Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0223069**
Facility Type	**Municipal**	APS ID	**1150813**
Major / Minor	**Minor**	Authorization ID	**1549770**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Coolspring Jackson Lake Latonka Joint Authority**	Facility Name	**Coolspring Jackson Lake Latonka STP**
Applicant Address	644a Franklin Road	Facility Address	Sr 62
	Mercer, PA 16137-5230		Mercer, PA 16137
Applicant Contact	Todd Steele	Facility Contact	Michael Davidson
Applicant Phone	FAX: 724-662-2092	Facility Phone	(724) 932-5050
Client ID	142959	Site ID	533781
Ch 94 Load Status	Not Overloaded	Municipality	Coolspring Township
Connection Status	No Limitations	County	Mercer
Date Application Received	November 19, 2025	EPA Waived?	Yes
Date Application Accepted		If No, Reason	--

Purpose of Application: Renewal application for a Sewage Treatment Plant (STP)

Summary of Review

On November 19, 2025, the Department received a renewal application for Individual Sewage Permit No. PA0223069 for the Coolspring Jackson Lake Latonka STP facility. The facility is a Publicly Owned Treatment Works that serves Coolspring and Jackson Townships with 50% flow contribution from each. The facility on average has a flow of 0.075 MGD. There is one outfall (Outfall 001) that discharges to Cool Spring Creek (TSF).

Act 14 notifications were submitted and received.

The facility is currently in the eDMR system.

The facility was last inspected on July 9, 2024. No violations were noted.

There are no open violations in WMS for the Subject Client ID – 142959 as of December 8, 2025.

Proposed Changes:

- More stringent Ammonia-Nitrogen limits

Approve	Deny	Signatures	Date
X		Carlee Wilson Carlee Wilson / Environmental Engineering Trainee	December 4, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	December 17, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.15
Latitude	41º 15' 28.05"	Longitude	-80º 11' 7.90"
Quad Name	-	Quad Code	-
Wastewater Description:	Sewage Effluent		
Receiving Waters	Cool Spring Creek (TSF)	Stream Code	35748
NHD Com ID	130029474	RMI	6.2
Drainage Area	13.8	Yield (cfs/mi^2)	0.016
Q_{7-10} Flow (cfs)	0.22	Q_{7-10} Basis	USGS
Elevation (ft)	1140	Slope (ft/ft)	-
Watershed No.	20-A	Chapter 93 Class.	TSF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	-		
Source(s) of Impairment	-		
TMDL Status	-	Name	-

Background/Ambient Data		Data Source
pH (SU)	7.0	Default
Temperature (°F)	68	Default
Hardness (mg/L)	100	Default
Other:	-	-

Nearest Downstream Public Water Supply Intake		Beaver Falls Municipal Authority	
PWS Waters	Beaver River	Flow at Intake (cfs)	561
PWS RMI	3.5	Distance from Outfall (mi)	45.0

Changes Since Last Permit Issuance: Drainage Area and Q_{7-10} Flow were adjusted using StreamStats data from USGS.

Other Comments:

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.

Treatment Facility Summary				
Treatment Facility Name: Coolspring Jackson Lake Latonka STP				
WQM Permit No.	**Issuance Date**			
4300409	10/20/2000			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Ammonia Reduction	Activated Sludge	Ultraviolet	0.15
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.15	336	Not Overloaded	Aerobic Digestion	Landfill

Changes Since Last Permit Issuance: None

Sludge use and disposal description and location(s): Seneca Landfill

WQM Permit No. 4300409

78,000 feet of low-pressure sewers with grinder pumps pumped through a manual bar screen, a flow splitter box, two 75,000-gallon extended aeration tanks, two 25,810-gallon settling tanks, parallel ultraviolet (UV) light disinfection tanks, two 19,525-gallon aerated sludge holding tanks, two additional 8,461-gallon sludge holding chambers, and four covered 660-square foot sludge drying beds.

Compliance History

DMR Data for Outfall 001 (from November 1, 2024, to October 31, 2025)

Parameter	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24
Flow (MGD) Average Monthly	0.066	0.066	0.075	0.066	0.081	0.086	0.076	0.063	0.072	0.063	0.076	0.067
Flow (MGD) Daily Maximum	0.093	0.087	0.103	0.094	0.109	0.163	0.143	0.086	0.145	0.082	0.100	0.086
pH (S.U.) Daily Minimum	6.4	6.3	6.9	7.0	6.6	6.4	6.7	7.1	7.1	6.9	7.0	7.1
pH (S.U.) Daily Maximum	8.2	7.5	7.5	7.5	7.3	7.1	7.5	7.3	7.4	7.3	7.3	7.9
DO (mg/L) Daily Minimum	5.5	4.1	4.1	4.1	4.1	4.1	4.2	5.3	5.6	6.0	5.9	7.0
CBOD5 (lbs/day) Average Monthly	< 1.2	1.7	4.4	3.8	2.7	3.2	2.5	3.2	< 2.3	2.4	< 1.5	< 1.5
CBOD5 (lbs/day) Weekly Average	1.6	2.3	8.1	8.3	3.7	5.9	3.3	5.6	3.9	3.5	2.6	1.9
CBOD5 (mg/L) Average Monthly	< 2.4	3.0	8.5	6.4	4.4	4.6	4.5	6.5	< 3.9	4.5	< 2.6	< 2.8
CBOD5 (mg/L) Weekly Average	2.7	3.8	13.9	13.5	5.8	8.6	6.2	11.0	6.2	6.2	3.9	3.4
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	114	107	90	140	109	133	91	79	122	131	118	120
BOD5 (mg/L) Raw Sewage Influent Average Monthly	207	199	186	240	181	205	166	168	219	258	210	224
TSS (lbs/day) Average Monthly	< 7.7	< 7.4	< 7.2	< 6.5	9.6	< 6.0	< 2.7	< 2.4	< 3.3	6.1	< 3.7	< 4.0
TSS (lbs/day) Raw Sewage Influent Average Monthly	107	93	69	142	129	80	46	52	140	112	102	104
TSS (lbs/day) Weekly Average	22.1	12.6	16.4	11.0	18.9	10.9	< 2.9	< 2.6	3.9	10.2	5.7	7.9
TSS (mg/L) Average Monthly	< 14.8	< 14.3	< 13.8	< 11.3	15.8	< 8.5	< 5.0	< 5.0	< 6.3	11.5	< 6.8	< 7.3

TSS (mg/L) Raw Sewage Influent Average Monthly	191	176	131	242	215	131	82	106	247	214	186	192
TSS (mg/L) Weekly Average	42.0	27.0	29.0	20.0	28.0	16.0	< 5.0	< 5.0	10.0	18.0	12.0	14.0
Fecal Coliform (No./100 ml) Geometric Mean	< 5	< 14	< 31	< 9	< 5	< 7	< 5	< 3	< 5	< 6	< 6	< 4
Fecal Coliform (No./100 ml) Instantaneous Maximum	5	328	264	54	5	10	< 5	< 5	< 5	10	10	10
E. Coli (No./100 ml) Instantaneous Maximum		106			12			< 1.0			< 1	
UV Intensity (µw/cm²) Average Monthly	4.2	5.1	3.1	4.2	5.0	4.5	3.8	3.7	3.3	3.3	3.7	4.2
Total Nitrogen (lbs/day) Average Monthly	13	18	18	15	17	29	16	5	18	19	12	22
Total Nitrogen (mg/L) Average Monthly	22.5	29.2	32.1	24.5	33.8	24.8	28.7	12.6	30.7	31.4	24.2	37.9
Ammonia (lbs/day) Average Monthly	< 0.1	< 0.4	< 0.8	0.7	< 0.3	< 0.4	< 0.1	< 1.5	< 0.1	< 0.1	< 0.4	< 0.1
Ammonia (mg/L) Average Monthly	< 0.2	< 0.6	< 1.3	1.3	< 0.5	< 0.6	< 0.2	< 2.8	< 0.2	< 0.2	< 0.6	< 0.2
Total Phosphorus (lbs/day) Average Monthly	2	4	3	4	2	5	3	2	2	3	3	4
Total Phosphorus (mg/L) Average Monthly	3.73	6.61	4.6	5.68	3.79	4.48	4.8	4.18	3.46	4.21	5.3	6.2

Compliance History

Table 1. Inspections of the Last 5 Years for Coolspring Jackson Lake Latonka STP

Site Name	Inspected Date	Inspection Type	Inspection Result	Inspector
COOLSPRING JACKSON LAKE LATONKA STP	07/09/2024	Compliance Evaluation	No Violations Noted	CARVER, MELISSA
COOLSPRING JACKSON LAKE LATONKA STP	05/16/2024	Chapter 94 Inspection	No Violations Noted	CARVER, MELISSA
COOLSPRING JACKSON LAKE LATONKA STP	04/26/2022	Chapter 94 Inspection	No Violations Noted	CARVER, MELISSA
COOLSPRING JACKSON LAKE LATONKA STP	09/09/2021	Compliance Evaluation	No Violations Noted	CARVER, MELISSA

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .15
Latitude 41º 15' 28.00" **Longitude** -80º 11' 8.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

Table 2. Minimum Technology-Based and BPJ Standards for Individual Sewage Permits

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)
Total Nitrogen	Report	Average Quarterly	-	92a.61
Total Phosphorous	Report	Average Quarterly	-	92a.61
E. Coli	Report	IMAX	-	92a.61

The above limits are minimum technology-based and BPJ standards for individual sewage permits which are found in the Department's "*Establishing Effluent Limitations for Individual Sewage Permits"* document (SOP. No. BCW-PMT-033). The limits for pH are technology-based on Chapter 93.7. The limits for Total Suspended Solids, and Fecal Coliforms are technology-based on Chapter 92a.47. Monitoring for E. Coli, Total Nitrogen, and Total Phosphorus are based on Chapter 92a.61.

Water Quality-Based Limitations

Table 5. WQM Results

Parameter	Limit (mg/l)	SBC	Model
CBOD5	25	Average Monthly	WQM 7
	50	IMAX	
NH3 - N	3.75	Average Monthly	
	7.5	Instantaneous Maximum	
DO	4	Daily Minimum	

The Department's Toxics Management Spreadsheet was not used for this case since no sampling other than sewage-related parameters is required for the renewal of their NPDES permit. CBOD5, NH3-N, and DO are evaluated using the Department's WQM 7 Model to determine if more stringent WQBELs are necessary to protect water quality (Attachment 5). The results are displayed above in Table 4. The current effluent limitations for CBOD5 and DO will remain the same. However, more stringent limits are proposed for NH3-N in this renewal. Since the facility currently meets these new limits, a compliance schedule is not necessary.

Notes

Total Residual Chlorine was not modeled, and limits are not imposed since Ultraviolet (UV) Radiation used for disinfection.

The ratio of stream flow (Q_{7-10}) to wastewater flow (design flow) is less than 3:1. However, the more stringent standards 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) are not applied since they cannot be achieved, and the receiving stream is not impaired.

Influent monitoring for Total Suspended Solids (TSS) and BOD5 will be retained as recommended in the *New and Reissuance Sewage Individual NPDES Permit Applications* (SOP No. BCW-PMT-002) for POTWs with design flows > 2,000 GPD, and as authorized under Chapter 92a.61.

Anti-Backsliding

Parameter	Effluent Limitations					
	Mass Units (lbs/day) (1)		Concentrations (mg/L)			
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX
CBOD5 Nov 1 - Apr 30	31.0	50.0	XXX	25.0	40.0	50
CBOD5 May 1 - Oct 31	25.0	37.5	XXX	20.0	30.0	40
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX
TSS	37.5	56.0	XXX	30.0	45.0	60
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report
UV Intensity (µw/cm²)	XXX	XXX	XXX	Report	XXX	XXX
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX
Ammonia Nov 1 - Apr 30	26.0	XXX	XXX	21.0	XXX	42
Ammonia May 1 - Oct 31	8.5	XXX	XXX	7.0	XXX	14
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX

Comments: More stringent limits are proposed for the highlighted items above. All other permit limitations, monitoring requirements, and conditions will be retained into the next permit.

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.

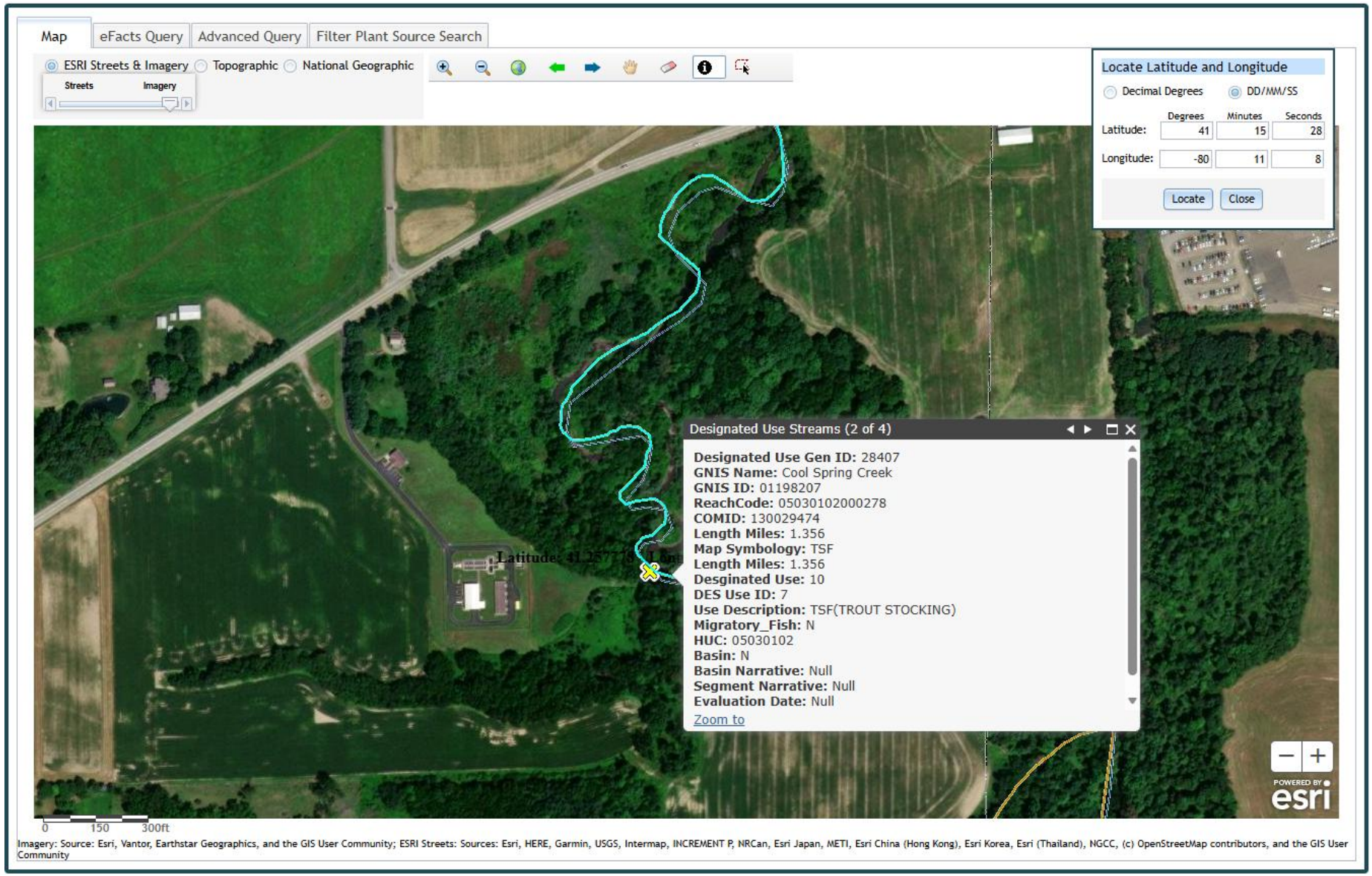
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
CBOD5 Nov 1 - Apr 30	31.0	50.0	XXX	25.0	40.0	50	1/week	24-Hr Composite
CBOD5 May 1 - Oct 31	25.0	37.5	XXX	20.0	30.0	40	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	37.5	56.0	XXX	30.0	45.0	60	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
UV Intensity (µw/cm²)	XXX	XXX	XXX	Report	XXX	XXX	1/day	Measured
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	13.1	XXX	XXX	10.5	XXX	21	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	4.3	XXX	XXX	3.5	XXX	7.0	1/week	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	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite

Compliance Sampling Location: Outfall 001 – after disinfection

Attachment 1
eMapPA – Receiving Stream

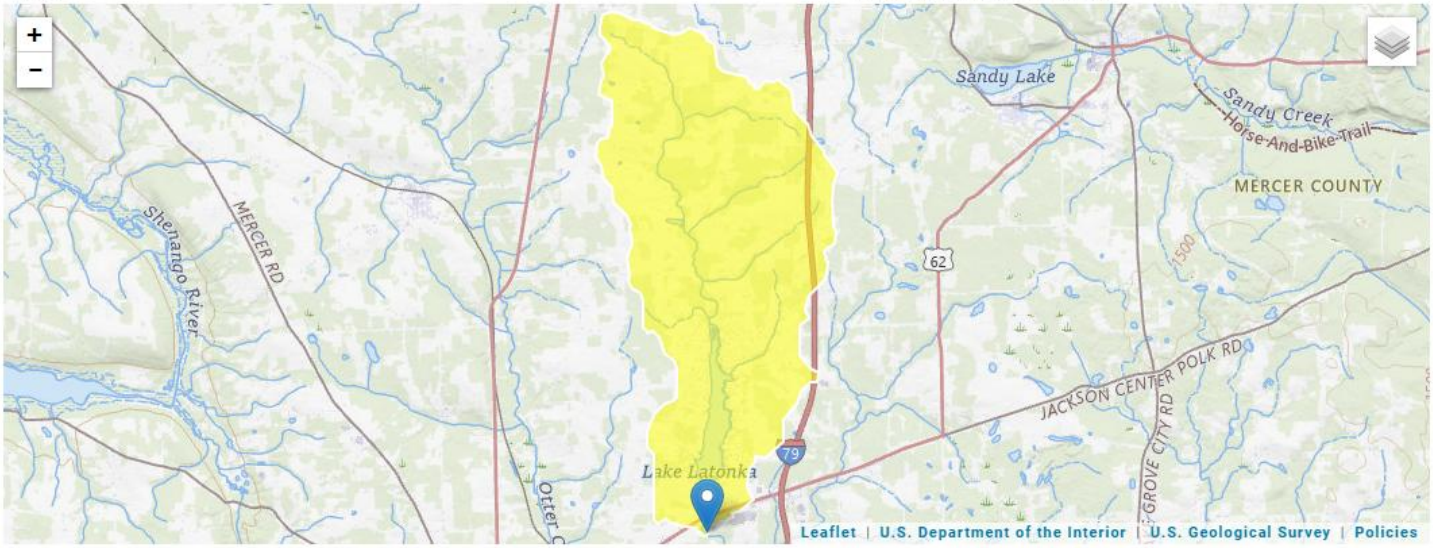


Attachment 2
Google Earth - Aerial View

Attachment 3
StreamStats Report – Outfall 001

StreamStats Report

Region ID:	PA
Workspace ID:	PA20251209152720231000
Clicked Point (Latitude, Longitude):	41.25782, -80.18548
Time:	2025-12-09 10:27:43 -0500



Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	13.8	square miles	2.26	1400
ELEV	Mean Basin Elevation	1308	feet	1050	2580

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

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.6	ft^3/s	43	43
30 Day 2 Year Low Flow	1.03	ft^3/s	38	38
7 Day 10 Year Low Flow	0.22	ft^3/s	66	66
30 Day 10 Year Low Flow	0.389	ft^3/s	54	54
90 Day 10 Year Low Flow	0.714	ft^3/s	41	41

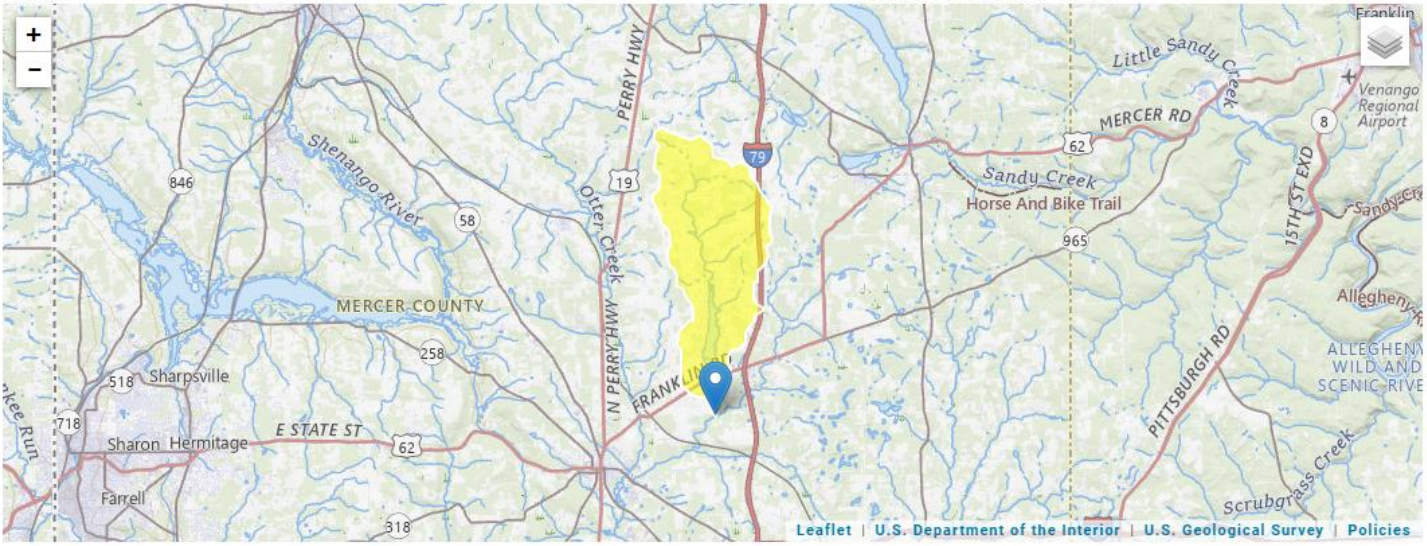
Low-Flow Statistics Citations

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.

Attachment 4
StreamStats Report - Endpoint

StreamStats Report

Region ID:	PA
Workspace ID:	PA20251209154019234000
Clicked Point (Latitude, Longitude):	41.24708, -80.18155
Time:	2025-12-09 10:40:42 -0500



Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	14.3	square miles	2.26	1400
ELEV	Mean Basin Elevation	1305	feet	1050	2580

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

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.624	ft^3/s	43	43
30 Day 2 Year Low Flow	1.07	ft^3/s	38	38
7 Day 10 Year Low Flow	0.229	ft^3/s	66	66
30 Day 10 Year Low Flow	0.405	ft^3/s	54	54
90 Day 10 Year Low Flow	0.741	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.

Attachment 5
Water Quality Modeling Report

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
	20A	35748	COOL SPRING CREEK	**5.000**	1140.00	13.80	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	0.016	0.00	0.22	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
Coolspring	PA0223069	0.1500	0.1500	0.1500	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	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
20A	35748	COOL SPRING CREEK	**3.820**	1121.00	14.30	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	0.016	0.00	0.23	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
		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 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
20A	35748	COOL SPRING 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												
5.000	0.22	0.00	0.22	.2321	0.00305	.473	13.17	27.83	0.07	0.994	22.57	7.00
Q1-10 Flow												
5.000	0.14	0.00	0.14	.2321	0.00305	NA	NA	NA	0.07	1.107	23.11	7.00
Q30-10 Flow												
5.000	0.30	0.00	0.30	.2321	0.00305	NA	NA	NA	0.08	0.908	22.18	7.00

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		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20A	35748	COOL SPRING 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
5.000	Coolspring	12.95	20.81	12.95	20.81	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
5.000	Coolspring	1.64	3.75	1.64	3.75	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)		
5.00	Coolspring	25	25	3.75	3.75	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20A	35748	COOL SPRING CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
5.000	0.150	22.567	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
13.167	0.473	27.830	0.073
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
13.81	1.261	1.93	0.853
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.065	15.881	Owens	6
Reach Travel Time (days)			
0.994			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.099	11.99	1.77	6.49
0.199	10.41	1.63	6.78
0.298	9.05	1.49	7.02
0.398	7.86	1.37	7.23
0.497	6.82	1.26	7.41
0.596	5.93	1.16	7.57
0.696	5.15	1.06	7.71
0.795	4.47	0.98	7.83
0.894	3.88	0.90	7.87
0.994	3.37	0.83	7.87

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20A	35748	COOL SPRING 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)
5.000	Coolspring	PA0223069	0.150	CBOD5	25		
				NH3-N	3.75	7.5	
				Dissolved Oxygen			4

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment **5**)
☐	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:
☐	Other: