

Application Type Renewal
 Facility Type Non-Municipal
 Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0035556
 APS ID 1147199
 Authorization ID 1543775

Applicant and Facility Information

Applicant Name	<u>PA DOT Maintenance & Operations Bureau</u>	Facility Name	<u>PA DOT Rest Area 16</u>
Applicant Address	<u>400 North Street Floor 6 Harrisburg, PA 17120-0206</u>	Facility Address	<u>Pa Dot - Rest Area 16 I-79 South Grove City, PA 16127</u>
Applicant Contact	<u>Nicholaus Sahd</u>	Facility Contact	<u>Nicholaus Sahd</u>
Applicant Phone	<u>(717) 951-8685</u>	Facility Phone	<u>(717) 951-8685</u>
Client ID	<u>189304</u>	Site ID	<u>453431</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Plain Grove Township</u>
Connection Status	<u></u>	County	<u>Lawrence</u>
Date Application Received	<u>September 29, 2025</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u></u>	If No, Reason	<u>--</u>
Purpose of Application	<u>Renewal application for a Minor Sewage Facility</u>		

Summary of Review

On September 29, 2025, the Department received a renewal application for a Minor Sewage Facility which would expire on March 31, 2026. There is one outfall (Outfall 001) which discharges to an ephemeral tributary then to Jamison Run (CWF).

Act 14 notifications were submitted and received.

The facility is currently in the eDMR system.

The last inspection was a compliance evaluation performed on April 14, 2025 (Table 1).

There are 12 open violations in WMS for the subject Client ID (189304) as of November 18, 2025.

Proposed Changes:

- More stringent ammonia-nitrogen limits (compliance schedule implemented)
- More stringent TRC limits (compliance schedule implemented)
- Addition of E. Coli monitoring

Approve	Deny	Signatures	Date
X		Carlee Wilson Carlee Wilson / Environmental Engineering Trainee	March 4, 2026
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	March 4, 2026

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.008
Latitude	41° 5' 47.34"	Longitude	-80° 8' 53.85"
Quad Name	-	Quad Code	-6
Wastewater Description: Sewage Effluent			
Receiving Waters	Jamison Run (CWF)	Stream Code	34197
NHD Com ID	126219761	RMI	6.44
Drainage Area	1.75	Yield (cfs/mi ²)	0.0098
Q ₇₋₁₀ Flow (cfs)	0.0171	Q ₇₋₁₀ Basis	USGS (StreamStats)
Elevation (ft)	1215	Slope (ft/ft)	-
Watershed No.	20-C	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)	7.0	Default	
Temperature (°F)	68	Default	
Hardness (mg/L)	100	Default	
Other:	-	-	
Nearest Downstream Public Water Supply Intake	PA American Water Company – Ellwood City		
PWS Waters	Slippery Rock	Flow at Intake (cfs)	53.1
PWS RMI	0.1	Distance from Outfall (mi)	23.5

Changes Since Last Permit Issuance: Drainage Area and Q₇₋₁₀ Flow were adjusted using updated StreamStats data from USGS. Elevation was updated using Google Earth.

Other Comments:

Public Participation

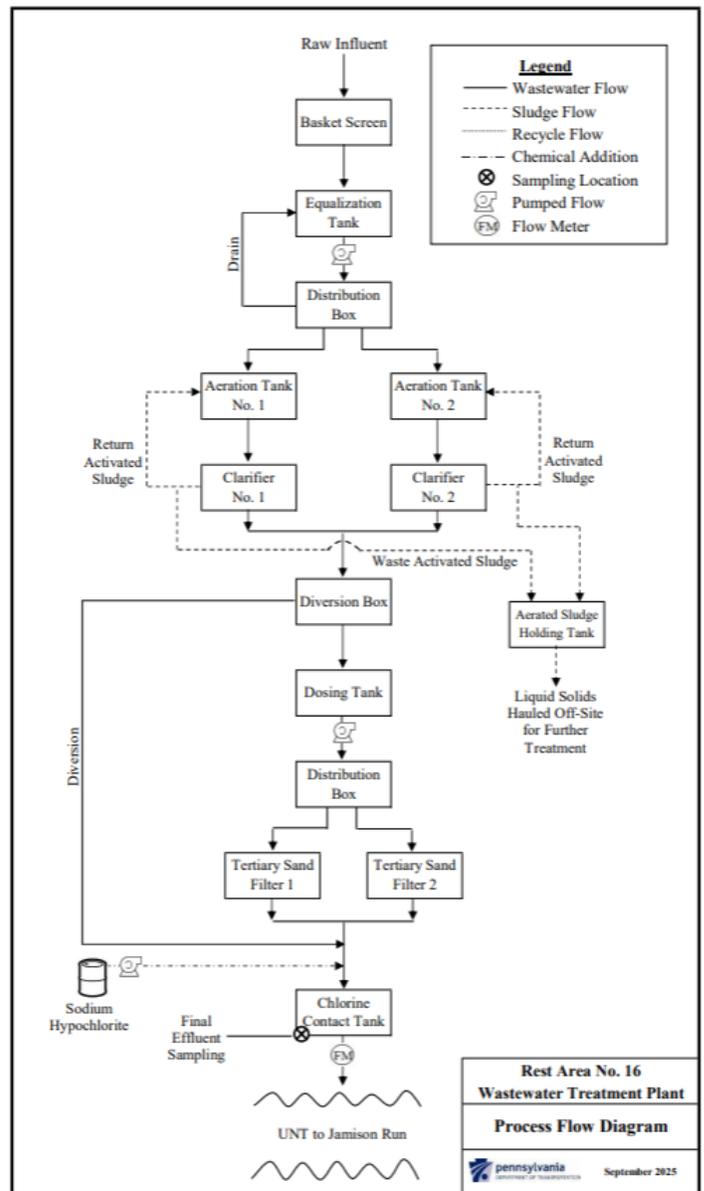
DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested 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: PA DOT Rest Area 16 - I-79				
WQM Permit No.		Issuance Date		
3793404				
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia Reduction	Extended Aeration	Hypochlorite	0.008
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.008	16.7	Not Overloaded	Aerobic Digestion	

Changes Since Last Permit Issuance: None

WQM Permit No. 3793404

Extended aeration, sand filtration, and tablet chlorination



Compliance History

DMR Data for Outfall 001 (from October 1, 2024, to September 30, 2025)

Parameter	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24
Flow (MGD) Average Monthly	0.0029	0.0033	0.0052	0.0031	0.0026		0.0023	0.0022	0.0020	0.0022	0.0028	0.0021
Flow (MGD) Daily Maximum	0.0031	0.0036	0.0059	0.0034	0.0034		0.0025	0.0024	0.0022	0.0027	0.0033	0.0023
pH (S.U.) Instantaneous Minimum	6.8	6.8	6.7	6.7	6.8		6.7	6.9	6.9	7.0	6.7	6.8
pH (S.U.) Instantaneous Maximum	7.5	7.5	7.5	7.5	7.4		7.5	7.4	7.4	7.4	7.4	7.4
DO (mg/L) Instantaneous Minimum	6.9	6.9	6.7	6.8	7.0		6.7	7.0	6.8	6.8	7.0	6.8
TRC (mg/L) Average Monthly	0.3	0.2	0.3	0.3	0.3		0.3	0.3	0.3	0.3	0.3	0.3
CBOD5 (mg/L) Average Monthly	4.6	4.0	2.8	4.6	4.2		4.8	4.3	4.1	4.8	4.8	4.8
TSS (mg/L) Average Monthly	10.5	11.5	< 6.5	10.5	12.0		10.5	11.0	10.5	10.5	11.0	12.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1	< 1	< 1	< 1	< 1		< 1	< 1	< 1	< 1	< 1	< 1
Total Nitrogen (mg/L) Average Monthly	26.2	25.3	26.1	26.6	26.8		26.3	26.5	26.5	26.7	27.8	26.2
Ammonia (mg/L) Average Monthly	14.4	14.3	15.2	15.3	15.1		14.8	14.8	15.1	15.0	15.5	14.6
Total Phosphorus (mg/L) Average Monthly	2.345	2.905	2.890	2.665	3.380		2.905	2.990	3.680	2.725	2.680	2.520

Compliance History

Table 1. 5-Year Inspection Summary for PennDOT's Rest Area Number 16

Site Name	Inspection Program	Inspected Date	Inspection Type	Inspection Result	Inspector	No. of Violations
PA DOT REST AREA 16	WPCNP	12/14/2021	Compliance Evaluation	No Violations Noted	CARVER, MELISSA	<u>0</u>
PA DOT REST AREA 16	WPCNP	04/14/2025	Compliance Evaluation	Violation(s) Noted	CARVER, MELISSA	<u>1</u>

Table 2. Open Violations in WMS for Subject Client ID (189304)

Facility	Inspection Program	Violation Date	Violation
FINDLAY	Storage Tanks	10/23/2025	Failure to meet underground storage tank system operational requirements
PA DOT CLINTON CNTY MAINT FAC 023 - 01	Storage Tanks	07/23/2025	Failure to meet aboveground storage tank protective coating requirements
PA DOT CLINTON CNTY MAINT FAC 023 - 01	Storage Tanks	07/23/2025	Failure to meet aboveground storage tank protective coating requirements
NORTHUMBERLAND CNTY MAINT BLDG 0340	Storage Tanks	08/19/2025	Failure to meet performance standards for new and/or upgraded underground storage tank systems
PA DOT REST AREA 25	WPC NPDES	02/09/2022	NPDES - Violation of effluent limits in Part A of permit
PA DOT REST AREA 25	WPC NPDES	12/13/2023	NPDES - Violation of effluent limits in Part A of permit
PA DOT REST AREA 25	WPC NPDES	11/06/2025	NPDES - Violation of effluent limits in Part A of permit
PA DOT REST AREA 26	WPC NPDES	02/09/2022	NPDES - Violation of effluent limits in Part A of permit
PA DOT REST AREA 26	WPC NPDES	12/13/2023	NPDES - Violation of effluent limits in Part A of permit
PA DOT REST AREA 26	WPC NPDES	10/31/2025	NPDES - Violation of effluent limits in Part A of permit
PA DOT REST AREA 15	WPC NPDES	04/14/2025	NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance
PA DOT REST AREA 16 - I-79	WPC NPDES	04/14/2025	NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance

Development of Effluent Limitations

Outfall No. <u>001</u>	Design Flow (MGD) <u>.008</u>
Latitude <u>41° 5' 59.00"</u>	Longitude <u>-80° 8' 37.70"</u>
Wastewater Description: <u>Sewage Effluent</u>	

1. Technology-Based Limitations

Table 3. 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 Monthly	-	92a.61
Total Phosphorous	Report	Average Monthly	-	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.

2. Water Quality-Based Limitations

Table 4. WQM 7 Inputs

Dry Reach (Outfall 001)	River Mile Index (RMI)	6.97
	Elevation (ft)	1240
	Drainage Area	0.0815
	LFY	0.0047
	Q ₇₋₁₀ Flow	0.000383
Perennial Reach Starting Point	River Mile Index (RMI)	6.44
	Elevation (ft)	1215
	Drainage Area	1.75
	LFY	0.0098
	Q ₇₋₁₀ Flow	0.0171
Perennial Reach Endpoint	River Mile Index (RMI)	4.46
	Elevation (ft)	1194
	Drainage Area	3.22
	LFY	0.0111
	Q ₇₋₁₀ Flow	0.0358
Design Flow = 0.008		

Table 5. WQM 7 Results

Parameter	Limit (mg/l)	SBC
CBOD5	25	Average Monthly
NH3 - N	13.0	Average Monthly
	26.0	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 this facility to renew their NPDES permit. The above parameters are evaluated using water-quality modeling (WQM 7) to determine if more stringent WQBELs are necessary to protect water quality. Since Outfall 001 discharges to a dry stream channel, a dry stream degradation analysis was performed to consider degradation of pollutants until the discharge reaches protected waters.

Table 5 above displays the recommended limits from the model. The current permit limitations for CBOD5 and DO will be retained. However, the model recommends an average monthly limit of 13 mg/l and an IMAX limit of 26.0 mg/l for NH3-N. These limits are more stringent than the existing limits. A seasonal multiplier of 3 is applied to these limits to receive an average monthly limit of 39.0 mg/l and an IMAX limit of 78.0 mg/l during the months of November-April. According to DMR data, the permittee does not demonstrate its ability to comply with these limits, so a compliance schedule has been implemented into the permit.

Total Residual Chlorine (TRC)

Using the Department's Total Residual Chlorine (TRC) Spreadsheet, it is proposed to establish more stringent TRC limits of 0.21 mg/l and 0.69 mg/l (Attachment 9). Since the permittee does not currently demonstrate its ability to comply with these new limits, a compliance schedule has been implemented into the permit with a three-year timeline to provide time for the new limits to be attained.

3. Anti-Backsliding

Table 6. Current Permit Effluent Limitations for Outfall 001

Parameter	Effluent Limitations					
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)			
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX
TRC	XXX	XXX	XXX	0.5	XXX	1.6
CBOD5	XXX	XXX	XXX	25.0	XXX	50
TSS	XXX	XXX	XXX	30.0	XXX	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
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	52.5	XXX	105
Ammonia May 1 - Oct 31	XXX	XXX	XXX	17.5	XXX	35
Total Phosphorus	XXX	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 in the next permit with the addition of E. Coli monitoring.

**NPDES Permit Fact Sheet
PA DOT Rest Area 16**

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” (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through End of Interim Period 1.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	60.0	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
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	52.5	XXX	105.0	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	17.5	XXX	35.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab

Compliance Sampling Location: Outfall 001 – after disinfection

**NPDES Permit Fact Sheet
PA DOT Rest Area 16**

Proposed Effluent Limitations and Monitoring Requirements

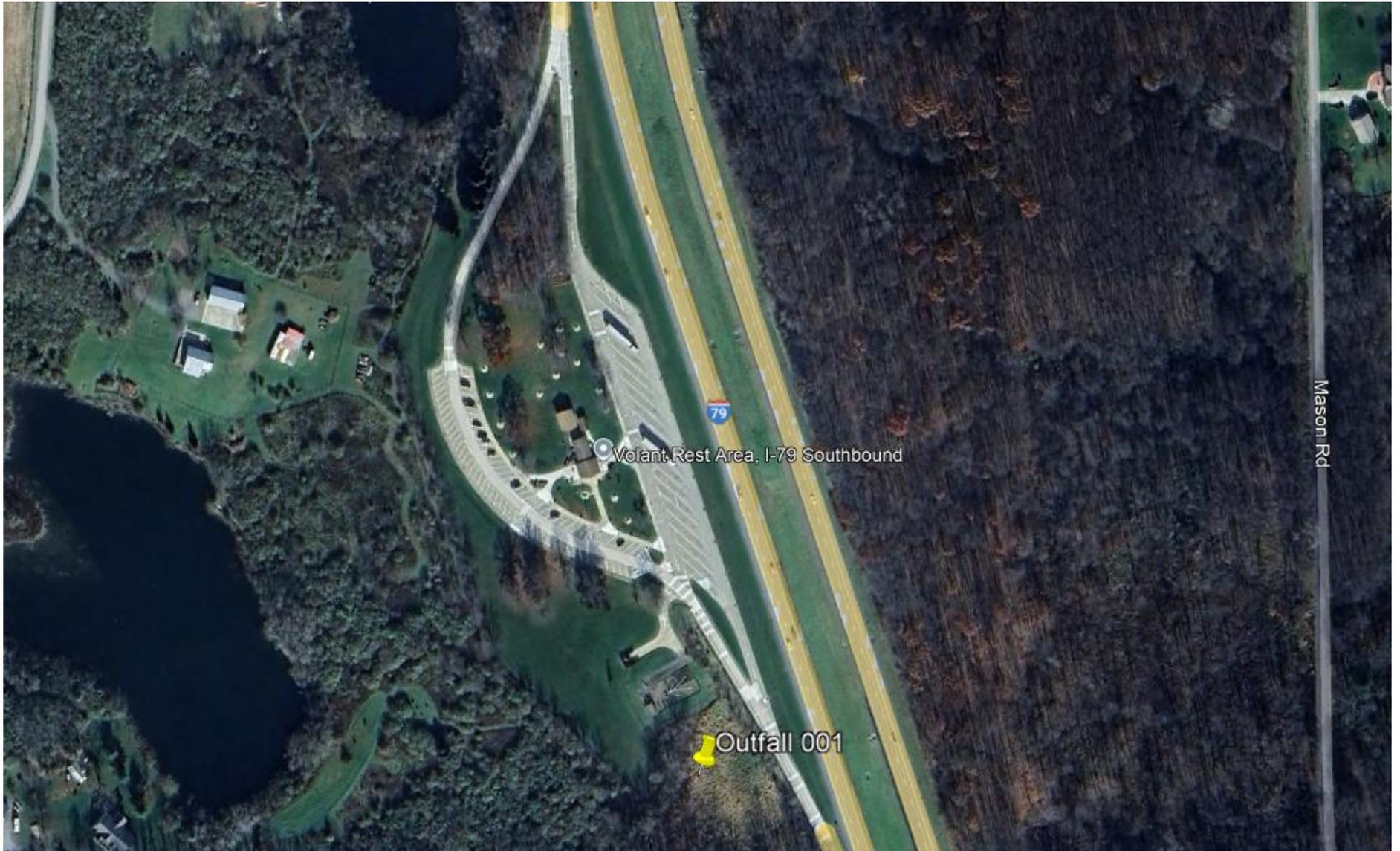
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the “NPDES Permit Writer’s Manual” (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: End of Interim Period 1 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	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.21	XXX	0.69	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	60.0	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
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	39.0	XXX	78.0	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	13.0	XXX	26.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab

Compliance Sampling Location: Outfall 001 – after disinfection

Attachment 1
Google Earth – Aerial Site View



Attachment 2
eMapPA – Receiving Stream Details

The screenshot displays the eMapPA web application interface. At the top, there are tabs for 'Map', 'eFacts Query', 'Advanced Query', and 'Filter Plant Source Search'. Below these are map style options: 'ESRI Streets & Imagery' (selected), 'Topographic', and 'National Geographic'. A toolbar with navigation icons is visible. On the right, a 'Locate Latitude and Longitude' dialog box is open, showing 'Decimal Degrees' selected and coordinates: Latitude 41° 5' 59" and Longitude -80° 8' 37.7".

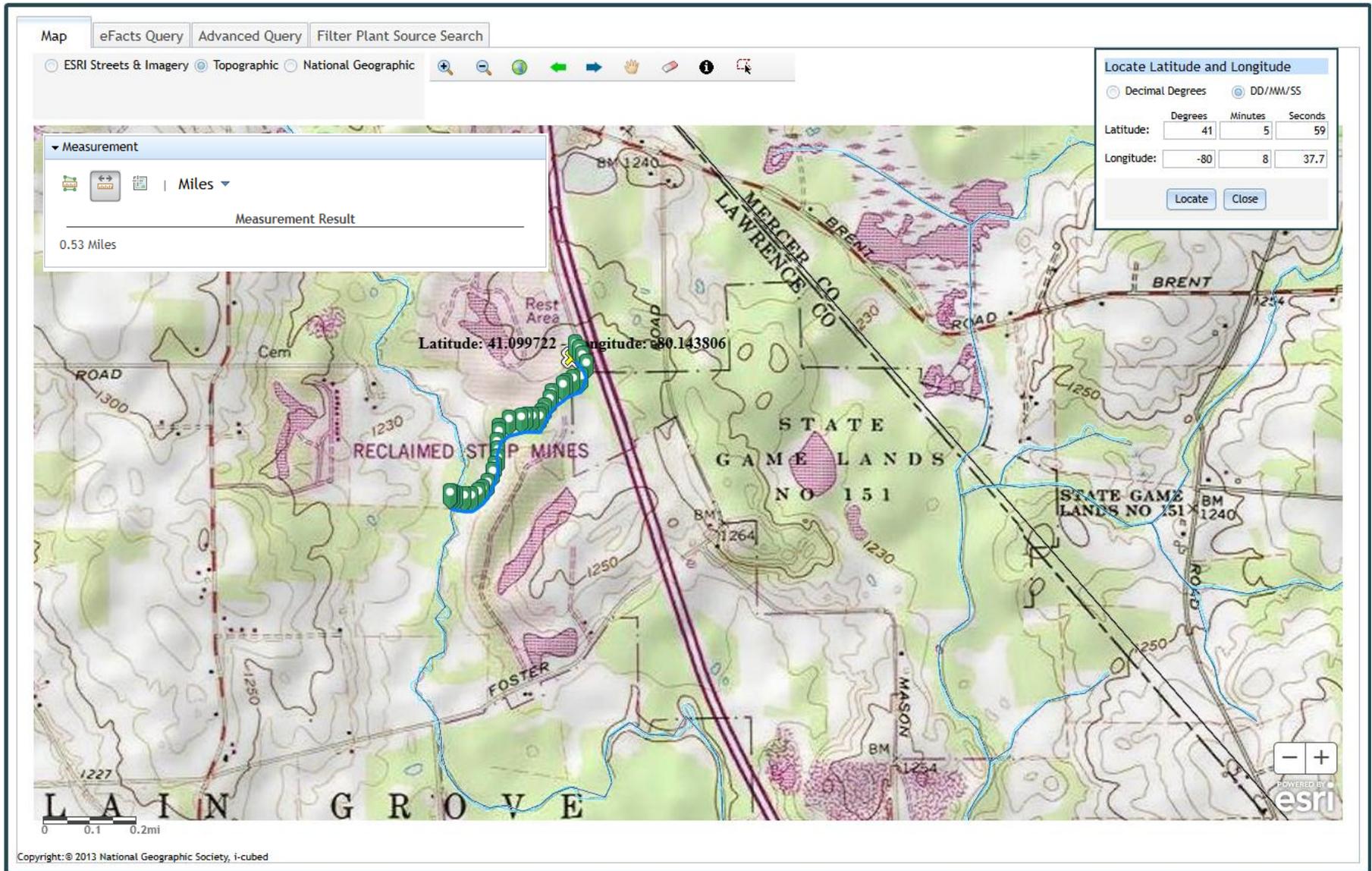
The main map area shows a stream network with a cyan line representing the selected stream. A pop-up window titled 'Designated Use Streams (2 of 4)' is open over the stream, displaying the following details:

- Designated Use Gen ID: 51877
- GNIS Name: Jamison Run
- GNIS ID: 01177985
- ReachCode: 05030105000161
- COMID: 126219761
- Length Miles: 1.38
- Map Symbology: CWF
- Length Miles: 1.38
- Designated Use: 1
- DES Use ID: 1
- Use Description: CWF(COLD WATER FISHES)
- Migratory_Fish: N
- HUC: 05030105
- Basin: N
- Basin Narrative: Null
- Segment Narrative: Null
- Evaluation Date: Null

A 'Zoom to' link is provided at the bottom of the pop-up. The map includes a scale bar (0 to 600ft) and an 'esri' logo with 'POWERED BY' text. A note in the bottom right corner reads 'State Gamelands No 151'.

Imagery: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community; ESRI Streets: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

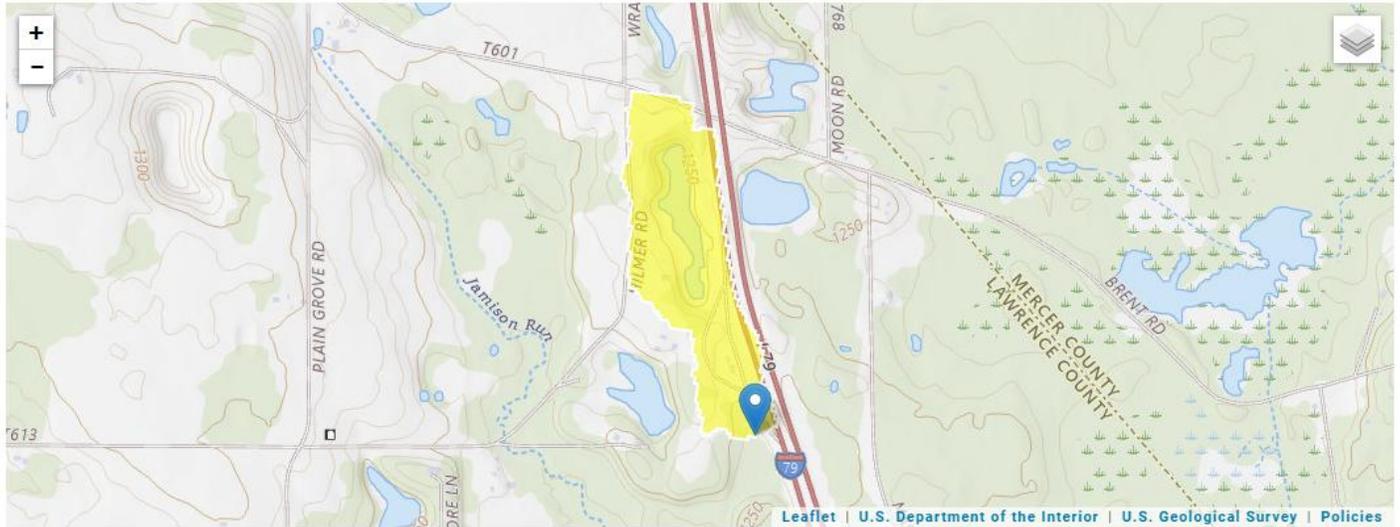
Attachment 3
eMapPA – Dry Stream Channel



Attachment 4
StreamStats Report (Outfall 001) – Dry Stream Channel

StreamStats Report

Region ID: PA
 Workspace ID: PA20251118152631535000
 Clicked Point (Latitude, Longitude): 41.09973, -80.14387
 Time: 2025-11-18 10:26:52 -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	0.0815	square miles	2.26	1400
ELEV	Mean Basin Elevation	1261	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	0.00168	ft ³ /s
30 Day 2 Year Low Flow	0.00366	ft ³ /s
7 Day 10 Year Low Flow	0.000383	ft ³ /s
30 Day 10 Year Low Flow	0.000997	ft ³ /s
90 Day 10 Year Low Flow	0.00233	ft ³ /s

Low-Flow Statistics Citations

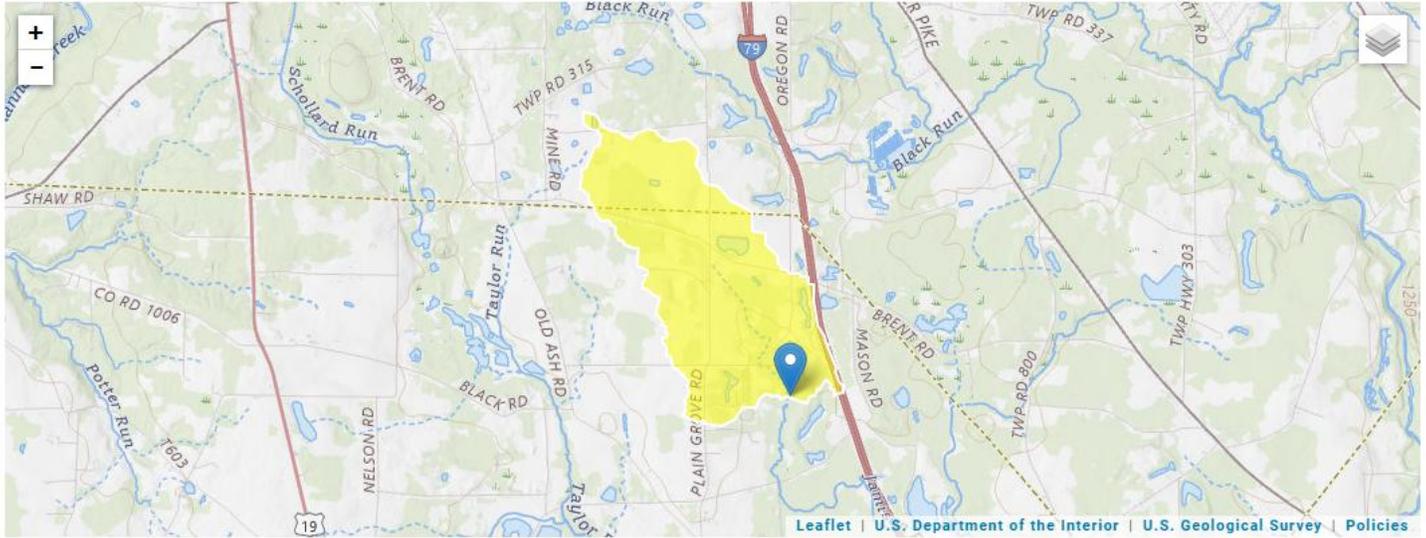
[Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.](#)

Attachment 5
StreamStats Report – Perennial Reach Starting Point

StreamStats Report

Region ID:
Workspace ID:
Clicked Point (Latitude, Longitude):
Time:

PA
PA20251118154017405000
41.09643, -80.14827
2025-11-18 10:40:38 -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	1.75	square miles	2.26	1400
ELEV	Mean Basin Elevation	1293	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	0.0565	ft ³ /s
30 Day 2 Year Low Flow	0.107	ft ³ /s
7 Day 10 Year Low Flow	0.0171	ft ³ /s
30 Day 10 Year Low Flow	0.0353	ft ³ /s
90 Day 10 Year Low Flow	0.0715	ft ³ /s

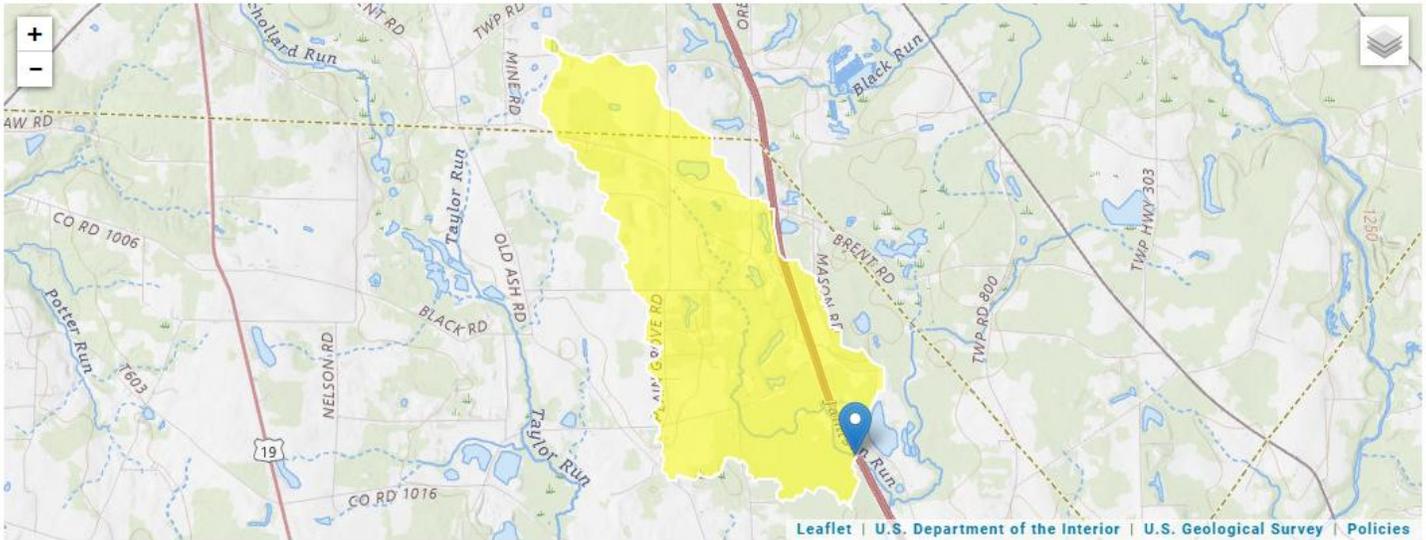
Low-Flow Statistics Citations

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.

Attachment 6
StreamStats Report – Perennial Reach Endpoint

StreamStats Report

Region ID: PA
 Workspace ID: PA20251118154333368000
 Clicked Point (Latitude, Longitude): 41.08346, -80.13492
 Time: 2025-11-18 10:43:59 -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	3.22	square miles	2.26	1400
ELEV	Mean Basin Elevation	1265	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, PseudoR²: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.111	ft ³ /s	43	43
30 Day 2 Year Low Flow	0.204	ft ³ /s	38	38
7 Day 10 Year Low Flow	0.0358	ft ³ /s	66	66
30 Day 10 Year Low Flow	0.0706	ft ³ /s	54	54
90 Day 10 Year Low Flow	0.138	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 7
WQM 7 (Dry Stream Model)**

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
20C	34197	JAMISON RUN	6.970	1240.00	0.08	0.00000	0.00	<input type="checkbox"/>

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary		Stream	
									Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.005	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10			0.00	0.000	0.000							
Q30-10			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
PennDOT 16	PA0035556	0.0080	0.0080	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	4.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

**NPDES Permit Fact Sheet
PA DOT Rest Area 16**

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
20C	34197	JAMISON RUN	6.440	1215.00	1.75	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.010	0.02	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data							
Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		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

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
20C	34197	JAMISON 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
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Q7-10 Flow

6.970	0.00	0.00	0.00	.0124	0.00893	.27	1.41	5.2	0.03	0.973	24.88	7.00
-------	------	------	------	-------	---------	-----	------	-----	------	-------	-------	------

Q1-10 Flow

6.970	0.00	0.00	0.00	.0124	0.00893	NA	NA	NA	0.03	0.978	24.92	7.00
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Q30-10 Flow

6.970	0.00	0.00	0.00	.0124	0.00893	NA	NA	NA	0.03	0.968	24.84	7.00
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WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	EMPR	Use Inputted W/D Ratio	<input type="checkbox"/>
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	<input type="checkbox"/>
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
20C	34197	JAMISON 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
6.970	PennDOT 16	NA	50	11.14	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
6.970	PennDOT 16	NA	25	1.38	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
6.97	PennDOT 16	25	25	25	25	5	5	0	0

WQM 7.0 D.O. Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
20C	34197	JAMISON RUN		
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>		<u>Analysis pH</u>
6.970	0.008	24.882		7.000
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>		<u>Reach Velocity (fps)</u>
1.408	0.270	5.204		0.033
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>		<u>Reach Kn (1/days)</u>
24.46	1.492	24.41		1.019
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>		<u>Reach DO Goal (mg/L)</u>
5.077	28.003	Owens		NA
<u>Reach Travel Time (days)</u>	Subreach Results			
0.973	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>
	0.097	20.39	22.10	2.62
	0.195	17.01	20.02	3.13
	0.292	14.18	18.13	3.75
	0.389	11.83	16.42	4.29
	0.486	9.86	14.87	4.77
	0.584	8.23	13.46	5.19
	0.681	6.86	12.19	5.55
	0.778	5.72	11.04	5.87
	0.876	4.77	10.00	6.16
	0.973	3.98	9.06	6.40

Highlighted results above are the inputs to the perennial stream model.

WQM 7.0 Effluent Limits

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>					
20C	34197	JAMISON 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)
6.970	PennDOT 16	PA0035556	0.008	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			5

Attachment 8
WQM 7 (Perennial Stream Model)

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
20C	34197	JAMISON RUN	6.440	1215.00	1.75	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.010	0.02	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data							
Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
PennDOT 16	PA0035556	0.0080	0.0080	0.0080	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	3.98	2.00	0.00	1.50
Dissolved Oxygen	6.40	8.24	0.00	0.00
NH3-N	9.06	0.00	0.00	0.70

**NPDES Permit Fact Sheet
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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
20C	34197	JAMISON RUN	4.460	1194.00	3.22	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	Tributary pH	Stream Temp	Stream pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.011	0.04	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		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
20C	34197	JAMISON 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
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Q7-10 Flow

6.440 0.02 0.00 0.02 .0124 0.00201 .299 4.11 13.71 0.02 5.066 22.11 7.00

Q1-10 Flow

6.440 0.01 0.00 0.01 .0124 0.00201 NA NA NA 0.02 5.774 22.66 7.00

Q30-10 Flow

6.440 0.02 0.00 0.02 .0124 0.00201 NA NA NA 0.03 4.556 21.74 7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	EMPR	Use Inputted W/D Ratio	<input type="checkbox"/>
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	<input type="checkbox"/>
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
20C	34197	JAMISON 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
6.440	PennDOT 16	13.44	18.12	13.44	18.12	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
6.440	PennDOT 16	1.69	4.84	1.69	4.84	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
6.44	PennDOT 16	3.98	3.98	4.84	4.84	6.4	6.4	0	0

WQM 7.0 D.O. Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
20C	34197	JAMISON RUN

<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>
6.440	0.008	22.106	7.000
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>
4.107	0.299	13.713	0.024
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>	<u>Reach Kn (1/days)</u>
2.83	0.062	2.04	0.823
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>
7.467	17.389	Owens	5
<u>Reach Travel Time (days)</u>	Subreach Results		
5.066	<u>TravTime</u>	<u>CBOD5</u>	<u>NH3-N</u>
	(days)	(mg/L)	(mg/L)
		<u>D.O.</u>	
		(mg/L)	
	0.507	2.74	1.34
	1.013	2.64	0.89
	1.520	2.55	0.58
	2.026	2.47	0.38
	2.533	2.38	0.25
	3.039	2.30	0.17
	3.546	2.22	0.11
	4.053	2.14	0.07
	4.559	2.07	0.05
	5.066	2.00	0.03

WQM 7.0 Effluent Limits

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
20C	34197	JAMISON 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)
6.440	PennDOT 16	PA0035556	0.008	CBOD5	3.98		
				NH3-N	4.84	9.68	
				Dissolved Oxygen			6.4

NPDES Permit Fact Sheet
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CBOD5- Output equals input from dry stream model to the perennial model so current limits are protective.
 NH3-N- Outputs are less than current limits so further analysis is needed. (next page)
 Dissolved Oxygen- Output equals input from dry stream model to the perennial model so current limits are protective.

NH3-N Calculation	
$Ct = (Co)e^{-kt}$	
Ct	4.84
k	1.019
t	0.973
Co	unknown
$e^{-(1.021 \cdot 0.78)} =$	0.371024567
$3.68 / 0.44885 =$	13.04495828
Co = 13.04 mg/l	

Since 13.04 mg/l is less than the existing permit limit, this limit is proposed to be established in this renewal.

**Attachment 9
TRC Spreadsheet**

TRC EVALUATION				
0.0171	= Q stream (cfs)		0.5	= CV Daily
0.008	= Q discharge (MGD)		0.5	= CV Hourly
30	= no. samples		1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream		1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge		15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)
	= % Factor of Safety (FOS)			= Decay Coefficient (K)
Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA_afc = 0.460	1.3.2.iii	WLA_cfc = 0.441
PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373	5.1c	LTAMULT_cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc = 0.171	5.1d	LTA_cfc = 0.256
Source	Effluent Limit Calculations			
PENTOXSD TRG	5.1f	AML_MULT = 1.231		
PENTOXSD TRG	5.1g	AVG_MON_LIMIT (mg/l) = 0.211	AFC	
		INST_MAX_LIMIT (mg/l) = 0.690		
WLA_afc	$(.019/e^{-k \cdot AFC_tc}) + [(AFC_Yc \cdot Qs \cdot .019 / Qd \cdot e^{-k \cdot AFC_tc}) \dots + Xd + (AFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$			
LTAMULT_afc	$EXP((0.5 \cdot LN(cvh^2 + 1)) - 2.326 \cdot LN(cvh^2 + 1)^{0.5})$			
LTA_afc	wla_afc * LTAMULT_afc			
WLA_cfc	$(.011/e^{-k \cdot CFC_tc}) + [(CFC_Yc \cdot Qs \cdot .011 / Qd \cdot e^{-k \cdot CFC_tc}) \dots + Xd + (CFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$			
LTAMULT_cfc	$EXP((0.5 \cdot LN(cvd^2 / no_samples + 1)) - 2.326 \cdot LN(cvd^2 / no_samples + 1)^{0.5})$			
LTA_cfc	wla_cfc * LTAMULT_cfc			
AML_MULT	$EXP(2.326 \cdot LN((cvd^2 / no_samples + 1)^{0.5}) - 0.5 \cdot LN(cvd^2 / no_samples + 1))$			
AVG_MON_LIMIT	MIN(BAT_BPJ, MIN(LTA_afc, LTA_cfc) * AML_MULT)			
INST_MAX_LIMIT	1.5 * ((av_mon_limit / AML_MULT) / LTAMULT_afc)			

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment [redacted])
<input type="checkbox"/>	Toxics Management Spreadsheet (see Attachment [redacted])
<input checked="" type="checkbox"/>	TRC Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
<input type="checkbox"/>	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
<input type="checkbox"/>	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
<input type="checkbox"/>	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
<input type="checkbox"/>	Design Stream Flows, 386-2000-003, 9/98.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input type="checkbox"/>	SOP: [redacted]
<input type="checkbox"/>	Other: [redacted]