pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0113948**
Facility Type	**Non-Municipal**	APS ID	**1086012**
Major / Minor	**Minor**	Authorization ID	**1435317**

Applicant and Facility Information

Applicant Name	**PA Department of Corrections**	Facility Name	**State Correctional Institution Quehanna Motivational Boot Camp**
Applicant Address	4395 Quehanna Highway Karthaus, PA 16845-8801	Facility Address	4395 Quehanna Highway Karthaus, PA 16845-8801
Applicant Contact	Frasier Blake	Facility Contact	Travis McCullough
Applicant Phone	(814) 263-4125	Facility Phone	(814) 263-4125
Client ID	43607	Site ID	517027
Ch 94 Load Status	Not Overloaded	Municipality	Karthaus Township
Connection Status	No Limitations	County	Clearfield
Date Application Received	April 4, 2023	EPA Waived?	Yes
Date Application Accepted	April 13, 2023	If No, Reason	

Purpose of Application: Renewal of a NPDES permit.

Summary of Review

This NPDES renewal permits the discharge from the wastewater treatment plant serving the Quehanna Motivational Boot Camp. A map of the discharge location is attached.

Sludge use and disposal description and location(s): Per the application the permittee has disposed 9.27 dry tons of sludge at the Wayne Township Landfill over the previous year

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
✓		Keith C. Allison Keith C. Allison / Project Manager	October 3, 2023
✓		N. W. H. Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	October 3, 2023

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.06
Latitude	41º 10' 55.82"	Longitude	-78º 8' 24.74"
Quad Name	Devils Elbow, PA	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Marks Run (HQ-CWF)	Stream Code	25600
NHD Com ID	61828363	RMI	3.7 @ discharge 3.5 @ POFU
Drainage Area	0.03 mi2 @ discharge 0.15 mi2 @ POFU	Yield (cfs/mi^2)	0.0427
Q_{7-10} Flow (cfs)	0 @ Discharge 0.0641 @ POFU	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	2050 @ Discharge 1980 @ POFU	Slope (ft/ft)	0.056
Watershed No.	8-D	Chapter 93 Class.	HQ-CWF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Nearest Downstream Public Water Supply Intake	PA American Water Company @ Milton, PA		
PWS Waters	West Branch Susquehanna River	Distance from Outfall (mi)	Approx. 120

Changes Since Last Permit Issuance: None.

Other Comments: The above drainage and stream characteristics are adequate and are unchanged from the previous review. The Point of First surface water Use (POFU) has been assumed to be at the beginning of the solid blue line on the USGS topo map which occurs approximately 0.2 miles below the discharge point.

The discharge is not expected to affect any downstream water supply at this time with the limitations and monitoring proposed.

Treatment Facility Summary

Treatment Facility Name: Quehanna Motivational Boot Camp

WQM Permit No.	Issuance Date
1799401	Original- 10/1/99
	A1 – 1/17/13

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Sequencing Batch Reactor W/Sol Removal	Ultraviolet	0.06

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.09	450	Not Overloaded	Aerobic Digestion	Landfill

Changes Since Last Permit Issuance: The treatment as permitted under WQM Permit No. 1799401-A1 consists of flow equalization, two parallel SBR units, four intermittent sand filters, UV disinfection and sludge dewatering.

Compliance History

DMR Data for Outfall 001 (from September 1, 2022 to August 31, 2023)

Parameter	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22
Flow (MGD) Average Monthly	0.027	0.028	0.027	0.026	0.026	0.023	0.021	0.023	0.025	0.026	0.027	0.027
pH (S.U.) Instantaneous Minimum	6.5	6.7	6.7	6.7	6.8	6.6	6.8	6.7	6.7	6.6	6.5	6.6
pH (S.U.) Instantaneous Maximum	7.3	7.1	7.1	7.2	7.3	7.3	7.4	7.4	7.7	7.6	7.5	7.4
DO (mg/L) Instantaneous Minimum	6.98	6.46	7.44	8.02	8.13	8.96	8.96	8.73	7.92	8.34	8.55	7.99
CBOD5 (mg/L) Average Monthly	< 2.14	< 2.27	< 2.14	< 2.14	< 2.2	7.26	< 3.0	< 3.0	< 3.0	< 4.04	< 3.0	< 3.0
TSS (mg/L) Average Monthly	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 1.6	< 2.6	< 4.0	< 1.6	< 2.2	< 1.6	< 1.6
Fecal Coliform (No./100 ml) Geometric Mean	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
UV Intensity (µw/cm²) Instantaneous Minimum	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Ammonia (mg/L) Average Monthly	< 0.116	< 0.1	< 0.1	< 0.1	< 0.375	< 0.2	< 1.5	0.261	< 0.149	< 0.1	< 0.246	< 0.1

Compliance History, Cont'd

Summary of Inspections:	The most recent inspection of the facility by the Department on July 19, 2023 identified no violations at the time of inspection.
Other Comments:	A query in WMS found three open violations for the PA Department of Corrections in eFACTS as identified in the attached table.

Existing Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	Report	XXX	XXX	XXX	1/day	Grab
CBOD5 Nov 1 - Apr 30	XXX	XXX	XXX	20	XXX	40	2/month	Grab
CBOD5 May 1 - Oct 31	XXX	XXX	XXX	10	XXX	20	2/month	Grab
TSS Nov 1 - Apr 30	XXX	XXX	XXX	20	XXX	40	2/month	Grab
TSS May 1 - Oct 31	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
UV Intensity (µw/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Calculation
Total Nitrogen	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	4.5	XXX	9	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.5	XXX	3	2/month	Grab
Total Phosphorus	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/year	Grab

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.06
Latitude 41º 11' 2.70" **Longitude** -78º 8' 33.90"
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)

Comments: The above technology-based limits are applicable and already included in the permit except for more stringent limits for $CBOD_5$ and TSS limits due to the discharge to a dry stream and Special Protection watershed.

Water Quality-Based Limitations

BOD, NH3, & DO

The WQM7.0 model allows the Department to evaluate point source discharges of dissolved oxygen (DO), carbonaceous BOD ($CBOD_5$), and ammonia-nitrogen (NH_3-N) into free-flowing streams and rivers. To accomplish this, the model simulates two basic processes: the mixing and degradation of NH_3-N in the stream and the mixing and consumption of DO in the stream due to the degradation of $CBOD_5$ and NH_3-N. No WQM7.0 modeling was performed for the discharge to Marks Run at this time due to the high level of treatment already required for the discharge to a non-perennial stream in a special protection watershed.

Toxics Management

No further reasonable potential analysis was performed for this minor sewage treatment discharge for a facility receiving no industrial influent.

Dry Stream Discharge

The discharge predates the current version of the Department's Dry Streams guidance (DEP Document ID 391-2000-014). The current version of the guidance recommends the limits below for a proposed new or expanded facility.

CBOD5 -	10 mg/L as a monthly average
TSS -	10 mg/L as a monthly average
Total N -	5 mg/L as a monthly average
Dissolved oxygen -	minimum 6 mg/L at all times
Phosphorus –	0.5 mg/L as a monthly average

The additional Total Phosphorus, Total Nitrogen and Dissolved Oxygen limits will not be required at this time for this existing facility with no noted stream impacts.

Special Protection Watershed/Antidegradation

While the discharge is to a High Quality-designated stream it predates the current Anti-Degradation guidance (DEP Document ID 391-0300-002). The recommended ABACT treatment performance Expectations from the guidance for STPs over 50,000 gpd are below.

CBOD5 (May 1, - Oct. 31) - 10 mg/L
CBOD5 (Nov. 1, - Apr. 30) - 10 mg/L
Suspended Solids - 10 mg/L
NH3-N (May 1 - Oct. 31) - 1.5 mg/L
NH3-N (Nov. 1 - Apr. 30) - 4.5 mg/L
Effective Disinfection - Disinfection should be accomplished using a method that leaves no detectable residual. Disinfection using ultra-violet light or other non-chlorine-based systems is encouraged and must be considered.

The existing limits for this facility are consistent with the current ABACT with the exception of the existing winter limits of 20 mg/L for both TSS and $CBOD_5$. The facility uses ultraviolet light disinfection. As mentioned above for the current dry streams requirements, these more stringent limits will not be required at this time for this existing facility with no noted stream impacts

Chesapeake Bay/Nutrient Requirements

A portion of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the Water Pollution Control Act, 33 U.S.C. §1313(d). Total Nitrogen and Total Phosphorus cap loads have been established for significant dischargers in Pennsylvania in order to reduce the total nutrient load to the Bay and meet State of Maryland Water Quality Standards. The Quehanna Boot Camp treatment plant is considered an existing Phase 5, insignificant Chesapeake Bay discharger per the Phase III Watershed Implementation Plan (WIP) and thus will receive no Cap Loads. The permittee conducted TN and TP sampling over the past permit term and the average TN concentration was 11.7 mg/L and the average TP was 4.35. Because the discharge's nutrient load has been adequately characterized no further monitoring for nutrients will be required at this time consistent with the Phase III WIP.

Best Professional Judgment (BPJ) Limitations

Comments: No additional BPJ limitations are necessary at this time beyond the technology and water quality-based limits noted above.

E. Coli Monitoring

The Department has begun requiring periodic e. coli monitoring due to recent changes to Chapter 93 of the Department's regulations. Consistent with Department policy quarterly monitoring will be included in the permit.

Anti-Backsliding

No water quality based or BPJ limitations have been made less stringent in this permit consistent with the anti-backsliding requirements of 40 CFR 122.44(l) and the Clean Water Act.

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	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	Report	XXX	XXX	XXX	1/day	Grab
CBOD5 Nov 1 - Apr 30	XXX	XXX	XXX	20	XXX	40	2/month	Grab
CBOD5 May 1 - Oct 31	XXX	XXX	XXX	10	XXX	20	2/month	Grab
TSS Nov 1 - Apr 30	XXX	XXX	XXX	20	XXX	40	2/month	Grab
TSS May 1 - Oct 31	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
UV Intensity (µw/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Calculation
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	4.5	XXX	9	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.5	XXX	3	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	Grab

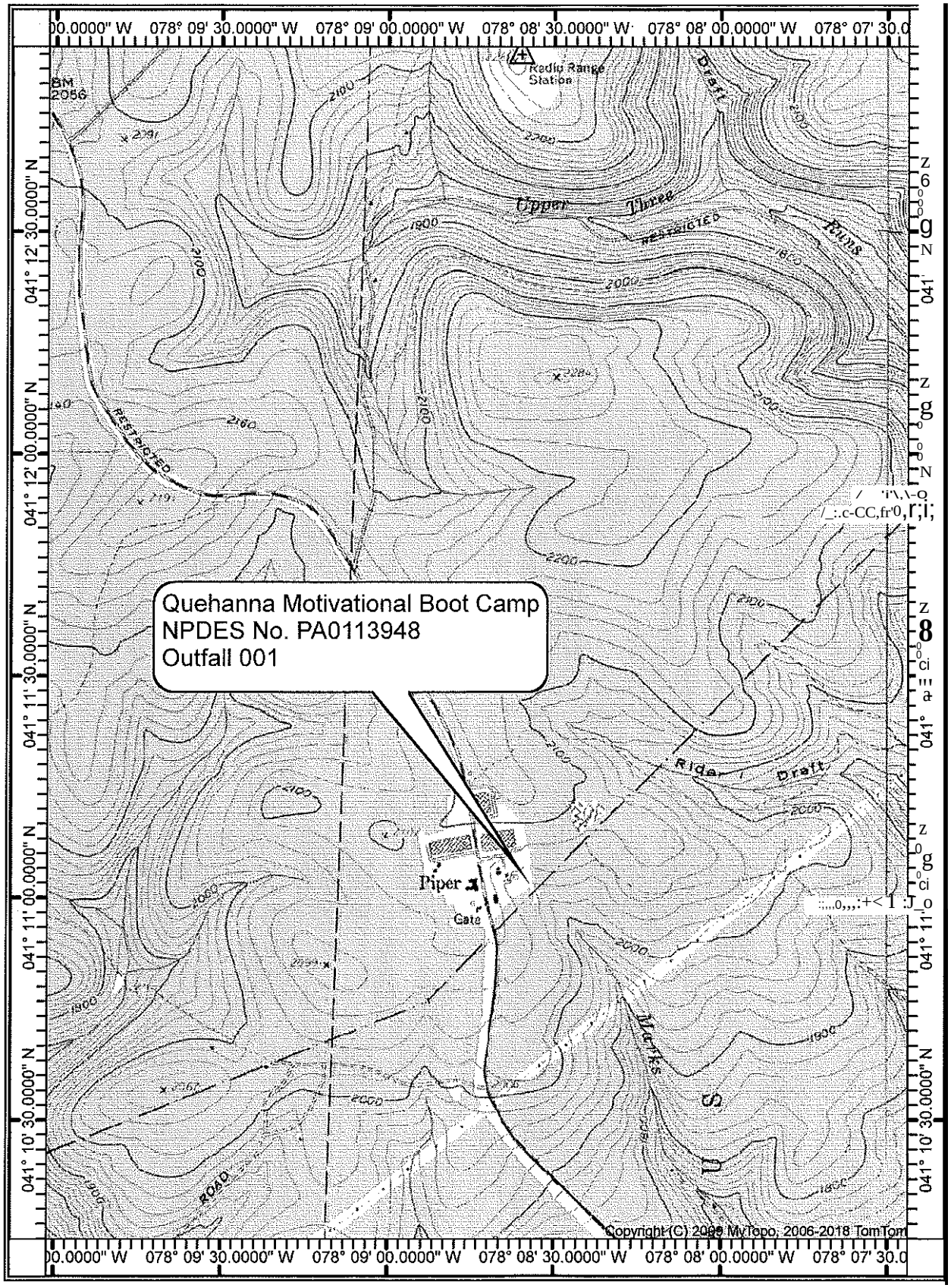
Compliance Sampling Location: Outfall 001

Other Comments: Nutrient monitoring has been removed as mentioned above. E. coli monitoring is new as also mentioned above.

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: Establishing Effluent Limitations for Individual Sewage Permits, rev. 03/24/2021
☐	Other:

Attachments:

A. Discharge Location Map
B. Open Violations List



SCALE 1:24000

0 1000 2000 3000 4000 5000 6000

Feet

CLIENT	FACILITY	INSP_PROGRAM	PROGRAM_SPECIFIC_ID	VIOLATION_DATE	VIOLATION_CODE	VIOLATION	INSP_REGION
PA DEPT OF CORR	SCI CAMP HILL	Storage Tanks	21-60520	7/26/2021	245.612	Failure to meet performance and design standards	SCRO
PA DEPT OF CORR	SCI CAMP HILL	Storage Tanks	21-60520	7/26/2021	245.612(D)	Failure to meet containment requirements	SCRO
PA DEPT OF CORR	PA DEPT OF CORR/SOMERSET SCI	Air Quality	23-6002831-10	7/11/2023	127.444	Construction, Modification, Reactivation and Operation of Sources, Operating Permit Requirements, Compliance requirements. A person may not cause or permit the operation of a source subject to this article unless the source and air cleaning devices identified in the application for the plan approval and operating permit and the plan approval issued to the source are operated and maintained in accordance with specifications in the application and conditions in the plan approval and operating permit issued by the Department. A person may not cause or permit the operation of an air contamination source subject to this chapter in a manner inconsistent with good operating practices.	SWRO