Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0210072**
Facility Type	**Non-Municipal**	APS ID	**1149606**
Major / Minor	**Minor**	Authorization ID	**1547696**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**YMCA Of Greater Erie**	Facility Name	**Camp Sherwin**
Applicant Address	31 W 10th Street	Facility Address	8600 W Lake Road
	Erie, PA 16501-1401		Lake City, PA 16423-2104
Applicant Contact	Jim McEldowney	Facility Contact	Jim McEldowney
Applicant Phone	(814) 452-1432	Facility Phone	(814) 452-1432
Client ID	72018	Site ID	449093
Ch 94 Load Status	Not Overloaded	Municipality	Girard Township
Connection Status	No Limitations	County	Erie
Date Application Received	October 30, 2025	EPA Waived?	Yes
Date Application Accepted		If No, Reason	--

Purpose of Application: Renewal application for a Minor Sewage Facility

Summary of Review

On October 30, 2025, the Department received a renewal application for Individual Permit No. PA0210072. The permit is associated with Camp Sherwin which is a seasonal camp operating through the months of May to October. The facility on average discharges 0.004 MGD. There is one outfall (Outfall 001) which discharges to Tributary 62484 of Lake Erie.

Act 14 notifications were submitted and received.

The facility is currently in the eDMR system.

The facility was last inspected on January 3, 2023, by William King. One violation was noted.

There are 16 open violations in WMS for the subject Client ID (72018) as of November 25, 2025. All the violations are associated with the Safe Drinking Water Program.

Proposed Changes:

- More stringent Ammonia-Nitrogen limits (compliance schedule implemented)
- More stringent Dissolved Oxygen limit (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	December 2, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	December 16, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.01
Latitude	42º 2' 45.38"	Longitude	-80º 17' 50.47"
Quad Name	Fairview	Quad Code	0203
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Lake Erie (CWF)	Stream Code	62484
NHD Com ID	123923022	RMI	1.02
Drainage Area	0.39	Yield (cfs/mi^2)	0.0154
Q_{7-10} Flow (cfs)	0.00599	Q_{7-10} Basis	USGS - StreamStats
Elevation (ft)	702	Slope (ft/ft)	-
Watershed No.	15-A	Chapter 93 Class.	CWF, MF
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		City of Erie	
PWS Waters	Lake Erie	Flow at Intake (cfs)	
PWS RMI	915.04	Distance from Outfall (mi)	9.97

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

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: Camp Sherwin STP				
WQM Permit No.	**Issuance Date**			
2592403	8/19/2009			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Ammonia and Phosphorus	Extended Aeration	Hypochlorite	0.01
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.01		Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: None

Sludge use and disposal description and location(s): City of Erie WWTP

WQM Permit No. 2592403

Flow passes through a bar screen into the lift station. Two alternating pumps pump the effluent up into a 10,000-gallon aeration tank. The effluent then flows through aeration tank to clarifier, where the effluent off the top flows to a chlorine contact chamber and the sludge off the bottom is returned to head of aeration tank or to a 2,000-gallon sludge holding tank. Effluent is chlorinated, and after passing through 580-gallon contact tank, discharges to the stream.

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	0.003	0.005	0.005	0.006	0.005	0.003	0.001	0.002	0.002	0.004	0.003	0.003
pH (S.U.) Instantaneous Minimum	6.0	6.1	6.4	6.0	6.0	6.4	6.2	6.4	6.0	6.7	6.3	6.1
pH (S.U.) Daily Maximum	7.4	7.8	7.7	7.7	7.6	7.5	7.3	7.3	8.6	7.6	7.3	9.8
DO (mg/L) Daily Minimum	11.4	4.6	4.4	4.1	7.1	7.6	7.5	7.3	9.0	14.6	12.5	4.4
TRC (mg/L) Average Monthly	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.4	0.3
CBOD5 (mg/L) Average Monthly	< 2.2	2.3	< 2.1	7.1	< 4.2	< 2.7	< 3.0	< 2.1	< 2.5	< 3.0	2.7	< 2.0
TSS (mg/L) Average Monthly	3.2	4.7	4.9	5.3	8.0	< 4.5	< 2.5	2.8	32.0	5.0	9.3	27.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1	1	< 1	< 1	< 1.0							
Total Nitrogen (mg/L) Average Quarterly	14.76			4.43			3.821			35.97		
Ammonia (mg/L) Average Monthly	< 0.1	1.4	3.5	< 1.6	8.6							4.1
Total Phosphorus (mg/L) Average Monthly	0.6	2.6	1.0	1.1	0.9	0.2	0.1	0.1	0.4	0.3	0.7	3.7

Compliance History

Effluent Violations for Outfall 001, from: November 1, 2024, To: September 30, 2025

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	01/31/25	Avg Mo	32.0	mg/L	30.0	mg/L
Total Phosphorus	06/30/25	Avg Mo	1.1	mg/L	1.0	mg/L
Total Phosphorus	08/31/25	Avg Mo	2.6	mg/L	1.0	mg/L

Other Comments: The effluent violations are not considered significant or chronic.

Table 1. Open Violations in WMS for the Subject Client ID (72018)

Facility	Inspection Program	Violation Date	Violation
CAMP SHERWIN	Safe Drinking Water	09/25/2025	FAILURE OF A NONCOMMUNITY WATER SYSTEM TO OBTAIN A PERMIT OR APPROVAL
CAMP SHERWIN	Safe Drinking Water	09/25/2025	FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS
CAMP SHERWIN	Safe Drinking Water	09/25/2025	CIRCUMSTANCES EXIST WHICH ADVERSELY AFFECT THE QUANTITY OR QUALITY OF WATER
CAMP SHERWIN	Safe Drinking Water	09/25/2025	FAILURE TO COMPLY WITH A PERMIT CONDITION
CAMP SHERWIN	Safe Drinking Water	09/25/2025	FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS
CAMP SHERWIN	Safe Drinking Water	09/25/2025	FAILURE FOR A NONCOMMUNITY WATER SYSTEM TO PROVIDE THE LEVEL OF TREATMENT APPROVED IN ITS BDF OR NONCOMMUNITY WATER SYSTEM APPROVAL
CAMP SHERWIN	Safe Drinking Water	09/25/2025	OTHER VIOLATIONS DEEMED TO BE SIGNIFICANT DEFICIENCIES
CAMP SHERWIN	Safe Drinking Water	09/25/2025	OTHER VIOLATIONS DEEMED TO BE SIGNIFICANT DEFICIENCIES
CAMP SHERWIN	Safe Drinking Water	09/25/2025	FAILURE TO SAMPLE AT APPROPRIATE LOCATIONS OR FOLLOW SAMPLE COLLECTION PROTOCOLS
CAMP SHERWIN	Safe Drinking Water	09/25/2025	FAILURE TO COMPLY WITH A PERMIT CONDITION
CAMP SHERWIN	Safe Drinking Water	09/25/2025	OTHER VIOLATIONS DEEMED TO BE SIGNIFICANT DEFICIENCIES
CAMP SHERWIN	Safe Drinking Water	09/25/2025	FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS
CAMP SHERWIN	Safe Drinking Water	09/25/2025	FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS
CAMP SHERWIN	Safe Drinking Water	09/25/2025	FAILURE TO FOLLOW APPROVED METHODS FOR SAMPLING AND ANALYSIS
CAMP SHERWIN	Safe Drinking Water	09/25/2025	FAILURE TO COMPLY WITH A PERMIT CONDITION
CAMP SHERWIN	Safe Drinking Water	09/25/2025	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM

Table 2. 5-Year Inspection Summary for Camp Sherwin STP

Facility Name	Inspected Date	Inspection Type	Inspection Result	Inspector	No. of Violations
CAMP SHERWIN STP	01/03/2023	Administrative/File Review	Violation(s) Noted	KING, WILLIAM	1
CAMP SHERWIN STP	08/18/2021	Compliance Evaluation	No Violations Noted	KRAUSE, SHANE	0

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .01
Latitude 42º 2' 45.56" **Longitude** -80º 17' 49.83"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

Table 3. Minimum Technology-Based and BPJ Standards Required 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.

An average monthly limit of 1.0 mg/l for Total Phosphorous will be retained in this renewal as a requirement of discharging to the Lake Erie Basin.

Water Quality-Based Limitations

Table 4. WQBEL Modeling Results

Parameter	Limit (mg/l)	SBC	Model
CBOD5	25	Average Monthly	WQM 7
	50	IMAX	
NH3-N	3.0	Average Monthly	
	6.0	IMAX	
D.O.	5.0	Daily Minimum	
TRC	0.06	Average Monthly	TRC Spreadsheet
	0.2	IMAX	

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. CBOD5 will remain the same. However, more stringent limits are proposed for NH3-N and DO. Since the facility does not currently meet these new limits, a compliance schedule has been implemented into the permit for both parameters. Winter limits are not proposed for NH3-N in this renewal since the summer camp is only active during the months of May - October.

Total Residual Chlorine (TRC)

Using the Department's Total Residual Chlorine (TRC) Spreadsheet, it is proposed to establish more stringent TRC limits of 0.06 mg/l and 0.2 mg/l (Attachment 6). 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.

Anti-Backsliding

Table 4. Current Permit Effluent Limitations for Outfall 001

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	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	9.0	XXX	18	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	1.0	XXX	XXX	2/month	Grab

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 with the addition of E. Coli monitoring.

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	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	9.0 Daily Max	XXX	1/day	Grab
Dissolved Oxygen	XXX	XXX	4.0 Daily 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) 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 Avg Qrtly	XXX	XXX	1/quarter	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	9.0	XXX	18.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	1.0	XXX	XXX	2/month	Grab

Compliance Sampling Location: Outfall 001 – after disinfection

Proposed Effluent Limitations and Monitoring Requirements

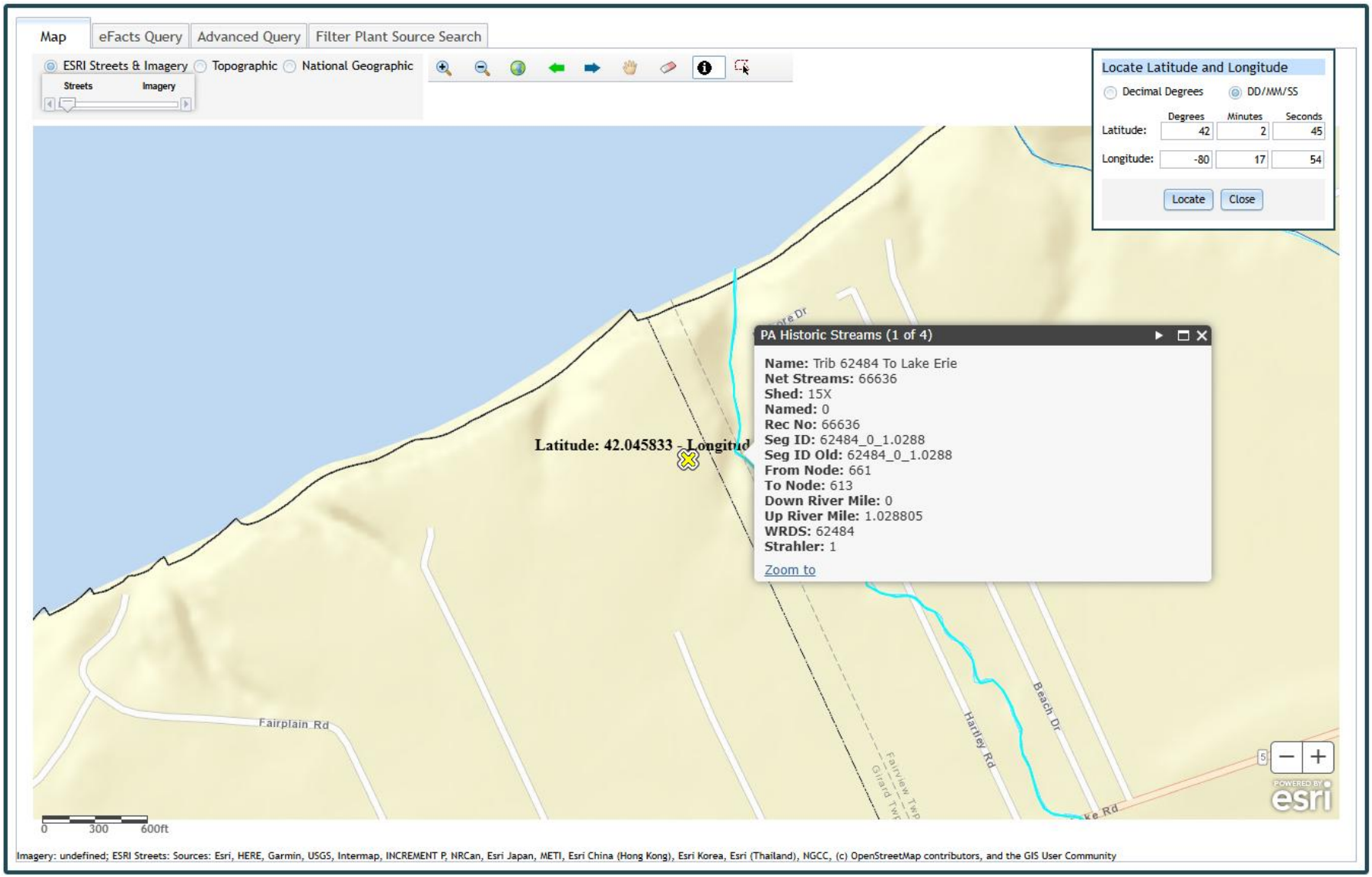
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). 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	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	9.0 Daily Max	XXX	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.06	XXX	0.2	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) 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 Avg Qrtly	XXX	XXX	1/quarter	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	3.0	XXX	6.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	1.0	XXX	XXX	2/month	Grab

Compliance Sampling Location: Outfall 001 – after disinfection

Attachment 1
eMapPA – Receiving Stream Details

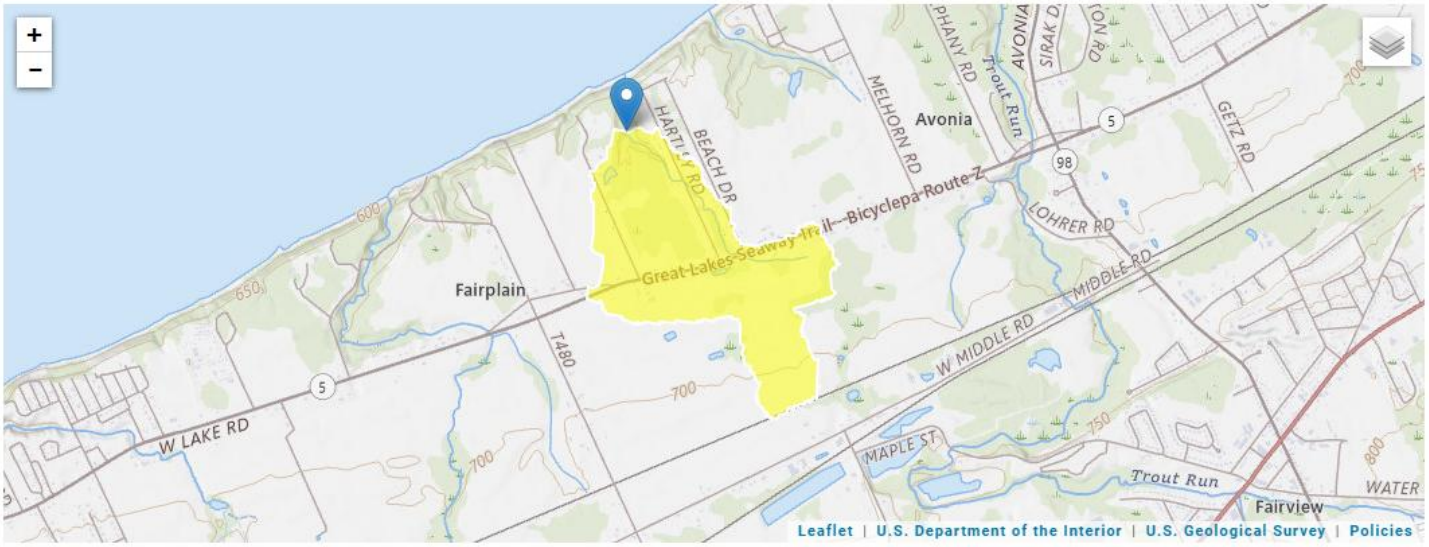


Attachment 2
Google Earth – Aerial Site View

Attachment 3
StreamStats Report – Outfall 001

StreamStats Report

Region ID:	PA
Workspace ID:	PA20251202152453669000
Clicked Point (Latitude, Longitude):	42.04606, -80.29729
Time:	2025-12-02 10:25:18 -0500



Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.39	square miles	2.33	1720
ELEV	Mean Basin Elevation	677	feet	898	2700
PRECIP	Mean Annual Precipitation	41	inches	38.7	47.9

Low-Flow Statistics Disclaimers [Low Flow Region 3]

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 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0182	ft^3/s
30 Day 2 Year Low Flow	0.029	ft^3/s
7 Day 10 Year Low Flow	0.00599	ft^3/s
30 Day 10 Year Low Flow	0.0104	ft^3/s
90 Day 10 Year Low Flow	0.0163	ft^3/s

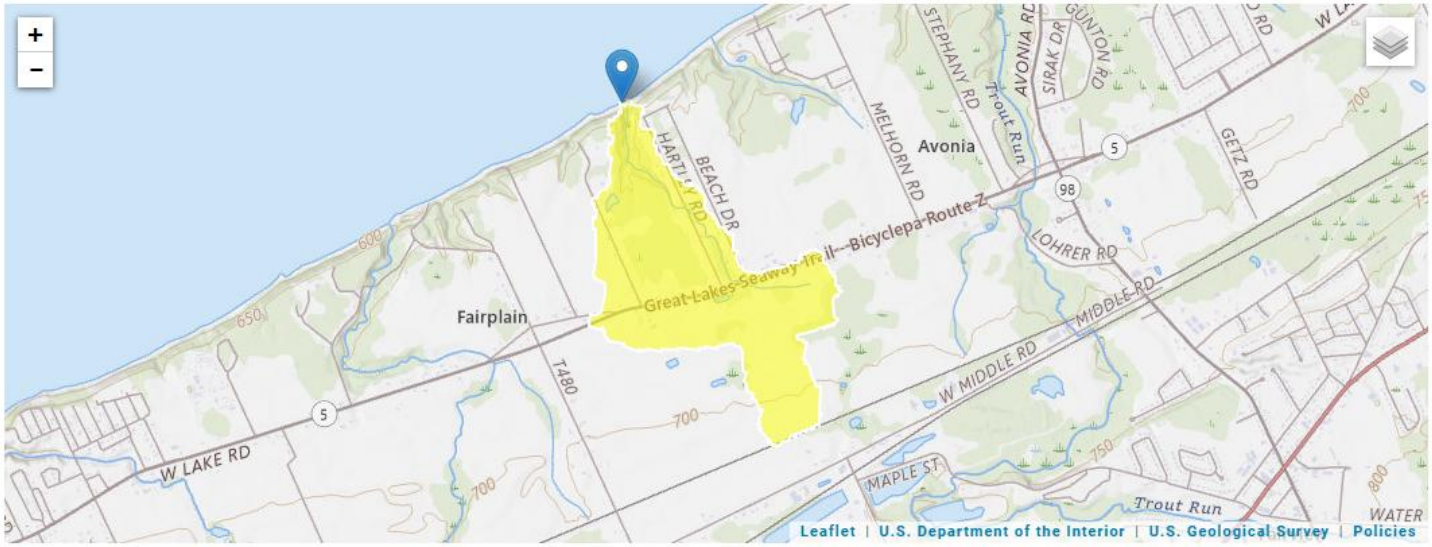
Low-Flow Statistics Citations

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 4
StreamStats Report - Endpoint

StreamStats Report

Region ID:	PA
Workspace ID:	PA20251202152734455000
Clicked Point (Latitude, Longitude):	42.04862, -80.29770
Time:	2025-12-02 10:27:57 -0500



Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.41	square miles	2.33	1720
ELEV	Mean Basin Elevation	675	feet	898	2700
PRECIP	Mean Annual Precipitation	41	inches	38.7	47.9

Low-Flow Statistics Disclaimers [Low Flow Region 3]

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 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0191	ft^3/s
30 Day 2 Year Low Flow	0.0305	ft^3/s
7 Day 10 Year Low Flow	0.0063	ft^3/s
30 Day 10 Year Low Flow	0.011	ft^3/s
90 Day 10 Year Low Flow	0.0171	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
WQM 7 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
15	62484	Trib 62484 to Lake Erie	**0.200**	702.00	0.39	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.015	0.01	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
Camp Sherwin	PA0210072	0.0100	0.0100	0.0100	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
15	62484	Trib 62484 to Lake Erie	**0.000**	574.00	0.41	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.015	0.01	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
15	62484	Trib 62484 to Lake Erie

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												
0.200	0.01	0.00	0.01	.0155	0.12121	.332	1.78	5.35	0.04	0.283	23.04	7.00
Q1-10 Flow												
0.200	0.01	0.00	0.01	.0155	0.12121	NA	NA	NA	0.04	0.309	23.54	7.00
Q30-10 Flow												
0.200	0.01	0.00	0.01	.0155	0.12121	NA	NA	NA	0.05	0.263	22.66	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
15	62484	Trib 62484 to Lake Erie

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
0.200	Camp Sherwin	12.5	17.67	12.5	17.67	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
0.200	Camp Sherwin	1.59	2.99	1.59	2.99	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)		
0.20	Camp Sherwin	25	25	2.99	2.99	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
15	62484	Trib 62484 to Lake Erie

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.200	0.010	23.037	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.778	0.332	5.352	0.043
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
15.97	1.406	1.81	0.884
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.273	21.793	Owens	6
Reach Travel Time (days)			
0.283			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.028	15.25	1.77	6.42
0.057	14.57	1.73	6.55
0.085	13.92	1.68	6.65
0.113	13.29	1.64	6.74
0.142	12.70	1.60	6.83
0.170	12.13	1.56	6.90
0.198	11.59	1.52	6.98
0.227	11.07	1.48	7.05
0.255	10.57	1.45	7.12
0.283	10.10	1.41	7.18

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
15	62484	Trib 62484 to Lake Erie

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)
0.200	Camp Sherwin	PA0210072	0.010	CBOD5	25		
				NH3-N	2.99	5.98	
				Dissolved Oxygen			5

Attachment 6
TRC Spreadsheet

TRC EVALUATION

0.00599	= Q stream (cfs)	0.5	= CV Daily
0.01	= 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 = 0.143	1.3.2.iii	WLA cfc = 0.131
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.053	5.1d	LTA_cfc = 0.076

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.065	AFC
		INST MAX LIMIT (mg/l) = 0.214	

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...** **...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...** **...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*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	
☒	WQM for Windows Model (see Attachment **5**)
☐	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment **6**)
☐	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: