pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0025798**
Facility Type	**Municipal**	APS ID	**1094154**
Major / Minor	**Minor**	Authorization ID	**1449734**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Centerville Borough Sanitary Authority Washington County**	Facility Name	**Centerville Borough Sanitary Authority WWTF**
Applicant Address	29 Richeyville Road	Facility Address	29 Richeyville Road
	Richeyville, PA 15358		Richeyville, PA 15358
Applicant Contact	Mark Nesto	Facility Contact	Same as Applicant
Applicant Phone	(724) 785-6191	Facility Phone	Same as Applicant
Client ID	45122	Site ID	253751
Ch 94 Load Status	Existing Hydraulic Overload	Municipality	Centerville Borough
Connection Status	Self Imposed Connection Prohibition	County	Washington
Date Application Received	August 3, 2023	EPA Waived?	Yes
Date Application Accepted	Aug 7, 2023	If No, Reason	

Purpose of Application: Renewal of existing NPDES permit for discharge treated sewage effluent from a POTW.

Summary of Review

Centerville Borough Sanitary Authority Washington County has applied for renewal of NPDES Permit No. PA0025798.

Operations staff reported that no open violations exist for this facility.

This facility does not serve industrial or commercial users.

Treatment at this facility consists of the following: sewage influent to this existing facility is screened through a mechanical bar screen, treated in a sequencing batch reactor with a fill, react, and decant pattern. Decanted water goes to a UV disinfection tank. Waste sludge is directed to belt filter presses.

Sludge use and disposal description and location(s): Sewage sludge is hauled to the Center-West Joint Sewer Authority Wastewater Treatment Facility (PA0219461) for belt press dewatering prior to landfill disposal. There are two aerobic digesters for sludge treatment.

Below is a summary of changes made to the permit for this facility:

- An updated model in WQM 7.0 was performed, resulting in water quality-based limits for summer $CBOD_5$.
- Rounding off of several mathematical values for limits was corrected to comply with the requirements of the permit writer's manual.
- *E. Coli* monitoring was added as required by the SOP for Effluent Development.

Approve	Deny	Signatures	Date
X		John Price Jack Price / Environmental Engineering Specialist	December 13, 2023
X		Mahbuba Iasmin Mahbuba Iasmin, Ph.D., P.E., / Environmental Engineer Manager	December 14, 2023

Summary of Review

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.17
Latitude	40º 3' 39.0"	Longitude	-79º 58' 51.0"
Quad Name	California	Quad Code	40079A8
Wastewater Description:	Sewage Effluent		

Receiving Waters	Pike Run (TSF)	Stream Code	39888
NHD Com ID	99411050	RMI	8.12
Drainage Area	8.59	Yield (cfs/mi^2)	0.0154
Q_{7-10} Flow (cfs)	0.132	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	977.57	Slope (ft/ft)	0.00216
Watershed No.	19-C	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	SILTATION, SILTATION, SULFATE, TOTAL DISSOLVED SOLIDS (TDS)		
Source(s) of Impairment	AGRICULTURE, MUNICIPAL POINT SOURCE DISCHARGES, SOURCE UNKNOWN, SOURCE UNKNOWN		
TMDL Status	N/A	Name	N/A

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake	Newell Muni Auth (5260014)		
PWS Waters	Monongahela River	Flow at Intake (cfs)	
PWS RMI	50.92	Distance from Outfall (mi)	4.21 Linear Miles 8.93 River Miles

Changes Since Last Permit Issuance:

- The discharge was modeled with WQM 7.0 and uses the USGS StreamStats service as the basis for Q_{7-10} flow in Pike Run rather than the PA Water Resources Bulletin listing for Pigeon Creek. The previous WQM model was performed in 2009 on WQM 6.3. The new model resulted in more stringent Ammonia-Nitrogen in both Summer and in Winter.
- Mathematical values were properly rounded according to Department policy.
- Quarterly *E. Coli* Effluent Monitoring is now added according to Department policy.

Other Comments: N/A

Treatment Facility Summary

Treatment Facility Name: Richeyville STP

This is an existing facility. The facility consists of a mechanical bar screen, two sequencing batch reactors, and UV disinfection tank. There are also two aerobic digesters, and two sludge drying beds for sludge treatment. Effluent from the plant is piped approximately 3,200 feet to the outfall on Pike Run.

WQM Permit No.	Issuance Date
6389402	12/06/1989
6389402 A-1	05/18/2021

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Sequencing Batch Reactor	Ultraviolet	0.17

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.170	321	Existing Hydraulic Overload	Drying/Belt Press	Landfill

Changes Since Last Permit Issuance: Permit No. 6389402 A-1 modified the existing facility to include a bar screen with associated support facilities. The modifications included removal of the existing comminutor.

Other Comments: N/A

Compliance History

Facility: Centerville Borough Sanitary Authority WWTF
NPDES Permit No.: PA0025798
Compliance Review Period: 12/2018 – 12/2023

Inspection Summary:

INSP ID	INSPECTED DATE	INSPECTION RESULT DESC	INSPECTOR ID
3057848	07/20/2020	No Violations Noted	00434771
3245081	09/03/2021	No Violations Noted	00434771
3057838	07/22/2020	No Violations Noted	00434771
3210407	06/24/2021	Administratively Closed	00434771

Violation Summary:

None on record.

Open Violations by Client ID:

None on record.

Enforcement Summary:
None on record.

Compliance Status: TBD

Other Comments: The Compliance Status of the facility will be determined prior to the issuance of the final permit. At that time a fact sheet addendum will be issued with the compliance status determination.

Compliance History

DMR Data for Outfall 001 (from November 1, 2022 to October 31, 2023)

Parameter	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22
Flow (MGD) Average Monthly	0.148	0.152	0.150	0.120	0.132	0.129	0.159	0.157	0.140	0.176	0.14777	0.13880
Flow (MGD) Weekly Average	0.230	0.177	0.309	0.236	0.388	0.166	0.247	0.267	0.187	0.269	0.21300	0.24000
pH (S.U.) Instantaneous Minimum	6.7	7.0	7.0	7.0	7.3	7.2	7.2	7.3	7.2	7.2	6.8	7.3
pH (S.U.) Instantaneous Maximum	7.7	7.6	7.6	8.3	7.7	7.4	7.4	7.7	7.6	7.5	7.6	7.7
DO (mg/L) Instantaneous Minimum	4.6	5.0	5.1	5.0	5.4	5.5	4.7	7.7	7.8	7.4	7.8	6.6
$CBOD_5$ (lbs/day) Average Monthly	2.8	2.8	3.1	2.4	2.6	4.3	3.0	3.2	3.4	4.6	4.1	6.6
$CBOD_5$ (lbs/day) Weekly Average	3.1	3.0	5.6	3.9	3.6	7.4	3.2	3.8	4.8	11.0	6.1	13.7
$CBOD_5$ (mg/L) Average Monthly	2.1	2.1	2.3	2.0	2.5	4.0	2.3	2.8	2.9	2.6	3.4	5.3
$CBOD_5$ (mg/L) Weekly Average	2.5	2.3	3.3	2.0	3.7	7.0	2.8	3.7	4.7	4.9	5.7	8.5
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	127.8	160.5	100.9	88.8	204.6	149.7	181.0	143.6	169.7	92.3	158.8	142.0
BOD5 (lbs/day) Raw Sewage Influent Weekly Average	322.5	205.0	215.3	127.9	510.7	251.5	224.9	274.3	323.6	132.8	188.0	259.0
BOD5 (mg/L) Raw Sewage Influent Average Monthly	98.8	124.7	73.4	78.5	178.5	136.3	141.2	116.7	133.9	60.4	131.4	117.3
BOD5 (mg/L) Raw Sewage Influent Weekly Average	176.7	175.6	127.8	143.4	390.0	210.9	171.7	186.7	207.5	92.7	146.7	160.9
TSS (lbs/day) Average Monthly	6.6	6.5	6.4	5.9	5.2	9.2	7.2	5.9	6.3	11.2	6.3	5.8

TSS (lbs/day) Raw Sewage Influent Average Monthly	142.5	156.0	137.1	85.9	174.3	116.1	157.0	90.5	123.2	81.2	101.2	89.0
TSS (lbs/day) Raw Sewage Influent Weekly Average	201.5	196.2	271.6	140.1	345.7	175.0	239.4	133.9	224.6	122.2	124.0	126.2
TSS (lbs/day) Weekly Average	7.4	7.4	8.4	9.8	6.5	12.6	8.9	9.3	7.8	26.9	7.0	8.0
TSS (mg/L) Average Monthly	5.0	5.0	5.0	5.0	5.0	8.4	5.5	5.0	5.3	6.4	5.3	5.0
TSS (mg/L) Raw Sewage Influent Average Monthly	110.0	122.0	102.0	80.4	159.5	108.0	125.0	78.5	97.5	52.4	83.5	78.0
TSS (mg/L) Raw Sewage Influent Weekly Average	160.0	168.0	176.0	168.0	264.0	172.0	208.0	140.0	144.0	66.0	100.0	124.0
TSS (mg/L) Weekly Average	5.0	5.0	5.0	5.0	5.0	12.0	7.0	5.0	6.0	12.0	6.0	5.0
Fecal Coliform (No./100 ml) Geometric Mean	3	3	3	1	6	5	7	168	217	10	18	14
Fecal Coliform (No./100 ml) Instantaneous Maximum	9	15	17	3	157	73	670	570	530	187	210	184
UV Transmittance (%) Daily Minimum	98	97	96	92	FF	FF	FF	FF	FF	FF	FF	FF
Total Nitrogen (mg/L) Daily Maximum											3.48	
Ammonia (lbs/day) Average Monthly	0.3	0.2	0.3	0.2	0.6	0.7	0.4	0.2	0.1	0.4	0.5	0.7
Ammonia (lbs/day) Weekly Average	0.5	0.3	0.8	0.4	1.1	1.5	0.7	0.3	0.2	0.8	1.0	1.3
Ammonia (mg/L) Average Monthly	0.2	0.1	0.4	0.1	0.5	0.7	0.3	0.2	0.1	0.3	0.4	0.7
Ammonia (mg/L) Weekly Average	0.4	0.2	1.3	0.2	1.1	1.5	0.5	0.3	0.2	0.6	0.7	1.5
Total Phosphorus (mg/L) Daily Maximum											0.6	

Development of Effluent Limitations			
Outfall No.	001	**Design Flow (MGD)**	0.17
Latitude	40º 3' 39.0"	**Longitude**	-79º 58' 51.0"
Wastewater Description:	Sewage Effluent		

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments: The proposed discharge was evaluated using WQM 7.0 to evaluate $CBOD_5$, Ammonia Nitrogen, and Dissolved Oxygen Parameters. The modeling results show technology based effluent limitations for $CBOD_5$ (November 1st to April 30th) are more stringent than the water quality model, therefore the TBELs will be used for $CBOD_5$ in winter months. The Water Quality Model also returned a result showing the Summer $CBOD_5$ TBEL Limit was more stringent, however the previous effluent limit was more stringent than this result. Due to anti-backsliding, previous effluent limits will be re-imposed.

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/L)	SBC	Model
Ammonia Nitrogen (May 1 to Oct 31)	2.5	Average Monthly	WQM 7.0 Version 1.1
Ammonia Nitrogen (Nov 1 to Apr 30)	9.5	Average Monthly	WQM 7.0 Version 1.1
Dissolved Oxygen	5 (min)	Average Monthly	WQM 7.0 Version 1.1

Comments: DMR Data shows that the facility will be able to comply with the new more stringent ammonia-nitrogen limits.

Changes to Effluent Limitations

These changes resulted from an updated WQM 7.0 Model:

- Average monthly Winter Ammonia-Nitrogen concentration limit was reduced from 15.0 mg/L to 9.5 mg/L.
- Weekly average Winter Ammonia-Nitrogen concentration limit was reduced from 22.5 mg/L to 14.0 mg/L.
- Instant maximum Winter Ammonia-Nitrogen concentration limit was reduced from 30.0 mg/L to 19.0 mg/L.
- Average monthly Winter Ammonia-Nitrogen mass loading limit was reduced from 21.3 lbs/day to 13.0 lbs/day.
- Weekly average Winter Ammonia-Nitrogen mass loading limit was reduced from 31.9 lbs/day to 20.0 lbs/day.
- Average monthly Summer Ammonia-Nitrogen concentration limit was reduced from 5.0 mg/L to 2.5 mg/L.
- Weekly average Summer Ammonia-Nitrogen concentration limit was reduced from 7.5 mg/L to 5.0 mg/L.
- Instant maximum Summer Ammonia-Nitrogen concentration limit was reduced from 15.0 mg/L to 5.0 mg/L.
- Average monthly Summer Ammonia-Nitrogen mass loading limit was reduced from 7.1 lbs/day to 3.5 lbs/day.

- Weekly average Summer Ammonia-Nitrogen mass loading limit was reduced from 10.6 lbs/day to 5.0 lbs/day.

These changes are to revise the effluent limit rounding to meet the requirements of the Permit Writer's Manual. See Additional Considerations below:

- Monthly average Winter $CBOD_5$ mass loading limit was revised from 35.4 lbs/day to 35.0 lbs/day.
- Weekly average Winter $CBOD_5$ mass loading limit was revised from 53.6 lbs/day to 53.0 lbs/day.
- Monthly average Summer $CBOD_5$ mass loading limit was revised from 28.4 lbs/day to 28.0 lbs/day.
- Weekly average Summer $CBOD_5$ mass loading limit was revised from 42.5 lbs/day to 42.0 lbs/day.
- Average monthly Total Suspended Solids (TSS) mass loading limit was revised from 42.5 lbs/day to 42.0 lbs/day
- Weekly average Total Suspended Solids (TSS) mass loading limit was revised from 63.8 lbs/day to 60.0 lbs/day

This change is required by the SOP for Development of Sewage Effluent Limits

- Quarterly *E. Coli* effluent monitoring is now added.

Best Professional Judgment (BPJ) Limitations

Comments: N/A

Industrial Users

There are no industrial or commercial users that are connected to this facility.

Disinfection

Ultraviolet (UV) disinfection is used therefore Total Residual Chlorine (TRC) limits are not applicable. Routine monitoring of UV intensity is at the same monitoring frequency that is used for TRC.

(*Section I.A, Note 4, SOP for Clean Water Program, Establishing Effluent Limitations for Individual Sewage Permits, Final November 9, 2012, Revised March 24, 2021, Version 1.9* and *25 PA Code 92a.61(b)*.)

Mass Loadings

Mass loading limits are applicable for publicly owned treatment works. Current policy requires average monthly mass loading limits be established for $CBOD_5$, TSS, and NH_3-N and average weekly mass loading limits be established for $CBOD_5$ and TSS.

Average monthly mass loading limits (lbs./day) are based on the formula: design flow (MGD) x concentration limit (mg/L) x conversion factor (8.34).

(*Section IV, SOP for Clean Water Program, Establishing Effluent Limitations for Individual Sewage Permits, Final November 9, 2012, Revised March 24, 2021, Version 1.9*)

Influent Monitoring

For POTWs with design flows greater than 2,000 GPD, influent BOD_5 and TSS monitoring must be established in the permit, and the monitoring should be consistent with the same frequency and sample type as is used for other effluent parameters. BOD5 and TSS influent loads will once again be reported for monthly average and daily maximum values in lbs/day and monthly average concentrations in mg/L.

(Section *IV.E.8. SOP – New and Reissuance Individual Sewage NPDES Permits Final November 9, 2012, Revised February 3, 2022, Version 2.0.)*

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard of water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation. Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

(40 CFR 122.44 (l)(2) Establishing limitations, standards, and other permit conditions., 40 CFR Ch. I (7-1-21 Edition))

Due to antibacksliding, the previously imposed average monthly Summer $CBOD_5$ limit of 20.0 mg/L will be reimposed. rather than the limits developed through WQM 7.0 v. 1.1, model data in Attachments #3 and #4. This facility is not seeking to revise previously established effluent limits and the facility does not have any open violations related to Ammonia-Nitrogen.

Additional Considerations

Nutrient monitoring is required by the SOP for Effluent Limitations for Individual Sewage Permits. Monitoring is included to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). Dunlap Creek is not listed as impaired for nutrients, therefore at the discretion of the application manager, a monitoring frequency less than the equivalent of conventional pollutants in Table 6-3 of the Permit Writer's Manual may be selected.

(*Section I.A, Note 7 & 8, SOP for Clean Water Program, Establishing Effluent Limitations for Individual Sewage Permits, Final November 9, 2012, Revised March 24, 2021, Version 1.9* and *25 PA Code 92a.61(b)*.)

Sewage discharges will include monitoring, at a minimum, for *E. Coli*, in new and reissued permits, with a monitoring frequency of 1/quarter for design flows between 0.05 and 1.0 MGD.

(*Note 12 SOP-Establishing Effluent Limitations for Individual Sewage Permits Final November 9, 2012, Revised March 24, 2021, Version 1.9.* and *25 PA Code 92a.61(b).)*

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers.

Table 6-3 – Self-Monitoring Requirements for SEWAGE Discharges

Plant Design Flow (MGD)	Flow Monitoring	C-BOD_5 or BOD_5	Suspended Solids	pH	Fecal Coliform	Chlorine Residual	NH_3-N	Phosphorus	DO	Toxics
Single Residence *(Individual Permit)*	2/year by estimate	2/year*	2/year*	1/mont h*	2/year*	1/month*	2/year*	2/year*	2/year*	N/A
.0005 to .002	weekly, using average pump rate or weir (a)	1/month*	1/month*	daily*	1/month*	daily*	1/month*	1/month*	daily*	N/A
.002 to .01	weekly, using average pump rate or weir (a)	2/month*	2/month*	daily*	2/month*	daily*	2/month*	2/month*	daily*	N/A
0.01 to 0.1	weekly, using average pump rate or weir (a)	2/month*	2/month*	daily*	2/month*	daily*	2/month*	2/month*	Daily*	1/week*
0.1 to 1.0	meter	1/week**	1/week**	daily*	1/week*	daily*	1/week**	1/week**	daily*	1/week****
1.0 to 5.0	meter	2/week***	2/week***	daily*	2/week*	daily*	2/week***	2/week***	daily*	1/week****
5.0 to 25.0	meter	daily***	daily***	daily*	daily*	1/shift*	daily***	daily***	daily*	1/week****
over 25.0	meter	daily***	daily***	1/shift*	daily*	1/shift*	1/shift***	1/shift***	1/shift*	1/week****

* Grab sample-these should be most representative of the effluent and are to be taken at a time when the normal daily maximum flow would reach the sampling point.

** 8-hour composite sample.

*** 24-hour composite sample.

**** Same sample type as for Industrial Process Wastewater (See Table 6-4).

(Department Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits, Updated June 28, 2023 (Document No. 362-0400-001))

Section 2.C of the Permit Writers Manual contains the procedure for converting average monthly effluent limitations to average weekly, maximum daily, and instantaneous maximum effluent limitations. The multiplier for converting monthly average concentration to an average weekly or instantaneous maximum value is determined from the following chart:

Discharge Solution	Parameters	Average Weekly	Maximum Daily	Instantaneous Maximum Multiplier
Sewage	All	1.5		2.0
Industrial	All		2.0	2.5*

* The higher multiplier to be used for industrial dischargers is intended to reflect the greater degree of variability of both influent and effluent quality generally associated with those types of discharges. It will also avoid potential conflict with the use of a "daily maximum" multiplier of 2.0 for industrial discharges.

(Department Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits, Updated June 28, 2023 (Document No. 362-0400-001))

Rounding-Off Mathematical Values. Section 5 C.2. of the Permit Writers Manual contains general guidelines for rounding conventional and toxic pollutants, with instructions to round down to the nearest decimal place indicated.

General Magnitude	Conventional Pollutants	Toxic Pollutants
<0.01	to nearest 0.001	to nearest 0.001
0.01 - 0.1	to nearest 0.01	to nearest 0.01
0.1 - 1.0	to nearest 0.1	to nearest 0.01
1.0 - 10.0	to nearest 0.5	to nearest 0.01
10.0 - 60.0	to nearest 1.0	to nearest 0.01
60.0 or greater	to nearest 5.0	to nearest 0.10

(Department Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits, Updated June 28, 2023 (Document No. 362-0400-001))

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
$CBOD_5$ Nov 1 - Apr 30	35.0	53.0	XXX	25.0	38.0	50.0	1/week	24-Hr Composite
$CBOD_5$ May 1 - Oct 31	28.0	42.0	XXX	20.0	30.0	40.0	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
TSS	42.0	60.0	XXX	30.0	45.0	60.0	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	Report	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Nov 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Fecal Coliform (No./100 ml) May 1 - Oct 31	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	13.0	40.0	XXX	9.5	14.0	19.0	1/week	24-Hr Composite

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ammonia-Nitrogen May 1 - Oct 31	3.5	5.0	XXX	2.5	3.5	5.0	1/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	24-Hr Composite

Compliance Sampling Location: Outfall 001

Other Comments: N/A

Attachment #1: USGS StreamStats Report Upstream

StreamStats Upstream Report

Region ID: PA
Workspace ID: PA20230811140121327000
Clicked Point (Latitude, Longitude): 40.06106, -79.98070
Time: 2023-08-11 10:02:12 -0400

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	8.59	square miles
ELEV	Mean Basin Elevation	1171	feet

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	8.59	square miles	2.26	1400
ELEV	Mean Basin Elevation	1171	feet	1050	2580

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

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.319	ft^3/s	43	43
30 Day 2 Year Low Flow	0.555	ft^3/s	38	38
7 Day 10 Year Low Flow	0.115	ft^3/s	66	66
30 Day 10 Year Low Flow	0.209	ft^3/s	54	54
90 Day 10 Year Low Flow	0.383	ft^3/s	41	41

Low-Flow Statistics Citations

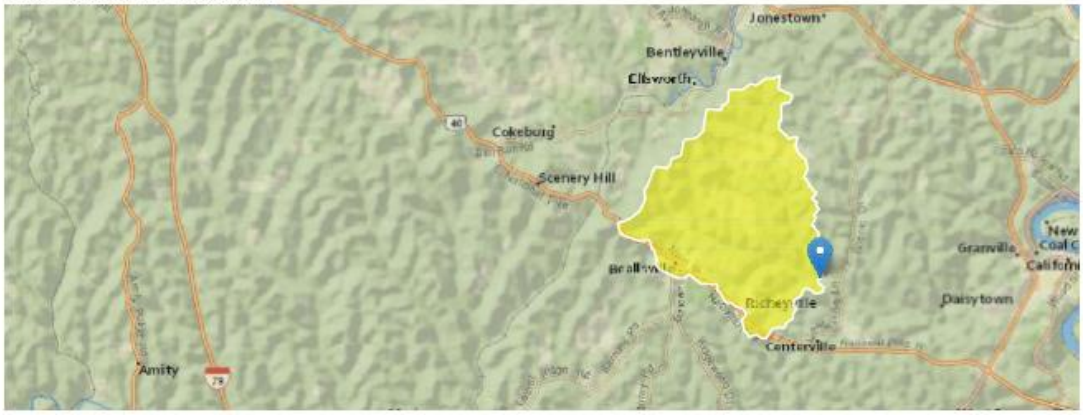
Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Application Version: 4.16.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment #2: USGS StreamStats Report Downstream

StreamStats Downstream Report

Region ID: PA
Workspace ID: PA20230811140727833000
Clicked Point (Latitude, Longitude): 40.06155, -79.97478
Time: 2023-08-11 10:08:29 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	9.6	square miles
ELEV	Mean Basin Elevation	1166	feet

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	9.6	square miles	2.26	1400
ELEV	Mean Basin Elevation	1166	feet	1050	2580

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

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.361	ft^3/s	43	43
30 Day 2 Year Low Flow	0.625	ft^3/s	38	38
7 Day 10 Year Low Flow	0.132	ft^3/s	66	66
30 Day 10 Year Low Flow	0.237	ft^3/s	54	54
90 Day 10 Year Low Flow	0.431	ft^3/s	41	41

Low-Flow Statistics Citations

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

Application Version: 4.16.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment #3: WQM 7.0 Report-Summer

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
19C	39888	PIKE RUN	**8.120**	977.57	8.59	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	0.015	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Cent.Boro.Auth.	PAO025798	0.0000	0.0000	0.1700	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
19C	39888	PIKE RUN	**7.740**	973.24	8.59	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	0.015	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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	6		

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WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19C	39888	PIKE RUN

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
8.120	0.13	0.00	0.13	.263	0.00216	.459	11.85	25.79	0.07	0.320	21.67	7.00
Q1-10 Flow												
8.120	0.08	0.00	0.08	.263	0.00216	NA	NA	NA	0.07	0.344	21.22	7.00
Q30-10 Flow												
8.120	0.18	0.00	0.18	.263	0.00216	NA	NA	NA	0.08	0.300	22.03	7.00

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WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19C	39888	PIKE RUN

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
8.120	Cent.Boro.Auth.	8.86	11.71	8.86	11.71	1	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
8.120	Cent.Boro.Auth.	1.66	2.79	1.66	2.79	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
8.12	Cent.Boro.Auth.	25	25	2.79	2.79	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19C	39888	PIKE RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
8.120	0.170	21.673	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
11.851	0.459	25.794	0.073
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
17.30	1.425	1.85	0.796
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.085	16.420	Owens	6
Reach Travel Time (days)			
0.320			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.032	16.47	1.81	6.09
0.064	15.68	1.76	6.15
0.096	14.93	1.72	6.23
0.128	14.21	1.68	6.33
0.160	13.53	1.63	6.43
0.192	12.88	1.59	6.53
0.224	12.26	1.55	6.63
0.256	11.67	1.51	6.72
0.288	11.11	1.47	6.82
0.320	10.58	1.44	6.91

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19C	39888	PIKE RUN

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)
8.120	Cent.Boro.Auth.	PAO025798	0.000	CBOD5	25		
				NH3-N	2.79	5.58	
				Dissolved Oxygen			5

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Attachment #4: WQM 7.0 Report-Winter

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
19C	39888	PIKE RUN	**8.120**	977.57	8.59	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	0.031	0.00	0.00	0.000	0.000	0.0	0.00	0.00	5.00	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
Cent.Boro.Auth.	PAO025798	0.0000	0.0000	0.1700	0.000	15.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	12.51	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
19C	39888	PIKE RUN	**7.740**	973.24	8.59	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	0.031	0.00	0.00	0.000	0.000	0.0	0.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	12.51	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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	6		

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WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19C	39888	PIKE RUN

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
8.120	0.26	0.00	0.26	.263	0.00216	.478	12.93	27.04	0.09	0.272	9.99	7.00
Q1-10 Flow												
8.120	0.17	0.00	0.17	.263	0.00216	NA	NA	NA	0.08	0.304	11.08	7.00
Q30-10 Flow												
8.120	0.36	0.00	0.36	.263	0.00216	NA	NA	NA	0.09	0.248	9.22	7.00

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WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19C	39888	PIKE RUN

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
8.120	Cent.Boro.Auth.	18.91	31.09	18.91	31.09	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
8.120	Cent.Boro.Auth.	4.08	9.66	4.08	9.66	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
8.12	Cent.Boro.Auth.	25	25	9.66	9.66	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19C	39888	PIKE RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
8.120	0.170	9.985	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
12.928	0.478	27.036	0.085
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
13.47	1.374	4.82	0.324
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.268	12.879	Owens	6
Reach Travel Time (days)			
0.272			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.027	13.15	4.78	8.59
0.054	12.84	4.73	8.84
0.082	12.54	4.69	9.02
0.109	12.25	4.65	9.15
0.136	11.97	4.61	9.26
0.163	11.69	4.57	9.34
0.190	11.41	4.53	9.41
0.218	11.15	4.49	9.47
0.245	10.89	4.45	9.52
0.272	10.63	4.41	9.57

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19C	39888	PIKE RUN

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)
8.120	Cent.Boro.Auth.	PAO025798	0.000	CBOD5	25		
				NH3-N	9.66	19.32	
				Dissolved Oxygen			4