pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0098434**
Facility Type	**Non-Municipal**	APS ID	**1058988**
Major / Minor	**Minor**	Authorization ID	**1388752**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Pennsylvania Department of Transportation Bureau of Maintenance and Operations**	Facility Name	**Welcome Center Site D**
Applicant Address	400 North Street 6th Floor Harrisburg, PA 17120	Facility Address	I 79 at mile marker 6 Whiteley Twp, PA 15370
Applicant Contact	Nicholaus Sahd	Facility Contact	Edgar Harris
Applicant Phone	717-886-5395	Facility Phone	724-966-2278
Client ID	62162	Site ID	237886
Ch 94 Load Status	Not Overloaded	Municipality	Whiteley Township
Connection Status		County	Greene
Date Application Received	February 28, 2022	EPA Waived?	Yes
Date Application Accepted	May 3, 2022	If No, Reason	
Purpose of Application	NPDES permit renewal application.		

Summary of Review

The PA Department of Environmental Protection (PADEP/Department) received an NPDES permit renewal application from PA DOT Bureau of Maintenance and Operations (permittee) for permittee's Welcome Center Site D (facility) on February 28, 2022. The facility is a minor non-municipal sewage facility (MISF1). The treated effluent is discharged into an UNT to Whiteley Creek in state watershed 19-G, classified as TSF. The current permit will expire on August 31, 2022. The terms and conditions of the current permit is automatically extended since the renewal application was received at least 180 days prior to the expiration date. Renewal NPDES permit applications under Clean Water program are not covered by PADEP's PDG per 021-2100-001.

This fact sheet is developed in accordance with 40 CFR §124.56.

Changes in this renewal: Annual E. Coli monitoring is added.

Sludge use and disposal description and location(s): Hauled off to Franklin Township STP for further treatment.

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
√		Reza H. Chowdhury, E.I.T. / Project Manager	May 9, 2022
X		Pravin Patel Pravin C. Patel, P.E. / Environmental Engineer Manager	05/10/2022

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.0095
Latitude	39º 47' 57"	Longitude	-80º 4' 45"
Quad Name	Garards Fort	Quad Code	2005
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Whiteley Creek (TSF)	Stream Code	41243
NHD Com ID	99418316	RMI	0.04
Drainage Area	0.31 mi^2	Yield (cfs/mi^2)	0.0064
Q_{7-10} Flow (cfs)	0.00199	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1097.66	Slope (ft/ft)	
Watershed No.	19-G	Chapter 93 Class.	TSF
Existing Use	**TSF**	Existing Use Qualifier	Ch. 93
Exceptions to Use	None	Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Tentative	Name	Whiteley Creek Watershed

Background/Ambient Data		Data Source
pH (SU)	7.0	Default per 391-2000-013
Temperature (°C)	20	Default per 391-2000-007 for CWF/TSF
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake		Municipal Authority Boro of Carmichaels in Cumberland TWP	
PWS Waters	Monongahela River	Flow at Intake (cfs)	
PWS RMI	75.5	Distance from Outfall (mi)	20.63

Changes Since Last Permit Issuance: None

Streamflow:

The nearby upstream WQN station (728) and Streamgage (03072670) on Whiteley Creek near Kirby, PA, however, data from these station and gage were inaccessible. Therefore, USGS's web based watershed delineation tool StreamStats (accessible at https://streamstats.usgs.gov/ss/, accessed on May 4, 2022) was utilized to determine the drainage area and low flow statistics of the receiving stream at discharge point. The StreamStats delineation report shows a drainage area at the Outfall 001 to be 0.31 mi^2, Q_{7-10} of 0.00199 cfs, and Q_{30-10} of 0.00468 cfs.

The Q_{7-10}:discharge flow = 0.00199 cfs : (0.0095 MGD*1.547 cfs/MGD) or 0.135:1, which is much lower than qualifying minimum of >3:1. Therefore, the receiving stream is considered as dry stream/effluent dominant stream and the effluent limitations as specified in the *Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers* (391-2000-014) (dry stream guidance) are applicable. Since the facility was constructed prior to the publication date of the dry stream guidance (August 18, 1997), the requirements of the dry stream guidance may not be appropriate (grandfathered). However, since none of the exceptions as stated in 40 CFR §402(o)(2) are applicable, the existing limitations will be carried over. In addition, 1997 Dry Stream Guidance Section IV.A.3 and IV.A.4 may have triggered the dry stream limits be applicable to this facility. Nonetheless, existing limits will be carried over.

PWS Intake:
The nearby downstream PWS intake is Municipal Authority Borough of Carmichaels in Cumberland TWP, on Monongahela River at RMI 75.5. The PWS intake is approximately 20.63 miles downstream of discharge point. Due to the distance, dilution from Monongahela River, and effluent limitations, it is expected that the discharge will not adversely impact the PWS intake.

Wastewater Characteristics:
A pH of 7.0 (median July- September 2021), default temperature of 20^0C (Default per 391-2000-007), and default Hardness value of 100 mg/l will be used for modeling, if needed.

Background data:
No data is available from nearby upstream WQN station. In absence of site-specific data, a default pH of 7.0 S.U., default stream temperature of 20°C, and default hardness of 100 mg/l may be used, as appropriate.

Whiteley Creek Watershed TMDL:
There is a proposed TMDL (Whiteley Creek Watershed TMDL) for the receiving watershed, dated February 2018 that is yet to be approved by EPA. The TMDL was for Siltation from agricultural activities. Since the TMDL is not approved yet, the requirements in the TMDL isn't considered during this renewal.

Treatment Facility Summary

Treatment Facility Name: Welcome Center Site D

WQM Permit No.	Issuance Date
3093401 A-3	June 7, 1999
3093401 A-2	January 22, 1999

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Extended aeration	UV	0.0095

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0095	19.8	Not Overloaded	Holding tank (aerated)	Other WWTP

Changes Since Last Permit Issuance: None

Other Comments:

Treatment Plant Description

Welcome Center Site D serves a tourist information center and rest stop along interstate 79. The design flow is 0.0095 MGD and organic loading capacity is 19.8 lbs./day. It discharges into an UNT to Whitley Creek, classified as WWF, in state watershed 19-G. The facility is operated by H&H Water Controls, Inc.

The existing treatment process is an extended aeration-activated sludge process consists of a comminutor, a 9,500-gallon aerated flow EQ tank with flow control box, two separate 4,750-gallon aerated tanks, two separate 1,980-gallon settling tanks, two 8'-2" rapid sand filters with automatic backwash, an UV disinfection system and a 3,700-gallon aerated sludge holding tank. Generated biosolids are sent to Franklin Township STP for further treatment.

Compliance History

DMR Data for Outfall 001 (from April 1, 2021 to March 31, 2022)

Parameter	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21
Flow (MGD) Average Monthly	0.00301	0.00689	0.00192	0.00269	0.00385	0.00336	0.00288	0.00360	0.00424	0.00289	0.00265	0.00250
pH (S.U.) Minimum	6.8	7.0	7.0	7.0	6.9	6.9	6.6	7.0	7.0	6.6	6.9	7.0
pH (S.U.) Maximum	7.3	7.1	7.1	7.2	7.1	7.2	7.2	7.1	7.2	7.1	7.2	7.2
DO (mg/L) Minimum	6.1	6.0	6.0	6.0	6.0	6.0	6.0	5.9	5.8	6.1	6.0	6.1
CBOD5 (mg/L) Average Monthly	2.0	3.2	2.2	5.2	2.0	2.8	2.6	2.2	2.5	2.9	4.6	2.0
CBOD5 (mg/L) IMAX	2.0	4.3	2.4	5.2	2.0	3.6	3.2	2.3	2.9	3.7	7.1	2.0
TSS (mg/L) Average Monthly	5.0	5.0	5.0	8.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
TSS (mg/L) IMAX	5.0	5.0	5.0	11.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Fecal Coliform (No./100 ml) Geometric Mean	2	2	2	5	1	1	1	1	1	1	1	1
Fecal Coliform (No./100 ml) IMAX	2	2	2	28	1	1	1	1	1	1	1	2
UV Intensity (mW/cm²) Average Monthly	1.8	2.1	2.1	2.0	1.8	1.7	1.7	2.2	1.8	1.7	1.7	1.8
Total Nitrogen (mg/L) Daily Maximum				47.5								
Ammonia (mg/L) Average Monthly	0.3	0.5	0.1	0.4	0.3	0.2	0.1	0.2	0.3	0.5	0.6	0.5
Ammonia (mg/L) IMAX	0.3	0.7	0.1	0.4	0.4	0.2	0.1	0.2	0.5	0.5	0.7	0.5
Total Phosphorus (mg/L) Daily Maximum				5.0								

Non-compliance: None reported in last 12 months.

Inspection reports:
September 30, 2021: CEI conducted. No violation noted. A permanent large onsite backup generator was added recently.

Existing limits

Outfall 001, Continued (from September 1, 2017 through August 31, 2022)

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)	0.0095	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	5/week	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	5/week	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	10	XXX	20	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	10	XXX	20	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
Ultraviolet light Intensity (mW/cm^2)	XXX	XXX	XXX	Report	XXX	XXX	5/week	Measured
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	2.7	XXX	5.4	2/month	Grab
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	1.9	XXX	3.8	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.0095
Latitude 39º 47' 57.00" **Longitude** -80º 4' 45.00"
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)

Water Quality-Based Limitations:

A WQM7.0 model couldn't be utilized in dry stream unless a POFU is determined at which point the aquatic life must be protected. The dry stream limits and existing limits will be compared, and most stringent limits will be applied.

Ammonia-Nitrogen: 1997 dry stream guidance suggests 3 mg/l as average monthly. The current permit has 1.9 mg/l as summer-time average monthly and 2.7 mg/l as winter average monthly limits. The existing limits are more stringent and will be carried over.

CBOD5: Dry stream limit is 10 mg/l (BOD5) and current permit has 10 mg/l as average monthly limit, year-round. Existing limits will be carried over.

Dissolved Oxygen: Dry stream has minimum of 3.0 mg/l as monthly average and current permit has 5.0 mg/l. Existing limits will be carried over, which is consistent with Pa Code 25 Chapter 93.7.

Toxics: Minor facilities with less than 0.1 MGD design flow are not required to report toxics unless there are industrial or commercial contributors. In absence of data, RP analysis couldn't be performed.

Additional Considerations

Fecal Coliform:
The recent coliform guidance in 25 Pa. code § 92a.47.(a)(4) requires a summer technology limit of 200/100 ml as a geometric mean and an instantaneous maximum not greater than 1,000/100ml and § 92a.47.(a)(5) requires a winter limit of 2,000/100ml as a geometric mean and an instantaneous maximum not greater than 10,000/100ml. These are the existing limits that will be carried over.

E. Coli:
DEP's SOP titled "Establishing Effluent Limitations for Individual Sewage Permits (BCW-PMT-033, revised March 24, 2021) recommends annual E. Coli monitoring for all dischargers with flow between ≥0.002 MGD to <0.05 MGD. This requirement will be applied from this permit term.

pH:
The TBEL for pH is above 6.0 and below 9.0 S.U. (40 CFR §133.102(c) and Pa Code 25 § 95.2(1)) which are existing limits and will be carried over.

Total Suspended Solids (TSS):
There is no water quality criterion for TSS. The dry stream limit is 10 mg/l as average monthly and 20 mg/l as IMAX. These limits are the same as existing permit and will be carried over.

UV Disinfection:
PADEP's SOP BCW-PMT-033 recommends UV parameter monitoring where UV is used as a method of disinfection, with the same frequency as would be if Chlorine is used for disinfection. The current permit has UV intensity monitoring in mW/cm^2, which will be carried over in this renewal.

Flow Monitoring Requirement:
The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

Best Professional Judgement (BPJ):

Total Nitrogen:
PADEP's SOP BCW-PMT-033 suggests monitoring requirement, at a minimum, for facilities with design flow greater than 2,000 GPD. This requirement is applied for all facilities meeting the flow criteria.

Total Phosphorus:
Existing monthly monitoring requirement will be carried over in this renewal.

Monitoring Frequency and Sample Types:
Otherwise specified above, the monitoring frequency and sample type of compliance monitoring for existing parameters are recommended by DEP's SOP and Permit Writers Manual and/or on a case-by-case basis using best professional judgment (BPJ).

Anti-Backsliding
The proposed limits are at least as stringent as are in existing permit, unless otherwise stated; therefore, anti-backsliding is not applicable.

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 Permit Expiration Date.

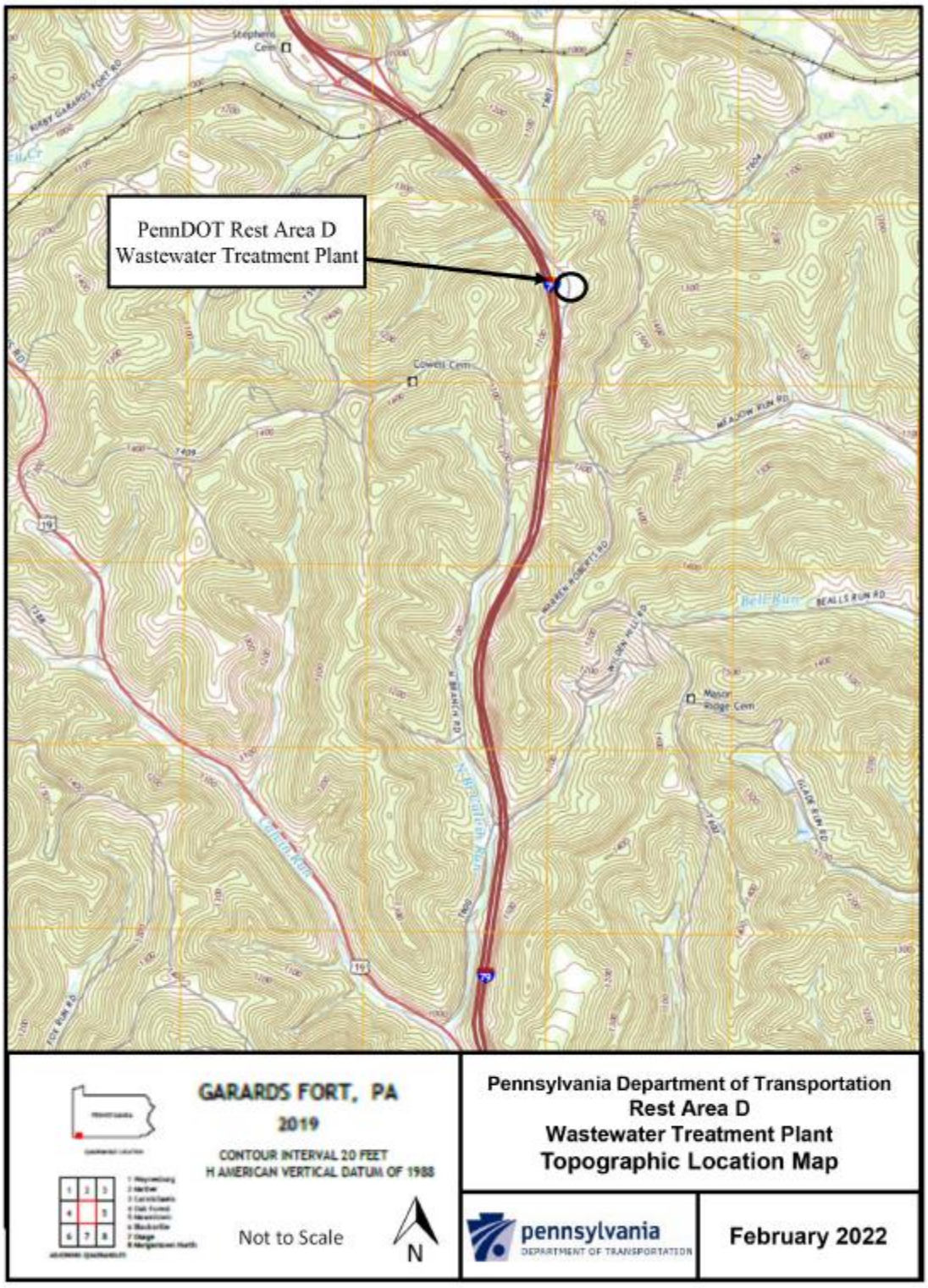
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	0.0095	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Wkly Avg	XXX	9.0 Daily Max	XXX	5/week	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	5/week	Grab
CBOD5	XXX	XXX	XXX	10	XXX	20	2/month	Grab
TSS	XXX	XXX	XXX	10	XXX	20	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
UV Intensity (mW/cm^2)	XXX	XXX	XXX	Report	XXX	XXX	5/week	Measured
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	2.7	XXX	5.4	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.9	XXX	3.8	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Compliance Sampling Location: At Outfall 001

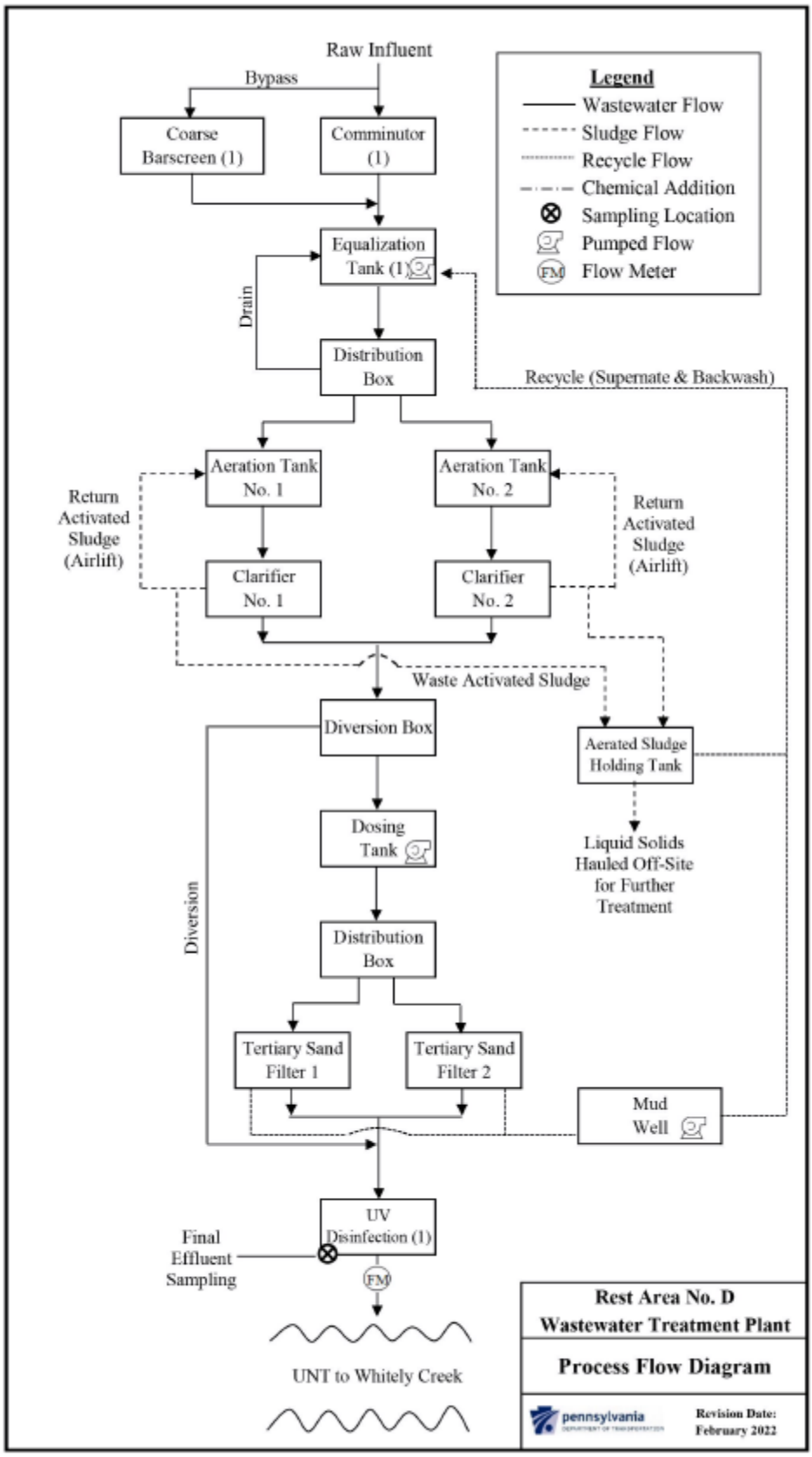
Other Comments: None

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, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☒	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 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, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 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, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP: BPNPSM-PMT-033
☐	Other:

Permit No. PA0098434



Permit No. PA0098434



https://gfnet.sharepoint.com/sites/EarthSciences-Water/PRJWWERD/64237-NTM-PennDOT/Project Working/3. NPDES Permits/Site D (Greene Co)/6. NPDES Permit Renewal (February 2022)/Process Flow Schematic (Rev February 4, 2022).xlsx