Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0039225**
Facility Type	**Non-Municipal**	APS ID	**1149569**
Major / Minor	**Minor**	Authorization ID	**1547633**

Applicant and Facility Information

Applicant Name	**Blaine E Rhodes**	Facility Name	**Reno Village STP**
Applicant Address	PO Box 397	Facility Address	1399 Allegheny Boulevard
	Reno, PA 16343-0397		Reno, PA 16343
Applicant Contact	Todd Duerr	Facility Contact	David Paul
Applicant Phone		Facility Phone	(724) 877-0525
Applicant Email	tmduerr@aquaamerica.com	Facility Email	dpaul@aquaamerica.com
Client ID	374109	Site ID	246451
Ch 94 Load Status	Not Overloaded	Municipality	Sugarcreek Borough
Connection Status	No Limitations	County	Venango
Date Application Received	October 28, 2025	EPA Waived?	Yes
Date Application Accepted	November 4, 2025	If No, Reason	

Purpose of Application: NPDES Permit Renewal for a Non-Municipal Sewage Treatment Plant

Summary of Review

This is a NPDES Permit Renewal for a Non-Municipal Sewage Treatment Plant. The STP is serving Sugarcreek Borough and is permitted for 0.0465 MGD.

The facility is currently undergoing receivership to Aqua PA; however, it was determined that the current NPDES renewal and the pending WQM permit amendment will be issued under the current permittee's name (Blaine E Rhodes). Following the completion of the estate settlement, Aqua PA will be required to submit a transfer application to transfer the permits.

Monitoring requirements for E. Coli were added to this permit renewal.

Act 14 – Proof of Notification was submitted and received.

This facility is currently using eDMR system.

SPECTIAL CONDITIONS: NONE

There are NO open violations in WMS for the subject Client ID (374109) as of November 7, 2025.

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.

Approve	Deny	Signatures	Date
X		Aeshah Shameseldin Aeshah Shameseldin / Project Manager	November 7, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	November 13, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.0465
Latitude	41º 24' 55.05"	Longitude	-79º 46' 37.83"
Quad Name	Franklin	Quad Code	41079D7
Wastewater Description:	Sewage Effluent		

Receiving Waters	UNT to Allegheny River (WWF)	Stream Code	42122
NHD Com ID	100476659	RMI	127.59
Drainage Area	4700 square miles	Yield (cfs/mi^2)	0.085
Q_{7-10} Flow (cfs)	399.5	Q_{7-10} Basis	Calculated
Elevation (ft)	966	Slope (ft/ft)	---
Watershed No.	16-E	Chapter 93 Class.	WWF
Existing Use	---	Existing Use Qualifier	---
Exceptions to Use	---	Exceptions to Criteria	---
Assessment Status	Impaired		
Cause(s) of Impairment	Mercury		
Source(s) of Impairment	Source Unknown		
TMDL Status	---	Name	---

Background/Ambient Data		Data Source
pH (SU)	7.3	WQN 805 at West Hickory
Temperature (°F)	77	Default
Hardness (mg/L)	57.133	WQN 805 at West Hickory
Other:	---	---

Nearest Downstream Public Water Supply Intake	Aqua Pennsylvania, Inc. - Emlenton		
PWS Waters	Allegheny River	Flow at Intake (cfs)	---
PWS RMI	90.0	Distance from Outfall (mi)	37.59

Other Comments: The treated effluent of the STP will discharge into a dry UNT of Allegheny River at a point approximately 50 yards above the confluence of the stream and the Allegheny River. The drainage area above the point of discharge is 0.095 square miles. The stream is fed by springs in the immediate area and there is no flow in dry weather. The discharge is evaluated at Allegheny River RMI 127.59.

The Allegheny River is impaired by Mercury, but the subject facility is not expected to be a cause or source of the impairment.

Treatment Facility Summary

Treatment Facility Name: Reno Village STP

WQM Permit No.	Issuance Date
6188402 A-1	Pending
6188402 T-1	November 18, 1994
6188402	July 22, 1988

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Hypochlorite	0.0465

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0465	85	Not Overloaded	Drying	Landfill

Comments: Existing treatment facilities consist of bar screen and comminutor, two aeration basins, settling basin, sludge drying beds and contact tank for sodium hypochlorite disinfection.

Changes Since Last Permit Issuance: On October 29, 2025, the Department received a WQM Permit Amendment to install a flow paced stenner Model S3001 pump for dechlorination by sodium thiosulfate. Both the sodium hypochlorite disinfection and the sodium thiosulfate dechlorination will be flow paced.

Historical Overview: Reno Village municipal sewers were originally covered under WQM permit No. 5638 issued on March 28, 1929. This permit was for sewers only and became redundant upon issuance of WQM permits 6171401 and 6172408.

In the early 1960's, the Venango County (Industrial) Development Corporation, created a nearby industrial park with its own sewage treatment facility covered under WQM permit No. 362-S-33 issued on October 29, 1962. This permit was drafted with a condition allowing the addition of a third aeration blower which is not in the final water board issued permit. Design flow is 0.0465 MGD. The permit authorized the construction of sewage treatment facilities consist of:

- A 0.12 to 0.40 MGD comminutor.
- Two aeration tanks capacity: 31,000 gallons per tank, giving a total of 62,000 gallons.
- Two 170 cfm, air compressor for aeration and air lifts.
- Two Settling tanks capacity: 7,974 gallons each tank or 15,948 gallons total.
- Chlorination facilities: a chlorinator with a capacity of 10 gallons per 24 hours giving 8.6 ppm chlorine dosage using an 8% hypochlorite solution.
- 2094-gallon chlorine contact tank.

WQM permit 362-S-33 T-1 transferred the Venango County Industrial Development permit to the public utility commission regulated Boyd P. Rhodes sewer company.

WQM permit 6171401 issued on February 26, 1971, modified permit 362-S-33 T-1 to include part of the Village of Reno. This permit is for 8-inch and 10-inch diameter VCP sanitary gravity sewers.

WQM permit 6172408 issued on October 26, 1972, modified Boyd P. Rhodes sewer company service area to include the Village of Reno. This permit was for 8-inch and 10-inch diameter PVC sanitary gravity sewers.

WQM permit 6188402 issued on July 22, 1988, modified permit 362-S-33 T-1 to include a third 285 cfm blower to the existing aeration system and sludge treatment proposing a 6000-gallon digester design to process 239 gallons per day sludge. The unit then discharges stabilized sludge to two 600-square feet sludge drying beds

The present owner Blaine E. Rhodes has requested transfer of NPDES permit PA0039225 and WQM permit 6188402. With this transfer, WQM permits 5638, 362-S-33, 362-S-33 T-1, 6171401 and 6172408 were canceled. Of these permits, only permit No. 5638 is invalid. The remaining permits were incorporated into permit No. 6188402 T-1 file.

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	0.019	0.017	0.020	0.028	0.030	0.025	0.023	0.026	0.019	0.020	0.013	E
Flow (MGD) Daily Maximum	0.035	0.034	0.026	0.048	0.050	0.044	0.039	0.055	0.027	0.032	0.041	E
pH (S.U.) Instantaneous Minimum	6.9	7.0	6.8	6.8	6.6	6.7	6.8	6.4	6.7	6.8	7.2	E
pH (S.U.) Instantaneous Maximum	7.6	7.7	8.4	7.6	7.6	7.6	8.2	7.6	7.3	7.7	8.3	E
DO (mg/L) Instantaneous Minimum	4.9	6.1	5.6	4.8	5.6	4.4	4.9	5.6	6.3	5.4	6.8	E
TRC (mg/L) Average Monthly	0.28	0.34	0.27	0.50	0.42	0.40	0.46	0.44	0.57	< 0.1	< 0.02	E
TRC (mg/L) Instantaneous Maximum	0.79	1.04	1.02	1.05	1.20	0.70	1.19	1.12	1.20	1.0	1.0	E
CBOD5 (mg/L) Average Monthly	7.8	6.2	2.9	3.9	< 3.2	3.2	3.4	2.7	8.7	< 2.2	< 2.2	E
BOD5 (mg/L) Raw Sewage Influent Average Quarterly	224			197			239			190		
TSS (mg/L) Average Monthly	2.6	2.1	3.0	3.5	5.2	7.5	8.8	< 3.3	13.5	3.5	5.0	E
TSS (mg/L) Raw Sewage Influent Average Quarterly	221			205			236			200		
Fecal Coliform (No./100 ml) Geometric Mean	3	6	25	11	82	2	3	< 4	< 1	< 7	1184	E
Total Nitrogen (mg/L) Average Quarterly	21			44			38			48		
Ammonia (mg/L) Average Quarterly	< 1			< 1			< 3			< 0.1		
Total Phosphorus (mg/L) Average Quarterly	6			5			5			5		

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .0465
Latitude 41º 25' 6.37" **Longitude** -79º 46' 22.93"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
E. Coli	Report (No./100 ml)	IMAX	-	§ 92a.61

Comments: Monitoring for E. Coli is placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits (SOP No. BCW-PMT-033)".

Water Quality-Based Limitations

CBOD5, Ammonia, and DO are evaluated using WQM 7.0 (Attachment 1). TRC is evaluated using the Department's TRC evaluation spreadsheet (Attachment 2).

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

Parameter	Limit (mg/l)	SBC	Model
Dissolved Oxygen	4.0	Daily Min.	WQM 7.0
CBOD5	25	Average Monthly	WQM 7.0
	50	IMAX	
Ammonia Nitrogen (May 1 – Oct 31)	25	Average Monthly	WQM 7.0
	50	IMAX	
TRC	0.5	Average Monthly	TRC evaluation spreadsheet

Comment 1: Because the outfall is located in a low-lying area that does not support aquatic life and the discharge is to a dry stream without a designated use that ultimately drains to Allegheny River where significant dilution occurs, no nutrient limits including Total Nitrogen and Total Phosphorus were established in the previous permit for the receiving waters. Accordingly, Ammonia Nitrogen limitations were determined to be unnecessary for this discharge.

WQM modeling did not calculate a more stringent average monthly Ammonia Nitrogen limit under perennial flow conditions. A review of the eDMR data for Ammonia Nitrogen over the past five years indicates consistent compliance

with the limits of 25 mg/L (monthly average) and 50 mg/L (daily maximum) recommended by the model with a 100% compliance rate. Since no changes have occurred in discharge quality or quantity during the last permit cycle, and the receiving stream remains undesignated, no new effluent limits for Ammonia Nitrogen are being proposed as part of this renewal and the current monitoring requirements will be retained. Additionally, no effluent limits for nutrients will be added, instead, the existing monitoring requirements established in the previous permit will be retained.

Comment 2: The TRC evaluation spreadsheet didn't calculate more stringent average monthly TRC limit at perennial conditions using the plant design flow. The technology-based limitations established in previous permits are attainable and will be retained.

Best Professional Judgment (BPJ) Limitations

Comments: A minimum Dissolved Oxygen limit of 4.0 mg/L recommended by the model and established in the previous permit will be retained.

Anti-Backsliding

Pursuant to EPA's anti-backsliding regulation 40 CFR 122.44(l), the effluent limitations established in the previous permit remain applicable. Accordingly, the permit retains all prior limitations, monitoring requirements and conditions, with the addition of monitoring requirements for E. Coli.

Effluent Limitations and Monitoring Requirements Established in the Current Permit

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	5/week	Grab
Dissolved Oxygen	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	5/week	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.2	5/week	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	6-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	60	2/month	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite
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
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	8-Hr Composite
Ammonia-Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/quarter	8-Hr Composite

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.

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		
BOD5 Raw Sewage Influent	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	6-Hr Composite
TSS Raw Sewage Influent	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite

Compliance Sampling Location: At the STP Influent Location, Prior to Any Treatment.

Other Comments: Monitoring for influent BOD5 and Total Suspended Solids is based on Chapter 92a.61.

Proposed Effluent Limitations and Monitoring Requirements

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

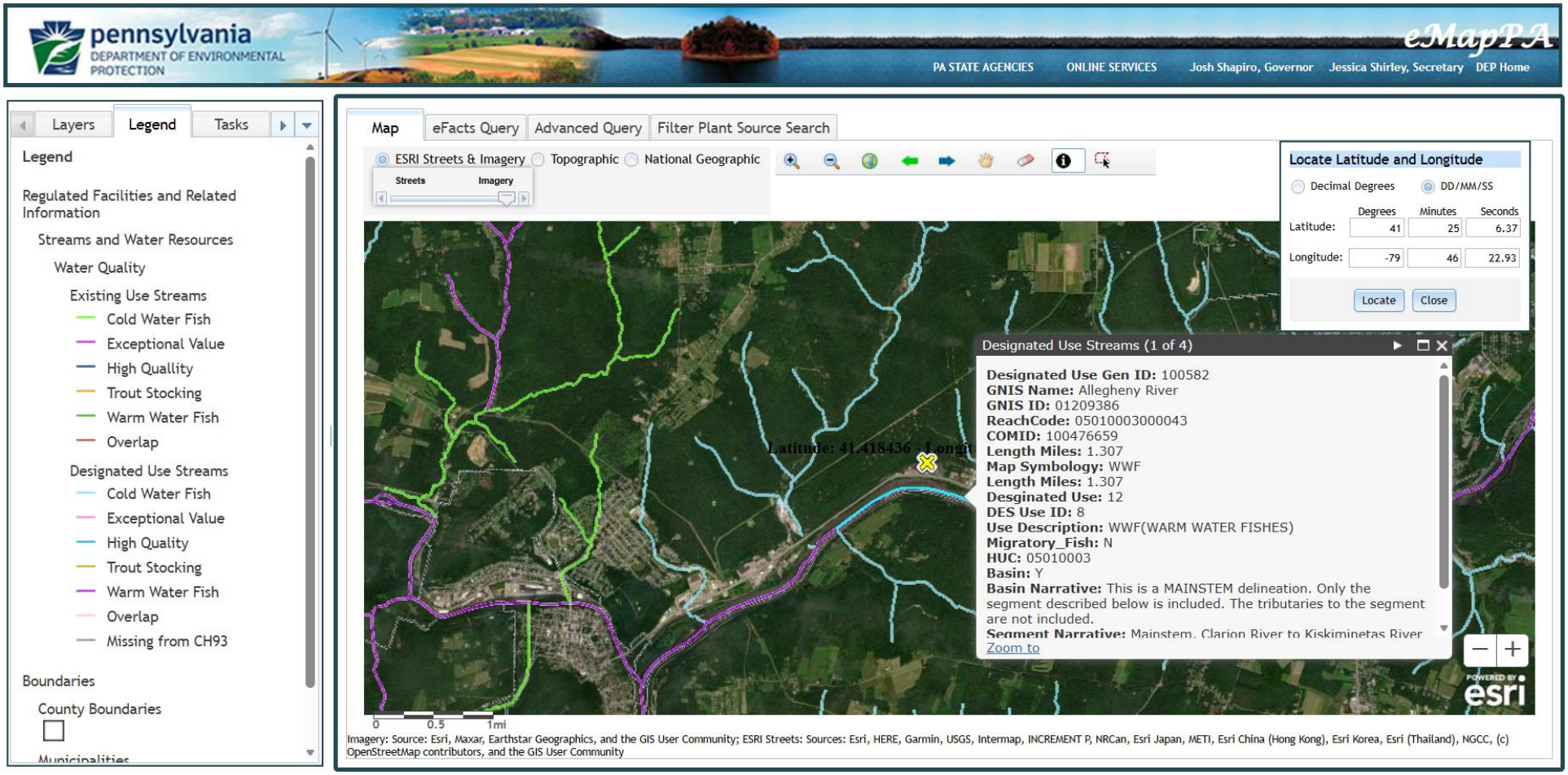
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	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	5/week	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	5/week	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.2	5/week	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60	2/month	8-Hr Composite
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 Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite
Ammonia	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite

Compliance Sampling Location: At Outfall 001, After Disinfection.

Outfall Location – Google Earth with Aerial Imagery

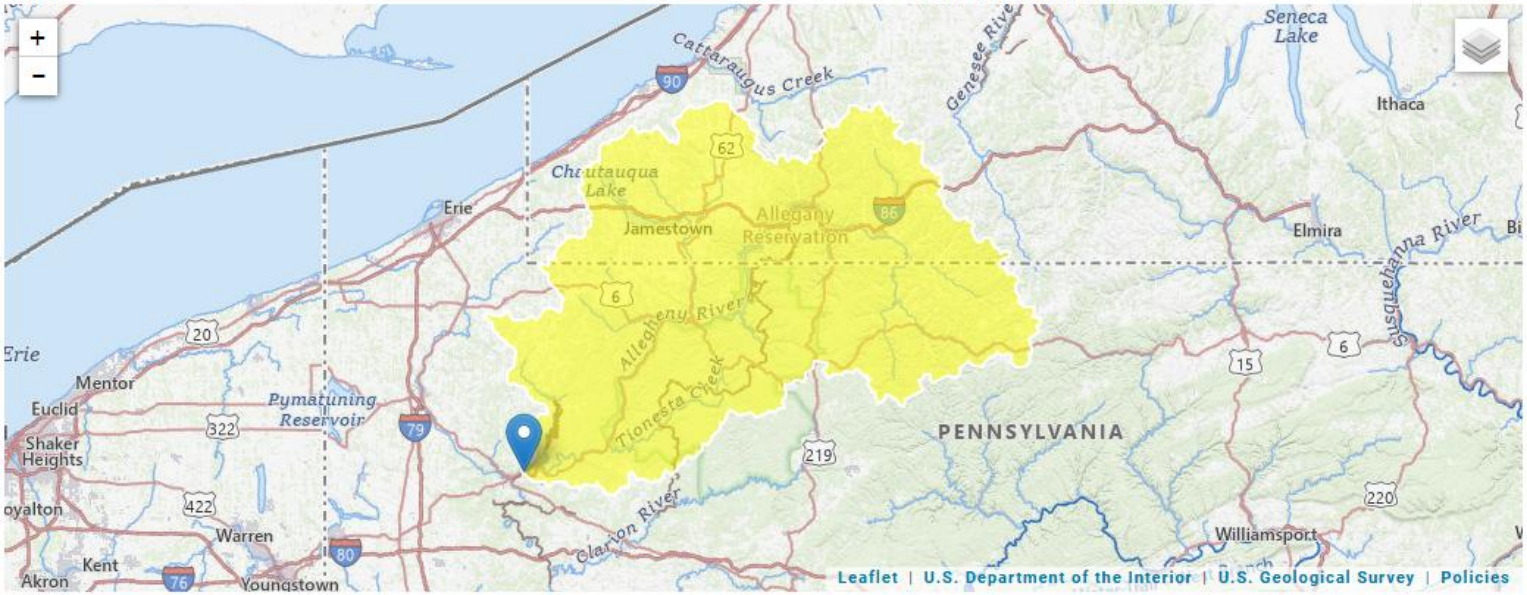
Outfall Location & Receiving Stream – eMap with Aerial Imagery



Drainage Area Location – StreamStats with Aerial Imagery

StreamStats Report

Region ID:	PA
Workspace ID:	PA20251104143207207000
Clicked Point (Latitude, Longitude):	41.41529, -79.77718
Time:	2025-11-04 09:32:32 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	4700	square miles
ELEV	Mean Basin Elevation	1717	feet
PRECIP	Mean Annual Precipitation	44	inches

Attachment 1

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18A	42122	ALLEGHENY RIVER

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)
127.590	Reno Villag STP	PA0039225	0.047	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18A	42122	ALLEGHENY RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
127.590	0.047	25.000	7.300
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
394.971	1.216	324.843	0.832
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.00	0.003	0.10	1.029
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.539	1.432	Tsivoglou	5
Reach Travel Time (days)			
0.212			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.021	2.00	0.10	7.54
0.042	2.00	0.10	7.54
0.064	2.00	0.10	7.54
0.085	2.00	0.10	7.54
0.106	2.00	0.10	7.54
0.127	2.00	0.10	7.54
0.149	2.00	0.10	7.54
0.170	2.00	0.10	7.54
0.191	2.00	0.10	7.54
0.212	2.00	0.10	7.54

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
18A	42122	ALLEGHENY RIVER	**127.590**	966.00	4700.00	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	0.085	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.30	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
Reno Villag STP	PA0039225	0.0465	0.0000	0.0000	0.000	25.00	7.10

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	7.54	0.00	0.00
NH3-N	25.00	0.10	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
18A	42122	ALLEGHENY RIVER	**124.700**	961.00	5960.00	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	0.085	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.30	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 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18A	42122	ALLEGHENY RIVER

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
127.590	Reno Villag STP	8.04	50	8.04	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
127.590	Reno Villag STP	1.17	25	1.17	25	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)		
127.59	Reno Villag STP	25	25	25	25	4	4	0	0

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
18A	42122	ALLEGHENY RIVER

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												
127.590	399.50	0.00	399.50	.0719	0.00033	1.216	394.97	324.84	0.83	0.212	25.00	7.30
Q1-10 Flow												
127.590	255.68	0.00	255.68	.0719	0.00033	NA	NA	NA	0.65	0.273	25.00	7.30
Q30-10 Flow												
127.590	543.32	0.00	543.32	.0719	0.00033	NA	NA	NA	0.99	0.179	25.00	7.30

Attachment 2

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

399.5	= Q stream (cfs)	0.5	= CV Daily
0.0465	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	0.198	= 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)
0	= % Factor of Safety (FOS)	0	=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 350.795	1.3.2.iii	WLA cfc = 1727.176
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 130.714	5.1d	LTA_cfc = 1004.099

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.635	

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)**