Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0239518**
Facility Type	**Municipal**	APS ID	**1115680**
Major / Minor	**Minor**	Authorization ID	**1488554**

Applicant and Facility Information

Applicant Name	**Forward Township Sewer Authority**	Facility Name	**Meadow Ridge STP**
Applicant Address	PO Box 436	Facility Address	Old Route 68 & Buhl Hill Road
	Evans City, PA 16033-0436		Evans City, PA 16033
Applicant Contact	Steve Longwell	Facility Contact	
Applicant Phone		Facility Phone	
Client ID	340076	Site ID	627122
Ch 94 Load Status	Not Overloaded	Municipality	Forward Township
Connection Status	No Limitations	County	Butler
Date Application Received	May 28, 2024	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Renewal Application for a Minor Sewage Facility

Summary of Review

The permittee is applying for reissuance of Individual Permit No. **PA0239518** which expired on November 30, 2024. The facility treatment plant process - Is an extended activated sludge package treatment plant with sludge digestion and UV disinfection.

This is an existing discharge with a design hydraulic capacity of 0.035-MGD - Trib 35093 To Connoquenessing Creek.

Act 14 – Notifications were submitted and received.

The site was last inspected on October 29, 2020; no violations were noted.

There are no open violations in WMS for the subject Client ID (**340076**) as of 8/11/25.

Sludge use and disposal description and location(s): N/A

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		Adebayo Olude Adebayo Olude / Civil Engineer Trainee	August 14, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	August 15, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.035
Latitude	40º 48' 13.98"	Longitude	-80º 1' 4.44"
Quad Name	Evans City	Quad Code	40080G1
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Connoquenessing Creek (WWF)	Stream Code	35093
NHD Com ID	126218479	RMI	
Drainage Area	0.1	Yield (cfs/mi^2)	0.00489
Q_{7-10} Flow (cfs)	0.000489	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1194	Slope (ft/ft)	-
Watershed No.	20-C	Chapter 93 Class.	WWF
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	Default
Temperature (°F)	25	Default
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake		Harmony Borough Water Authority	
PWS Waters	Little Connoquenessing Creek and Connoquenessing Creek	Flow at Intake (cfs)	2.0
PWS RMI	1.1	Distance from Outfall (mi)	11.1

Changes Since Last Permit Issuance: A closer-downstream public water supply along Little Connoquenessing Creek was noticed. Elevation was revised using Google Earth. Drainage Area and Q_{7-10} Flow were revised using USGS StreamStats.

Other Comments: The streamflow value used for the receiving stream in this renewal is different from the previous permit. According to USGS Stream Stats, the anticipated low-flow (Q7-10) for the stream is 0.000489 cfs, whereas the previous model assumed a low-flow of 0.006 cfs. The basis for the earlier flow value is unclear, but this difference in streamflow inputs likely accounts for the change in modeled results under attachment 3.

Treatment Facility Summary

Treatment Facility Name: Meadow Ridge STP

WQM Permit No.	Issuance Date
1004405	02/15/2005
1004405	05/24/2018

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Activated Sludge	Ultraviolet	0.035

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.035	70	Not Overloaded		

Changes Since Last Permit Issuance: None

Other Comments: Permit was transferred on 5/24/2018 for this treatment - A bar screen, comminutor, a 7,069-gallon surge tank, an 11,505-gallon anoxic tank, alum feed for phosphorus control, two 6,386-gallon extended aeration tanks, two 4,722-gallon final clarifiers, Ultraviolet (UV) light disinfection, and a 6,131-gallon non-aerated sludge holding tank.

Compliance History	
Summary of DMRs:	Discharge Monitoring Reports (DMRs) for the period of October 2019 through September 2020 were reviewed. One fecal coliform Instantaneous-maximum violation (result 2420 colonies / 100 ml - limit 1000 colonies / 100 ml) was reported during September 2020. No other DMR violations were reported during the review period.
Summary of Inspections:	The only site inspection being recorded was conducted on October 29, 2020. No violation was documented.

Other Comments: None

Compliance History

DMR Data for Outfall 001 (from July 1, 2024 to June 30, 2025)

Parameter	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24
Flow (MGD) Average Monthly	0.020	0.022	0.022	0.024	0.029	0.020	0.021	0.016	0.013	0.013	0.015	0.012
Flow (MGD) Daily Maximum	0.033	0.037	0.060	0.041	0.066	0.039	0.031	0.029	0.019	0.021	0.033	0.027
pH (S.U.) Daily Minimum	6.8	6.9	7.0	7.0	6.8	6.7	7.0	6.8	7.2	7.2	7.1	6.7
pH (S.U.) Daily Maximum	7.2	7.3	7.3	7.5	7.4	7.3	7.7	7.4	7.3	7.3	7.2	7.1
DO (mg/L) Daily Minimum	6.9	7.4	6.3	6.2	7.4	7.0	6.6	7.0	6.4	6.2	6.5	6.1
CBOD5 (lbs/day) Average Monthly	0.3	1.4	1.4	2.4	1.5	1.7	1.4	0.3	0.3	0.9	1.0	0.6
CBOD5 (lbs/day) Weekly Average	0.4	1.9	2.2	3.3	1.6	2.9	1.7	0.4	0.3	1.5	1.7	0.7
CBOD5 (mg/L) Average Monthly	2.7	5.5	8.1	10.6	7.4	9.8	10.0	3.4	2.2	8.5	6.4	7.9
CBOD5 (mg/L) Weekly Average	3.3	6.1	10.2	15.1	9.2	16.3	11.2	4.8	2.3	13.8	9.6	8.9
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	24	34	23	42	23	21	20	23	31	24	21	19
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	26	35	25	52	23	27	22	28	33	28	22	20
BOD5 (mg/L) Raw Sewage Influent Average Monthly	200	141	164	183	112	153	146	249	217	219	145	241
TSS (lbs/day) Average Monthly	0.6	2.0	2.3	4.1	6.0	2.3	2.2	0.8	0.7	0.8	1.7	1.1
TSS (lbs/day) Raw Sewage Influent Average Monthly	26	32	28	23	21	27	21	30	37	24	27	19

TSS (lbs/day) Raw Sewage Influent Daily Maximum	34	42	33	25	22	35	22	37	40	29	33	20
TSS (lbs/day) Weekly Average	0.7	2.4	3.4	5.0	7.8	3.9	2.4	1.2	0.8	0.9	2.8	1.1
TSS (mg/L) Average Monthly	< 5.0	8.5	13.0	18.0	30.5	13.5	17.0	9.0	5.0	7.5	10.5	13.5
TSS (mg/L) Raw Sewage Influent Average Monthly	228	143	204	98	101	197	162	316	252	219	194	245
TSS (mg/L) Weekly Average	5.0	12.0	16.0	23.0	44.0	22.0	24.0	13.0	5.0	8.0	16.0	14.0
Fecal Coliform (No./100 ml) Geometric Mean	11	2	3	37	2	21	1	4	1	1	5	14
Fecal Coliform (No./100 ml) Instantaneous Maximum	38	3	4	687	4	435	1	20	1	1	12	197
UV Intensity (µw/cm²) Average Monthly	4.5	4.7	4.1	4.8	4.6	4.9	5.1	5.1	5.0	6.0	5.9	5.9
Total Nitrogen (lbs/day) Average Monthly	0.4	0.8	1.3	1.7	1.2	0.7	1.5	0.5	1.4	0.6	0.9	0.3
Total Nitrogen (mg/L) Average Monthly	2.9	3.2	8.9	7.5	5.7	4.7	9.5	5.1	9.6	5.2	5.8	4.2
Ammonia (lbs/day) Average Monthly	0.24	0.20							0.28	0.06	0.03	0.08
Ammonia (lbs/day) Weekly Average			0.7	1.2	0.7	0.7	0.5	0.1				
Ammonia (mg/L) Average Monthly	1.9	1.0	4.2	5.2	3.6	4.6	2.7	1.1	1.9	0.6	0.2	1.1
Total Phosphorus (lbs/day) Average Monthly	0.11	0.21	0.13	0.09	0.28	0.09	0.10	0.14	0.03	0.15	0.15	0.02
Total Phosphorus (mg/L) Average Monthly	1.0	1.0	0.7	0.4	1.5	0.6	0.7	1.6	0.2	1.4	1.0	0.2

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .035
Latitude 40º 48' 14.00" **Longitude** -80º 1' 8.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
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 Phosphorus	Report	Average Monthly		92a.61
E. Coli	Report	IMAX		92a.61

Comments: 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. The TRC limit is not necessary because UV disinfection is utilized. New Monitoring for E. Coli is placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits." With a design flow between 0.002 – 0.05 MGD, a sample frequency of 1/year is being proposed.

Water Quality-Based Limitations

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

Parameter	Limit (mg/l)	SBC	Model
CBOD5	25	Average Monthly	WQM 7.0
	50	IMAX	
NH3-N May 1 – Oct 31	1.0	Average Monthly	WQM 7.0
	2.5	IMAX	
NH3-N Nov 1 – Apr 30	3.0	Average Monthly	WQM 7.0
	7.5	IMAX	
Dissolved Oxygen	4.0	Daily minimum	WQM 7.0

Comments: This discharge was evaluated using the WQM 7.0 model to determine appropriate effluent limitations for $CBOD_5$, Ammonia-Nitrogen, and Dissolved Oxygen. The modeling results confirmed that the current $CBOD_5$ limitations remain appropriate, and existing Dissolved Oxygen limits are also adequate for the facility. The model calculated WQBELs for NH3-N that are more stringent than what is currently imposed in the previous permit. The model recommended summertime average monthly limitations of 1.39 and an IMAX of 2.78. Respectively these will round down to 1.0 mg/l Average Monthly Average and 2.5 Instantaneous Maximum based on the rounding guidelines in the Permit Writers Manual. A seasonal multiplier of 3 times the summertime average monthly limit is established for the winter

period. The default pH value of 7.0 S.U. was used in this most recent WQM 7.0 model run, instead of a site-specific pH value like what was done in the previous permit renewal. This may explain why different WQBELs were calculated in the previous permit. The previous NH3-N limits have been updated in this renewal

Based on the discharge data, the permittee will not be able to achieve the new WQBELs for Ammonia upon permit issuance; therefore, the renewal permit will contain a three-year schedule of compliance for the permittee to come into compliance with the new limits.

Best Professional Judgment (BPJ) Limitations

Comments: None

Anti-Backsliding

The previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l). The previous permit limitations, monitoring requirements, and conditions will be retained. New or more stringent limitations are being proposed for E. Coli and Ammonia-Nitrogen.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	7.2	11.6	XXX	25.0	40.0	50	2/month	8-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Suspended Solids	8.7	13.1	XXX	30.0	45.0	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
Ultraviolet light intensity (µw/cm²)	XXX	XXX	XXX	Report	XXX	XXX	1/day	Recorded
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	1.7 Wkly Avg	XXX	XXX	6.0	XXX	12	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	0.58	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite
Total Phosphorus	0.58	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite

Comments: None

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.

Interim Limitations: Outfall 001, Effective Period: Permit Effective Date through Three Years After Permit Effective Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
CBOD5	7.2	11.6	XXX	25.0	40.0	50	2/month	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/month	8-Hr Composite
TSS	8.7	13.1	XXX	30.0	45.0	60	2/month	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	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
UV Intensity (µw/cm²)	XXX	XXX	XXX	Report	XXX	XXX	1/day	Recorded
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	1.7	XXX	XXX	6.0	XXX	12	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	0.58	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite
Total Phosphorus	0.58	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite
E. Coli (No./100ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab

Final Limitations: Outfall 001, Effective Period: Three Years After Permit Effective Date through Permit Expiration Date

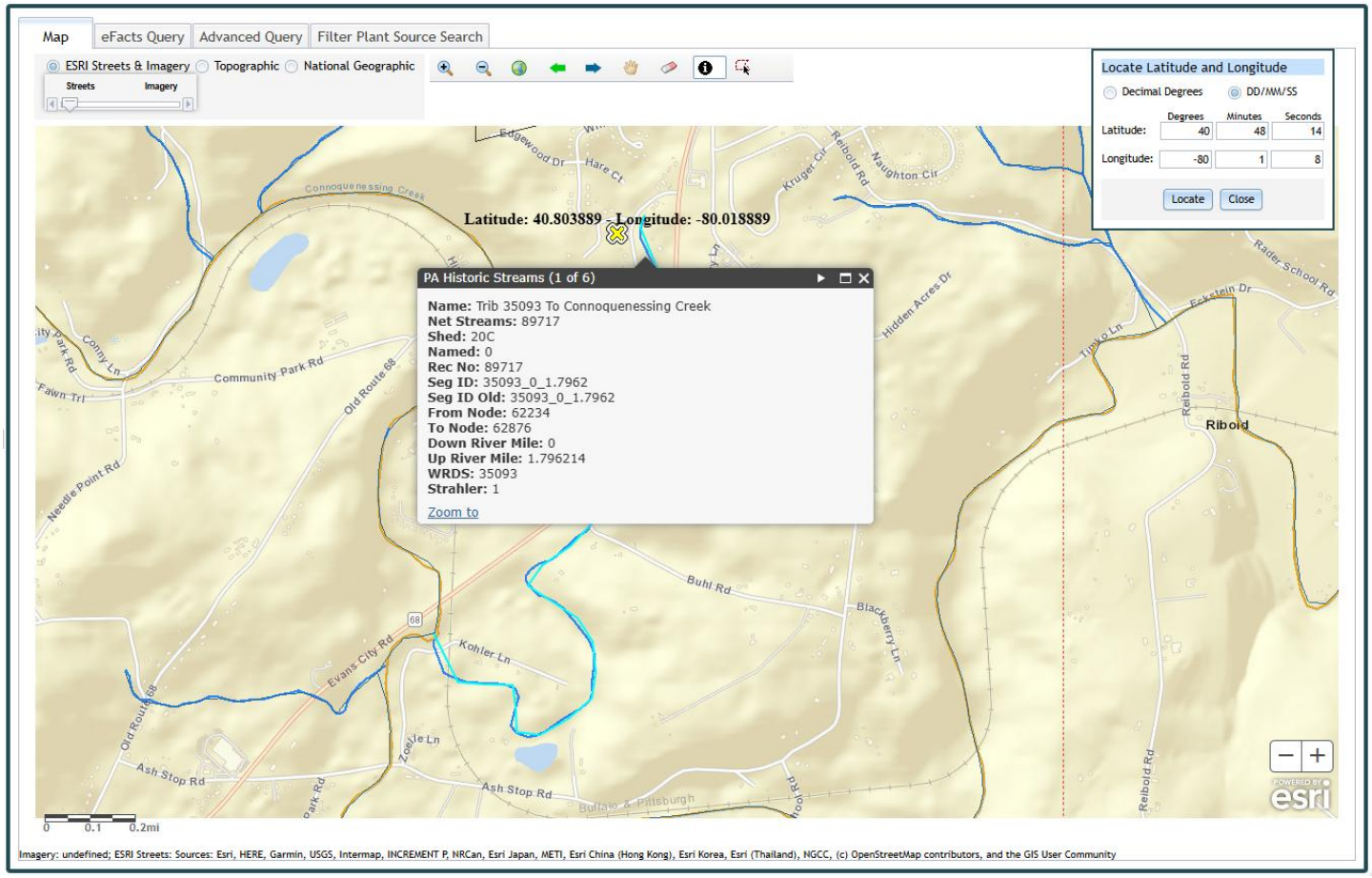
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
CBOD5	7.2	11.6	XXX	25.0	40.0	50	2/month	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/month	8-Hr Composite
TSS	8.7	13.1	XXX	30.0	45.0	60	2/month	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	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
UV Intensity (µw/cm²)	XXX	XXX	XXX	Report	XXX	XXX	1/day	Recorded
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	0.87	XXX	XXX	3.0	XXX	7.5	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	0.29	XXX	XXX	1.0	XXX	2.5	2/month	8-Hr Composite
Total Phosphorus	0.58	XXX	XXX	2.0	XXX	4.0	2/month	8-Hr Composite
E. Coli (No./100ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab

Compliance Sampling Location: Outfall 001 after disinfection

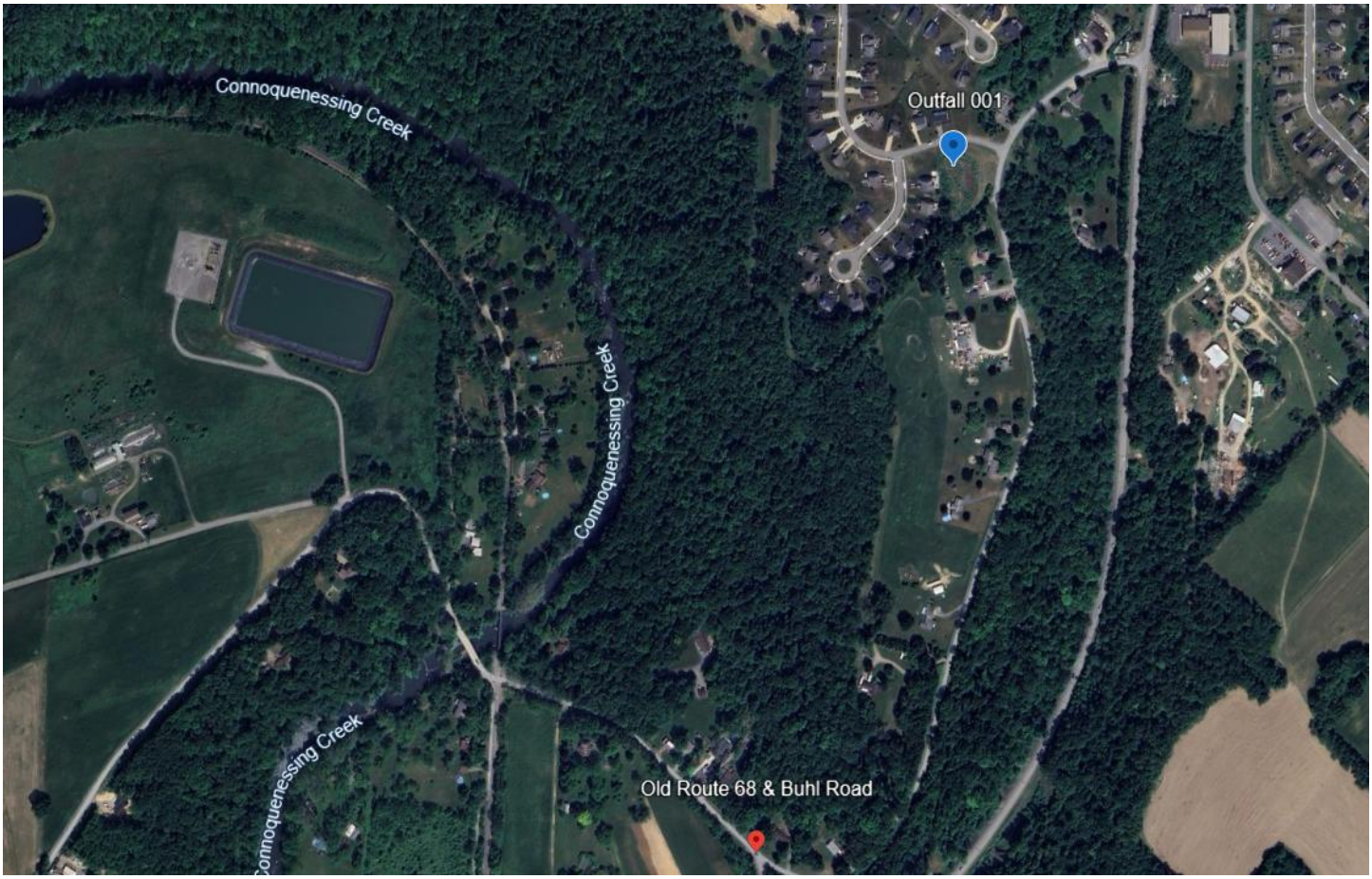
Other Comments: The model calculated WQBELs for NH3-N that are more stringent than what is currently imposed in the previous permit and have therefore been updated based on the rounding guidelines in the Permit Writers Manual.

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

Attachment 1
eMAP – Receiving stream location and Designation



Attachment 2
Google Earth Aerial Site View



Attachment 3
WQM 7.0 Modeling Output files

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	35093	Trib 35093 to Connoquenessing Creek	1.796	1194.00	0.10	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.005	0.00	0.00	0.000	0.000	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
Meadow RidgeSTP	PA0239518	0.0350	0.0350	0.0350	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	5.00	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	35093	Trib 35093 to Connoquenessing Creek

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
1.796	0.00	0.00	0.00	.0541	0.00741	.35	2.21	6.3	0.07	0.596	24.95	7.00
Q1-10 Flow												
1.796	0.00	0.00	0.00	.0541	0.00741	NA	NA	NA	0.07	0.597	24.97	7.00
Q30-10 Flow												
1.796	0.00	0.00	0.00	.0541	0.00741	NA	NA	NA	0.07	0.595	24.94	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	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20C	35093	Trib 35093 to Connoquenessing Creek

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.796	Meadow RidgeST	11.1	11.17	11.1	11.17	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
1.796	Meadow RidgeST	1.37	1.39	1.37	1.39	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)		
1.80	Meadow RidgeSTP	25	25	1.39	1.39	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20C	35093	Trib 35093 to Connoquenessing Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.796	0.035	24.954	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
2.207	0.350	6.304	0.071
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.79	1.498	1.38	1.025
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.030	28.846	Owens	5
Reach Travel Time (days)			
0.596			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.060	22.16	1.30	5.75
0.119	19.81	1.22	6.09
0.179	17.71	1.15	6.33
0.238	15.83	1.08	6.54
0.298	14.15	1.01	6.73
0.358	12.65	0.95	6.90
0.417	11.31	0.90	7.05
0.477	10.11	0.84	7.18
0.537	9.04	0.79	7.30
0.596	8.08	0.75	7.41

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20C	35093	Trib 35093 to Connoquenessing Creek

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
1.796	Meadow RidgeSTP	PA0239518	0.035	CBOD5	25		
				NH3-N	1.39	2.78	
				Dissolved Oxygen			5