Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0098337**
Facility Type	**Non-Municipal**	APS ID	**1111527**
Major / Minor	**Minor**	Authorization ID	**1480590**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Connellsville Area School District**	Facility Name	**Springfield Township Elementary School**
Applicant Address	121 Spring Grove Church Road	Facility Address	14 School House Road
	Dawson, PA 15428-1178		Normalville, PA 15469
Applicant Contact	Scott Kirsch	Facility Contact	Same as Applicant
Applicant Phone	(724) 628-3300	Facility Phone	Same as Applicant
Client ID	63783	Site ID	253465
Ch 94 Load Status	Not Overloaded	Municipality	Springfield Township
Connection Status		County	Fayette
Date Application Received	April 12, 2024	EPA Waived?	Yes
Date Application Accepted	April 22, 2024	If No, Reason	

Purpose of Application: Application for a renewal of an NPDES permit for discharge of treated Sewage

Summary of Review

The applicant has applied for a renewal of NPDES Permit No. PA0098337. NPDES Permit No. PA0098337 was previously issued by the PA Department of Environmental Protection (DEP) on December 01, 2018. That permit expired on November 30, 2023

WQM Permit No. 465S81, issued on November 16, 1965, authorized construction of the Plant. On December 17, 2002, the WQM Permit was amended, and the proposed plant now have an average design flow of 0.005 MGD.

The existing treatment process consists of 1- Equalization (EQ) tank, 2- Aeration Basin, 1- Secondary Clarifier and Ultraviolet Disinfection.

The treated effluent is discharged through Outfall 001 to a Swale to Trib 38254 of Indian Creek, classified as a Cold-Water fishery. Indian Creek is located in State Watershed No 19 E.

The permittee has complied with Act 14 notifications as evidenced by updated letters sent to Springfield Township and Fayette County

Changes since the last permit include:

1. New Carbonaceous Biochemical Oxygen Demand and Total suspended solids limit
2. New Ammonia-Nitrogen Summer and Winter limits
3. New Seasonal Dissolved Oxygen limits

Approve	Deny	Signatures	Date
X		Fahmida Amin Fahmida Amin / Environmental Engineering Specialist	October 24, 2025
X		Mahbuba Iasmin Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	October 30, 2025

Summary of Review

4. Addition of *E. Coli* monitoring

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 40 CFR 122.44 (l) 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. This facility is not seeking to revise the previously permitted effluent limits.

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)	.005
Latitude	39Âº 59' 50.39"	Longitude	-79Âº 27' 31.31"
Quad Name	Mill Run	Quad Code	1910
Wastewater Description:	Sewage Effluent		

Receiving Waters	Trib 38254 to Indian Creek (CWF)	Stream Code	38254
NHD Com ID	69918129	RMI	0.56
Drainage Area	0.0611	Yield (cfs/mi^2)	0.0053
Q_{7-10} Flow (cfs)	0.000324	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1760	Slope (ft/ft)	
Watershed No.	19-E	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

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

Nearest Downstream Public Water Supply Intake	Indian Creek Valley Water Authority		
PWS Waters	Mill Run	Flow at Intake (cfs)	0.4
PWS RMI	0.32	Distance from Outfall (mi)	1.29

Changes Since Last Permit Issuance: New Carbonaceous Biochemical Oxygen Demand and Total suspended solids limit, New Ammonia-Nitrogen Summer and Winter limits, New Seasonal Dissolved Oxygen limits.

Other Comments: N/A

Pennsylvania
Department of
Environmental Protection

Treatment Facility Summary				
Treatment Facility Name: Springfield Township Elementary School STP				
WQM Permit No.	**Issuance Date**			
465S81	November 16, 1965			
465S81-T1	December 17, 2002			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Aeration	UV	0.005
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.005		Not Overloaded	Sludge Holding	Agricultural Use

Changes Since Last Permit Issuance: None

Other Comments: N/A

Operations Compliance Check Summary Report

Facility: Springfield TWP ELEM SCH STP

NPDES Permit No.: PA0098337

Compliance Review Period: 9/9/2020-9/9/2025

Inspection Summary:

INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC	INSPECTOR ID	INSPECTOR	INSPECTION COMMENT	CREATION DATE	UPDATE DATE	# OF VIOLATIONS
02/28/2024	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted	00377635	MILSOP, LISA	eDMR review for CEI IR	03/04/2024		0
02/17/2021	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted	00377635	MILSOP, LISA		02/22/2021		0
02/28/2024	Compliance Evaluation	PA Dept of Environmental Protection	Violation(s) Noted	00377635	MILSOP, LISA		02/29/2024	06/23/2025	2

Violation Summary:

VIOL ID	VIOLATION DATE	VIOLATION TYPE	VIOLATION TYPE DESC	VIOL CODE ID	VIOL PROGRAM	RESOLVED DATE
8177171	02/28/2024	92A.75(A)	NPDES - Failure to submit NPDES renewal application at least 180 days prior to expiration or later approved date	17303	WPCNP	06/23/2025
8177172	02/28/2024	302.1202(B)	Operator Certification - Failure to submit Available Operator Report (AOR)	17334	WPCWP	06/23/2025

Open Violations by Client ID:

Permit: PA0098337

Client ID: 63783

Open Violations: 0

Enforcement Summary:

ENF ID	ENF TYPE	ENF TYPE DESC	ENF CREATION DATE	EXECUTED DATE	INITIATED DATE	VIOL CODE ID	VIOL PROGRAM NAME	VIOLATIONS	# OF VIOLATIONS
426313	NOV	Notice of Violation	02/29/2024	02/29/2024	02/29/2024	17303	WPCNP	302.1202(B); 92A.75(A)	2
426313	NOV	Notice of Violation	02/29/2024	02/29/2024	02/29/2024	17334	WPCWP	302.1202(B); 92A.75(A)	2

These violations have been corrected and are administratively closed out.

Effluent Violation Summary:

OUTFALL_NUMBER	STAGE_DESC	NON_COMPLIANCE_DATE	NON_COMPL_TYPE_DESC	NON_COMPL_CATEGORY_DESC	PARAMETER	SAMPLE_VALUE	VIOLATION_CONDITION	PERMIT_VALUE	UNIT
001	Final Effluent	9/25/2022	Violation of permit condition	Effluent	Dissolved Oxygen	4.2	<	5.0	mg/L
001	Final Effluent	10/19/2023	Violation of permit condition	Effluent	Dissolved Oxygen	4.9	<	5.0	mg/L

Effluent Dissolved Oxygen exception due to aeration blower timer issue, repairs have been completed. Dissolved Oxygen levels are currently in compliance.
Dissolved Oxygen exception on 9/20 was due to temporary loss of normal electrical power on that day. Dissolved Oxygen levels are currently in compliance.

Unauthorized Discharges:

No unauthorized discharges reported in eDMR during review period

Compliance Status: Facility is in general compliance

Completed by: Howard Dunn **Completed date:** 9/9/25

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	0.00152	0.00027	0.00029	0.00118	0.00174	0.00184	0.00163	0.00217	0.00088	0.00160	0.00203	0.00222
pH (S.U.) Instantaneous Minimum	6.7	7.0	6.9	6.6	6.5	6.6	6.8	6.7	6.7	6.6	6.7	6.6
pH (S.U.) Instantaneous Maximum	7.6	7.5	7.7	7.7	7.6	7.3	7.6	7.4	7.7	7.7	7.8	7.7
DO (mg/L) Instantaneous Minimum	5.2	6.1	5.9	5.4	5.1	5.7	6.0	6.3	5.6	5.6	5.3	5.0
CBOD5 (mg/L) Average Monthly	2.5	2.0	2.6	2.8	2.8	2.0	2.0	2.1	2.0	2.0	2.0	2.0
CBOD5 (mg/L) Instantaneous Maximum	2.8	2.0	2.7	3.5	3.6	2.0	2.0	2.2	2.0	2.0	2.0	2.0
TSS (mg/L) Average Monthly	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	8.0	5.0	5.0	5.0
TSS (mg/L) Instantaneous Maximum	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	11.0	5.0	5.0	5.0
Fecal Coliform (No./100 ml) Geometric Mean	1	2	1	2	2	2	1	2	2	3	3	2
Fecal Coliform (No./100 ml) Instantaneous Maximum	2	2	2	2	2	2	2	2	2	6	4	2
UV Transmittance (%) Average Monthly	80	76	79	80	79	79	83	84	86	85	81	80
Total Nitrogen (mg/L) Daily Maximum									63.4			
Ammonia (mg/L) Average Monthly	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.1	0.1	0.4
Ammonia (mg/L) Instantaneous Maximum	0.3	0.1	0.1	0.1	0.1	0.2	0.2	0.5	0.1	0.1	0.1	0.5

Total Phosphorus (mg/L) Daily Maximum									9.2			

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .005
Latitude 39º 59' 55.00" **Longitude** -79º 27' 24.00"
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)
	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
Total Suspended Solids	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 discharge was evaluated using WQM 7.0 Version 1.1 (Attachment 2) to evaluate $CBOD_5$, ammonia nitrogen, and dissolved oxygen. The modeling results show the above technology based effluent limitations are appropriate for pH and Fecal Coliform.

The facility discharges the treated effluent via Outfall 001 to a dry swale which then conveys the water to Trib 38254 of Indian Creek. To determine applicability of standards associated with dry streams, application managers will generally consider the following:

1. If the stream flow (Q7-10) to wastewater flow (design flow) ratio is less than 3:1, proceed to paragraph 2, otherwise skip to the next section.

2. For new or expanding discharges, apply the more stringent treatment requirements in DEP's Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers (391-2000-014).

3. For existing discharges, if the more stringent treatment requirements cannot be achieved, do not apply the standards in DEP guidance (391-2000-014) unless the receiving stream is impaired, and the point source discharge contributes to the impairment. If this is the case, apply the more stringent treatment requirements and provide a schedule to meet final limitations not exceeding three years in the draft permit. Do not approve design flow increases without applying the more stringent treatment requirements where the discharge meets the criteria in the guidance for a dry stream

DMR data confirms the existing discharge can meet the more stringent dry swale limits (as mentioned in the section below) for CBOD5 and TSS, and therefore, the limits will be applied. The existing discharge cannot consistently meet the dry swale limits for Total N and Total P and the receiving stream is not impaired. Therefore, limits for Total N and Total P will not be applied. For Dissolved Oxygen, water quality-based effluent limit also governs which has been discussed below.

Advanced Treatment Requirements

The Department issued the guidance document, *Implementation Guidance for Evaluating Discharges to Drainage Swales and Ditches,* on May 22, 1987 (*1987 Drainage Swales Guidance*). The guidance document established the following minimum treatment requirements for facilities that discharge to a dry swale:

Parameter	Advanced Treatment Requirements
	Average Monthly (mg/L)
$CBOD_5$	15.0
DO (instantaneous minimum)	3.0
Suspended Solids	25
NH_3-N (May 1 – Oct. 31)	3.0
NH_3-N (Nov. 1 – Apr. 30)	9.0
Fecal Coliform	Provide effective disinfection as defined in the State Regulations.
Total Residual Chlorine	Monitor and Report
pH	Not less than 6.0 nor greater than 9.0
Other parameters, as needed	*If a MCL has been promulgated for the parameter in question, then it will be imposed as a limit. If no MCL has been promulgated, then the effluent limit will be set equal to human health criteria defined for ground water by the Division of Water Quality.*

The Department issued a subsequent dry swales guidance document titled *Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers* [Doc. No. 391-2000-014] on April 12, 2008.

Parameter	Average Monthly (mg/L)
CBOD5	10
TSS	10
Total N	5
Dissolved Oxygen	6
Total P	0.5

WQM 7.0 modeling inputs are documented in the table below:

Discharge Characteristics	**Basin/Stream Characteristics**

Parameter	Value	Parameter	Value
River Mile Index (RMI)	0.56	Drainage Area	0.0611
Discharge Flow (MGD)	0.005	Q_{7-10} (cfs)	0.000324
Discharge Temp (°C)	20	Low-flow yield (cfs/mi^2)	0.0053
Summer Ammonia-Nitrogen (mg/L)	25	Elevation (ft)	1760
Winter Ammonia-Nitrogen (mg/L)	25	Stream Width/Depth	10
$CBOD_5$ (mg/L)	25	Stream Temp (°C)	25
DO	4	Stream pH (s.u.)	7

The discharge was modeled using WQM 7.0 to evaluate the ammonia-nitrogen, $CBOD_5$, and DO parameters. The modeling confirmed that water quality-based effluent limits are necessary for ammonia-nitrogen, $CBOD_5$, and DO. The more restrictive limit is then imposed. According to the DMR data the facility is able to meet the more stringent limit for CBOD5, TSS, Seasonal Ammonia Nitrogen and Winter Dissolved Oxygen. WQM 7.0 output files are included in Attachments 2 and 3. Based on DMR, the permittee may not be able to consistently meet the Summer Dissolved Oxygen limit. The Department anticipates that the permittee will be able to make operational adjustments to meet summer limits since there will be time from permit issuance to summer limit effective date. Therefore, no compliance schedule has been given at this time.

Water Quality-Based Limitations

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

Parameter	Limit (mg/l)	SBC	Model
CBOD5	25	Average Monthly	WQM 7.0 Version 1.1
Ammonia Nitrogen (May 1 to Oct 31)	1.46	Average Monthly	WQM 7.0 Version 1.1
Ammonia Nitrogen (Nov 1 to Apr 30)	3.06	Average Monthly	WQM 7.0 Version 1.1
Dissolved Oxygen (May 1 to Oct 31)	6.0(Minimum)	Average Monthly	WQM 7.0 Version 1.1
Dissolved Oxygen (Nov 1 to Apr 30)	5.0 (Minimum)	Average Monthly	WQM 7.0 Version 1.1

Permit Limits

Modeling determined that a combination of ABACT, advanced treatment requirements, and TBELS are appropriate for this permit. The limits provided below will be imposed for this permit cycle.

Parameter	Limit (mg/l)	SBC	Model	Basis

Dissolved Oxygen (Summer)	6.0	Instantaneous Minimum	WQM 7.0	WQBEL
Dissolved Oxygen (Winter)	5.0	Instantaneous Minimum	WQM 7.0	WQBEL
$CBOD_5$	10	Average Monthly	N/A	advanced treatment requirements
TSS	10	Average Monthly	N/A	advanced treatment requirements
Ammonia-Nitrogen (Summer)	1.46	Average Monthly	WQM 7.0	WQBEL
Ammonia-Nitrogen (Winter)	3.06	Average Monthly	WQM 7.0	WQBEL
Fecal Coliform (May 1 - Oct 31)	200/100 mL as a geometric mean	Average Monthly	N/A	TBEL
Fecal Coliform (Oct 1 - Apr 30)	2000/100 mL as a geometric mean	Average Monthly	N/A	TBEL

Best Professional Judgment (BPJ) Limitations

Comments: N/A

Additional Considerations

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (Document No. 386-0400-001).

Sewage discharges will include monitoring, at a minimum, for *E. Coli*, in new and reissued permits, with a monitoring frequency of 1/year for design flows 0.002 – 0.05 MGD per 25 Pa. Code § 92a.061 and Section I.A, Note 12, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits.

Nutrient monitoring is required 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). The discharge is to waters not impaired for nutrients. A 1/year monitoring requirement for Total N & Total P has been added to the permit per Chapter 92a.61 and Section I.A, Note 7 & 8, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits.

Where ultraviolet (UV) disinfection is used, TRC limits are not applicable, but the limits table(s) in Part A will generally contain, at a minimum, routine monitoring of UV transmittance (%), UV dosage (µWs/cm2 or mWs/cm2 or mjoules/cm2) or UV intensity (µW/cm2 or mW/cm2) at the same monitoring frequency that would be used for TRC per Section I.A, Note 4, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits.

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	Average Weekly	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	0.005	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	5/week	Grab
DO Nov 1 - Apr 30	XXX	XXX	5.0	XXX	XXX	XXX	5/week	Grab
DO May 1 - Oct 31	XXX	XXX	6.0	XXX	XXX	XXX	5/week	Grab
CBOD5	XXX	XXX	XXX	10.0	XXX	20.0	2/month	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20.0	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	5/week	Measured
Total Nitrogen	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	3.06	XXX	6.12	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	1.46	XXX	2.92	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab

Compliance Sampling Location: Outfall 001

Other Comments: N/A

Pennsylvania
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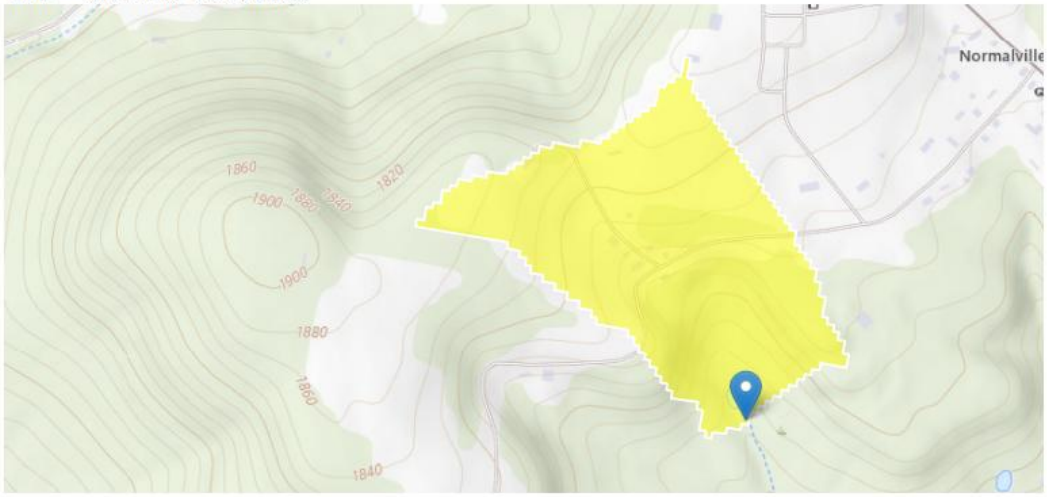
Attachment 1 – USGS StreamStats Report

StreamStats Report

Region ID: PA
Workspace ID: PA20251003182413579000
Clicked Point (Latitude, Longitude): 39.99720, -79.45870
Time: 2025-10-03 14:24:34 -0400



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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0611	square miles
ELEV	Mean Basin Elevation	1760	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	0.0611	square miles	2.26	1400
ELEV	Mean Basin Elevation	1760	feet	1050	2580

Low-Flow Statistics Disclaimers [Low Flow Region 4]

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 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0016	ft^3/s
30 Day 2 Year Low Flow	0.0036	ft^3/s
7 Day 10 Year Low Flow	0.000324	ft^3/s
30 Day 10 Year Low Flow	0.000888	ft^3/s
90 Day 10 Year Low Flow	0.00227	ft^3/s

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: 4.29.3
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment 2 – WQM 7.0 Version 1.1 – Summer Period

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
19E	38254	Trib 38254 of Indian Creek	**0.560**	1760.00	0.06	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	0.005	0.00	0.00	0.000	0.000	10.0	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
Springfield Ele	PA0098337	0.0000	0.0000	0.0050	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	4.00	9.17	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
19E	38254	Trib 38254 of Indian Creek	**0.190**	1408.00	0.07	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	0.005	0.00	0.00	0.000	0.000	10.0	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
		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	5.5		

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19E	38254	Trib 38254 of Indian Creek

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.560	0.00	0.00	0.00	.0077	0.18018	.291	.78	2.69	0.04	0.641	24.81	7.00
Q1-10 Flow												
0.560	0.00	0.00	0.00	.0077	0.18018	NA	NA	NA	0.03	0.646	24.88	7.00
Q30-10 Flow												
0.560	0.00	0.00	0.00	.0077	0.18018	NA	NA	NA	0.04	0.637	24.75	7.00

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19E	38254	Trib 38254 of Indian Creek

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.560	Springfield Ele	11.19	11.46	11.19	11.46	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.560	Springfield Ele	1.39	1.46	1.39	1.46	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
0.56	Springfield Ele	25	25	1.46	1.46	6	6	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19E	38254	Trib 38254 of Indian Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.560	0.005	24.813	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
0.783	0.291	2.690	0.035
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.14	1.491	1.41	1.014
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.118	25.364	Owens	5.5
Reach Travel Time (days)			
0.641			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.064	21.43	1.32	5.78
0.128	19.02	1.24	5.94
0.192	16.88	1.16	6.19
0.257	14.98	1.09	6.42
0.321	13.30	1.02	6.63
0.385	11.80	0.95	6.82
0.449	10.47	0.89	6.99
0.513	9.30	0.84	7.14
0.577	8.25	0.78	7.27
0.641	7.32	0.73	7.39

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19E	38254	Trib 38254 of Indian Creek

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
0.560	Springfield Ele	PA0098337	0.000	CBOD5	25		
				NH3-N	1.46	2.92	
				Dissolved Oxygen			6

Attachment 3 – WQM 7.0 Version 1.1 – Winter Period

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
19E	38254	Trib 38254 of Indian Creek	**0.560**	1760.00	0.06	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	0.010	0.00	0.00	0.000	0.000	10.0	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
Springfield Ele	PA0098337	0.0000	0.0000	0.0050	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	12.80	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
19E	38254	Trib 38254 of Indian Creek	**0.190**	1408.00	0.07	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	0.010	0.00	0.00	0.000	0.000	10.0	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	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	5.5		

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19E	38254	Trib 38254 of Indian Creek

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.560	0.00	0.00	0.00	.0077	0.18018	.293	.79	2.69	0.04	0.628	14.28	7.00
Q1-10 Flow												
0.560	0.00	0.00	0.00	.0077	0.18018	NA	NA	NA	0.04	0.638	14.53	7.00
Q30-10 Flow												
0.560	0.00	0.00	0.00	.0077	0.18018	NA	NA	NA	0.04	0.619	14.05	7.00

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19E	38254	Trib 38254 of Indian Creek

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.560	Springfield Ele	24.1	25.3	24.1	25.3	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.560	Springfield Ele	2.77	3.06	2.77	3.06	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
0.56	Springfield Ele	25	25	3.06	3.06	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19E	38254	Trib 38254 of Indian Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.560	0.005	14.280	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
0.790	0.293	2.694	0.036
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
23.34	1.486	2.84	0.451
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.561	19.765	Owens	5.5
Reach Travel Time (days)			
0.628			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.063	21.73	2.76	7.31
0.126	20.22	2.69	7.92
0.188	18.82	2.61	8.19
0.251	17.52	2.54	8.36
0.314	16.30	2.47	8.49
0.377	15.17	2.40	8.60
0.440	14.12	2.33	8.71
0.503	13.14	2.27	8.80
0.565	12.23	2.20	8.89
0.628	11.38	2.14	8.98

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19E	38254	Trib 38254 of Indian Creek

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
0.560	Springfield Ele	PA0098337	0.000	CBOD5	25		
				NH3-N	3.06	6.12	
				Dissolved Oxygen			5