach Velocity (fps)
18.263	0.575	31.744	0.233
Reach CBOD5 (mg/L)	Reach Kc (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
6.65	0.947	2.31	0.757
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
7.587	17.735	Tsivoglou	5
Reach Travel Time (days)			
0.762			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.076	6.17	2.18	7.91
0.152	5.72	2.06	8.04
0.229	5.30	1.94	8.09
0.305	4.92	1.83	8.09
0.381	4.56	1.73	8.09
0.457	4.23	1.63	8.09
0.534	3.92	1.54	8.09
0.610	3.63	1.46	8.09
0.686	3.37	1.37	8.09
0.762	3.12	1.30	8.09

Wednesday, October 16, 2024 Version 1.1 Page 1 of 1

Page: 1 No Filter

rptModelSpecs

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA 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		

Wednesday, October 16, 2024 Version 1.1 Page 1 of 1

Page: 1 No Filter

rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin: 03D Stream Code: 1658 Stream Name: IRONSTONE CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc 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												
4.000	1.95	0.00	1.95	.495	0.00782	.575	16.26	31.74	0.23	0.762	21.01	7.00
Q1-10 Flow												
4.000	1.25	0.00	1.25	.495	0.00782	NA	NA	NA	0.19	0.921	21.42	7.00
Q30-10 Flow												
4.000	2.65	0.00	2.65	.495	0.00782	NA	NA	NA	0.27	0.662	20.79	7.00

Wednesday, October 16, 2024 Version 1.1 Page 1 of 1

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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
03D	1658	IRONSTONE CREEK	4.000	312.00	7.23	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.270	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
Berks Montgomer	PA0023540	0.3200	0.3200	0.3200	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

Wednesday, October 16, 2024 Version 1.1 Page 1 of 2

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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
03D	1658	IRONSTONE CREEK	1.995	192.00	9.72	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.270	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
Berks Montgomer	PA0023540	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

Wednesday, October 16, 2024 Version 1.1 Page 2 of 2

Page: 2 No Filter

Toxic:
The following data were used in the attached computer model (WQM 7.0) of the stream:

*	Discharge pH	=	7.7	(2023 renewal application)
*	Discharge Hardness	=	100 mg/L	(Default)
*	Stream pH	=	7.0	(Default)
*	Stream Hardness	=	100 mg/L	(Default)
*	Background NH_3-N	=	0 mg/L	(Default)

Node 1: Outfall 001 to Ironstone Creek (01658)

Elevation:	312.0 ft (USGS National Map Viewer)
Drainage Area:	7.23 mi^2 (USGS PA StreamStats)
River Mile Index:	4.0 (PA DEP eMapPA)
Low Flow Yield:	0.27 cfs/mi^2
Discharge Flow:	0.32 MGD

Node 2: At confluence with Ironstone Creek (01658)

Elevation:	192.0 ft (USGS National Map Viewer)
Drainage Area:	9.72 mi^2 (USGS PA StreamStats)
River Mile Index:	1.095 (PA DEP eMapPA)
Low Flow Yield:	0.27 cfs/mi^2
Discharge Flow:	0.0 MGD

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: Berks Montgomery MA - Morysville NPDES Permit No.: PA0023540 Outfall No.: 001

Evaluation Type: Custom / Additives Wastewater Description: Ironstone Creek

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.32	100	7.7						

				0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Total Dissolved Solids (PWS)	mg/L		524									
Chloride (PWS)	mg/L		91.3									
Bromide	mg/L	<	0.2									
Sulfate (PWS)	mg/L		27.2									
Total Copper	mg/L		0.031									
Total Lead	mg/L		0.0003									
Total Zinc	mg/L		0.018									

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Berks Montgomery MA - Morysville, NPDES Permit No. PA0023540, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: **Ironstone Creek**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	001658	4	312	7.23			Yes
End of Reach 1	001658	1.095	192	9.72			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	4	0.27										100	7		
End of Reach 1	1.095	0.27										100	7		

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	4														
End of Reach 1	1.095														

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Berks Montgomery MA - Morysville, NPDES Permit No. PA0023540, Outfall 001

Instructions | *Results* | RETURN TO INPUTS | SAVE AS PDF | PRINT | (•) All | ( ) Inputs | ( ) Results | ( ) Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 7.537 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.08

Pollutants	Stream Conc (µg/L)	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	13.439	14.0	69.2	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.581	81.6	404	Chem Translator of 0.791 applied
Total Zinc	0	0		0	117.180	120	592	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 7.537 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.08

Pollutants	Stream Conc (µg/L)	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	8.956	9.33	46.1	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.517	3.18	15.7	Chem Translator of 0.791 applied
Total Zinc	0	0		0	118.139	120	592	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 7.537 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	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): 3.511 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	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: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	0.12	0.18	0.044	0.069	0.11	mg/L	0.044	AFC	Discharge Conc ≥ 50% WQBEL (RP)

☑ ***Other Pollutants without Limits or Monitoring***

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

Pollutants	Governing WQBEL	Units	Comments
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 Lead	15.7	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	0.38	mg/L	Discharge Conc ≤ 10% WQBEL

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Actions Save to Computer Save to Cloud Selection Message

[External] RE: Berks Montgomery MA renewal NPDES PA0023540 permit, follow up UV disinfection project

Keith Showalter <k.showalter@sdei.net>
To Le, Hilary
Cc keith@bmmasewer.org; Greg Unger; Scott Spitko

Reply Reply All Forward
Thu 10/10/2024 3:40 PM

Morysville (Berks-Montgomery) Upgrade GilberstvillePA (UV3000Plus 2022) - Signed warranty letter-9.20.2024.pdf
142 KB

ATTENTION: *This email message is from an external sender. Do not open links or attachments from unknown senders. To report suspicious email, use the Report Phishing button in Outlook.*

Hi Hilary,

We are the Engineer for the Berks-Montgomery Municipal Authority, the installation of a new replacement UV unit was completed during the week of September 9, 2024. The start-up of the new UV unit occurred on 9/12/2024.

BMMA staff collected samples as required during the UV replacement system work as a temporary chlorination/de-chlorination system was placed into service while the UV unit was being replaced. The sample results collected during this time will be included with the September DMR as required. The manufacturer (TrojanUV) provided a warranty letter that shows the Start Up date of the new unit and have attached a copy for the Department's records.

Please let us know if you have any questions or need additional information.

Keith R. Showalter, P.E.
Vice President

SDE SYSTEMS DESIGN ENGINEERING, INC
1032 James Drive, Leesport, PA 19533
(610) 916-8500 (610) 916-8501 (fax)
email: k.showalter@sdei.net

From: Le, Hilary <hle@pa.gov>
Sent: Thursday, October 10, 2024 2:01 PM
To: keith@bmmasewer.org <kecorson@pa.gov>
Cc: Keith Showalter <k.showalter@sdei.net>; Le, Hilary <hle@pa.gov>
Subject: Berks Montgomery MA renewal NPDES PA0023540 permit, follow up UV disinfection project

Hi Keith Corson,

I am reviewing the Berks Montgomery MA renewal NPDES PA0023540 permit and have question.

On 5/3/2024, the DEP letter temporary approved for Chlorine Disinfection during the installation of an UV unit.
Will you please confirm the update this project whether or not it finished and when?

Thanks!

Hilary Le | Permits Section
Department of Environmental Protection | Clean Water Program
Southcentral Regional Office
909 Elmerton Avenue | Harrisburg, PA 17110
Phone: 717.705.4869 | Fax: 717.705.4760
www.dep.pa.gov

24-hour toll free Emergency Response number for SCRO: 1-800-541-2050

Limited Equipment Warranty Letter

TROJAN UV WATER CONFIDENCE™ GET GENUINE.

Trojan has placed the Morysville (Berks-Montgomery) Upgrade project into warranty based on the dates referenced below. For details of the warranty terms and conditions, please refer to the Warranty Chapter found within the Owner's Manual.

In the event operational issues arise, please contact our Technical Assistance Center or your local service provider. Contact name and numbers are shown below.

Project Number:	141100092
Project Name:	Morysville (Berks-Montgomery) Upgrade
Project Location:	Gilbertsville, PA
Installation Contractor:	Eastern Environmental Contractors
For Questions or 24/7 Emergency Help:	Phone: (866) 388-0488 Email: tac@trojanuv.com

Shipment Date: (mm/dd/yyyy)	05/24/2024
Start Up Date:	09/12/2024
Warranty Start Date:	09/12/2024
System Warranty Duration*:	12 months
Warranty Expiration Date:	09/12/2025

TROJAN TECHNOLOGIES
Authorized Signatory: *Nancy Thompson*
Customer Service Operations

Date: 9/20/2024

*Warranties for components within the UV system such as lamps, ballasts, and sleeves, etc., may differ. Please refer to the Owner's Manual for details.

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	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
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Intensity (mW/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
$CBOD_5$	66.7	106.7	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	80.1	120.1	XXX	30.0	45.0	60.0	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Dissolved Solids	Report Avg Qrtly	XXX	XXX	1000.0 Avg Qrtly	XXX	2,500	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000.0 Geo Mean	XXX	10,000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200.0 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	20.0	XXX	XXX	7.5	XXX	15.0	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	6.67	XXX	XXX	2.5	XXX	5.0	1/week	24-Hr Composite
Total Copper	0.035	XXX	XXX	0.013	0.02	0.026	1/week	24-Hr Composite
Total Nitrogen	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite

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

Compliance Sampling Location:

Other Comments:

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: BPNPSM-PMT-033
☒	Other: DRBC regulation