pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Amendment, Major**
Facility Type	**Industrial**
Major / Minor	**Minor**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Application No.	**PA0081850 A-1**
APS ID	**1084**
Authorization ID	**1333358**

Applicant and Facility Information

Applicant Name	**Gettysburg Borough Municipal Authority Adams County**	Facility Name	**Gettysburg Municipal Authority Water System**
Applicant Address	601 E Middle Street PO Box 3307	Facility Address	Water Works Road
	Gettysburg, PA 17325-1951		Gettysburg, PA 17325
Applicant Contact	Mark Guise	Facility Contact	Mark Guise
Applicant Phone	(717) 334-6738	Facility Phone	(717) 334-6738
Client ID	78262	Site ID	239068
SIC Code	4941	Municipality	Cumberland Township
SIC Description	Trans. & Utilities - Water Supply	County	Adams
Date Application Received	November 12, 2020	EPA Waived?	Yes
Date Application Accepted	November 17, 2020	If No, Reason	

Purpose of Application: Permit amendment to add approximately 0.06 MGD discharge the filter-to-waste to existing Outfall during WTP start up.

Summary of Review

The treatment facility consists only of a gravity sludge thickener (used to treat filter backwash). Supernatant from the sludge thickener is designed to be recycled back through the water treatment plant with a discharge only occurring in emergency situations. Sludge is hauled out periodically. The design flow remains unchanged of 0.215 MGD. Outfall 001 discharges to a dry swale which flows to Marsh Creek.

Buchart Horn, on behalf of Gettysburg Municipal Authority Water System NPDES PA0081850, has applied to the Pennsylvania Department of Environmental Protection (PA DEP) in an amendment to add approximately 60,000 gallons (0.06 MGD) discharge of filter-to-waste to existing NPDES Outfall 001 during WTP start up. The modification will install the new filter-to-waste piping and automatic valves to discharge the filter-to-waste water through the existing Outfall 001.

This amendment will not affect any other components of the wastewater treatment plant. Therefore, the amendment permit will not affect the existing permit with reissuance on May 13, 2020 and effective date on June 1, 2020.

There are no open violations against the facility or permittee.

Planning for the proposed project was not required.

Based on the review in this report, it is recommended that the amended permit be drafted. While the application has been processed as an amendment, there are no changes permit limits. All other requirements will remain unchanged.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	December 3, 2020
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Clean Water Program Manager	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.215
Latitude	39º 47' 49.8"	Longitude	-77º 16' 28.7"
Quad Name	Fairfield	Quad Code	
Wastewater Description:	Water Treatment Effluent		
Receiving Waters	Marsh Creek (CWF)	Stream Code	NA (dry swale) (58903)
NHD Com ID	53320624	RMI	8.14 miles
Drainage Area	56.4 mi.^{2}	Yield (cfs/mi^2)	0.05
Q_{7-10} Flow (cfs)	2.85	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	460.67	Slope (ft/ft)	
Watershed No.	13-D	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Not Assessed		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	City of Frederick, Maryland		
PWS Waters	Monocacy River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	Approximate 40 miles

Changes Since Last Permit Issuance:

Drainage Area
The discharge is to Marsh Creek at RMI 8.14 miles. A drainage area upstream of the discharge is estimated to be 56.4 mi.^{2}, according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow
According to the previous protection report, the discharge is to a dry swale to Marsh Creek (58903). According to USGS StreamStats available at https://streamstats.usgs.gov/ss/, the discharge point has a Q_{7-10} of 2.85 cfs and a drainage area of 56.4 mi.^{2}, which results in a theoretical low flow yield of 0.05 cfs/mi.^{2} (2.85 cfs / 56.4 mi.^{2}).

The resulting Q_{7-10} dilution ratio is: Q_{stream} / $Q_{discharge}$ = 2.85 cfs / [0.215 MGD * (1.55 cfs/MGD)] = 8.55:1

Public Water Supply
The nearest downstream public water supply intake is for the city of Frederick, Maryland on the Monocacy River, approximately 40 miles downstream of this discharge. Considering distance and dilution, the discharge is not expected to impact the water supply.

Treatment Facility Summary

Treatment Facility Name: Gettysburg Water Treatment Plant

WQM Permit No.	Issuance Date

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial	Primary	Sedimentation Tanks	No Disinfection	0.215

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

Changes Since Last Permit Issuance: Permit amendment to add approximately 60,000 gallons (0.06 MGD) discharge as filter-to-waste to existing NPDES Outfall 001 during WTP start up.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.215
Latitude 39º 47' 49.8" **Longitude** -77º 16' 28.7"

Wastewater Description: Sludge thickener decant

Technology-Based Limitations

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

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Best Professional Judgment (BPJ) Limitations

The filter-to-waste effluent to be added to existing Outfall 001 testing results were entered onto the Toxics Screening Analysis Spreadsheet. The attached PENTOX results indicate that WQBEL limits are not necessary for these parameters.

TOXICS SCREENING ANALYSIS
WATER QUALITY POLLUTANTS OF CONCERN
VERSION 2.7

CLEAR FORM

Facility: Gettysburg MA NPDES Permit No.: PA0081850 Outfall: 001
Analysis Hardness (mg/L): 183 Discharge Flow (MGD): 0.215 Analysis pH (SU): 7
Stream Flow, Q_{7-10} (cfs): 2.85

	Parameter		Maximum Concentration in Application or DMRs (µg/L)	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Group 1	Total Dissolved Solids		300000	500000	No		
	Chloride		20000	250000	No		
	Bromide	<	200	N/A	No		
	Sulfate		120000	250000	No		
	Fluoride		200	2000	No		
Group 2	Total Aluminum		14	750	No		
	Total Antimony		1	5.6	No		
	Total Arsenic	<	1	10	No (Value < QL)		
	Total Barium		60	2400	No		
	Total Beryllium	<	1	N/A	No		
	Total Boron		240	1600	No		
	Total Cadmium	<	0.2	0.423	No (Value < QL)		
	Total Chromium	<	0.4	N/A	No		
	Hexavalent Chromium	<	0.25	10.4	No (Value < QL)		
	Total Cobalt	<	0.2	19	No (Value < QL)		
	Total Copper		14	15.6	No		
	Total Cyanide		5	N/A	No		
	Total Iron		220	1500	No		
	Dissolved Iron		190	300	No		
	Total Lead	<	1	6.9	No (Value < QL)		
	Total Manganese		860	1000	No		
	Total Mercury	<	0.2	0.05	No (Value < QL)		
	Total Molybdenum		2.1	N/A	No		
	Total Nickel	<	1	87	No (Value < QL)		
	Total Phenols (Phenolics)	<	10	5	Yes		
	Total Selenium		3	5.0	No		
	Total Silver	<	0.2	10.7	No (Value < QL)		
	Total Thallium	<	1	0.24	No (Value < QL)		
	Total Zinc	<	5	199.9	No (Value < QL)		

The following are permit requirements as part of this amendment:

1. Effluent Volume Monitoring
   The requirement to monitor the volume of effluent will remain in the amendment permit per 40 CFR § 122.44(i)(1)(ii).

2. pH Effluent Limits
   The existing pH effluent limits of 6.0 SU (instantaneous minimum) and 9.0 SU (instantaneous maximum) are secondary treatment standards found in 40 CFR §133.102(c). These effluent limits will remain unchanged in the amendment permit.

3. Total Residual Chlorine (TRC) limits
   The existing TRC limit of 0.5 mg/L (average monthly) and 1.0 mg/L (instantaneous maximum) will remain unchanged in the amendment permit.

4. Total Suspended Solids (TSS) Effluent Limits
   The existing TSS effluent limits of 30 mg/L (average monthly), 60 mg/L (daily maximum), and 75 mg/L (instantaneous maximum) are secondary treatment standards found in 40 CFR §133.102(b) and 25 Pa. Code § 92a.47(a)(1) and (2). These effluent limits will remain unchanged in the amendment permit.

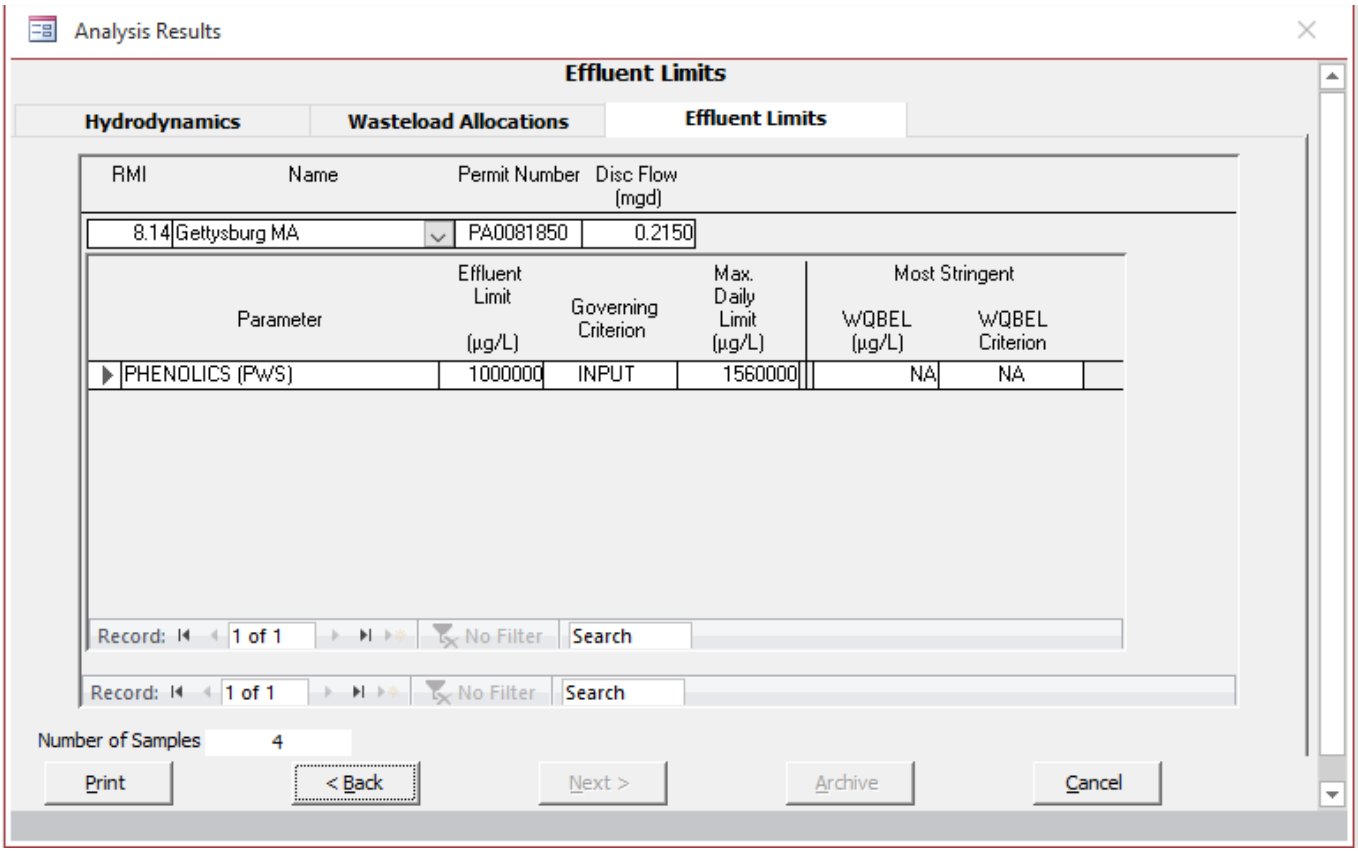
5. Total Aluminum Effluent Limits
   The existing Total Aluminum effluent limits of 4.0 mg/L (average monthly), 8.0 mg/L (daily maximum), and 10.0 mg/L (instantaneous maximum) are secondary treatment standards found in guidance document 362-0400-001 table 5-2 and 25 Pa. Code § 93.7. These effluent limits will remain unchanged in the amendment permit.

6. Total Iron Effluent Limits
   The existing Total Iron effluent limits of 2.0 mg/L (average monthly), 4.0 mg/L (daily maximum), and 5.0 mg/L (instantaneous maximum) are secondary treatment standards found in guidance document 362-0400-001 table 5-2 and 25 Pa. Code § 93.7. These effluent limits will remain unchanged in the amendment permit.

7. Total Manganese Effluent Limits
   The existing Total Manganese effluent limits of 1.0 mg/L (average monthly), 2.0 mg/L (daily maximum), and 2.5 mg/L (instantaneous maximum) are secondary treatment standards found in guidance document 362-0400-001 table 5-2 and 25 Pa. Code § 93.7. These effluent limits will remain unchanged in the amendment permit.

8. Total Phenolic Effluent Limits
   Limitation and/or monitoring recommendations on the spreadsheet follow the logic presented in DEPs SOP No. BCW-PMT-037, revised October 1, 2020, to establish limits in the permit where the maximum reported concentration exceeds 50% of the WQBEL, or for non-conservative pollutants to establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL, or to establish monitoring requirements for conservative pollutants where the maximum reported concentration is between 10% - 50% of the WQBEL.

   Total Phenolics (PWS) is not necessary to monitor and report in the amendment permit.


Analysis Results
Effluent Limits
Hydrodynamics
Wasteload Allocations
Effluent Limits
RMI
Name
Permit Number
Disc Flow (mgd)
8.14
Gettysburg MA
PA0081850
0.2150
Parameter
Effluent Limit (µg/L)
Governing Criterion
Max. Daily Limit (µg/L)
Most Stringent
WQBEL (µg/L)
WQBEL Criterion
PHENOLICS (PWS)
1000000
INPUT
1560000
NA
NA
Record: 1 of 1
No Filter
Search
Record: 1 of 1
No Filter
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Number of Samples
4
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Existing Effluent Limitations and Monitoring Requirements

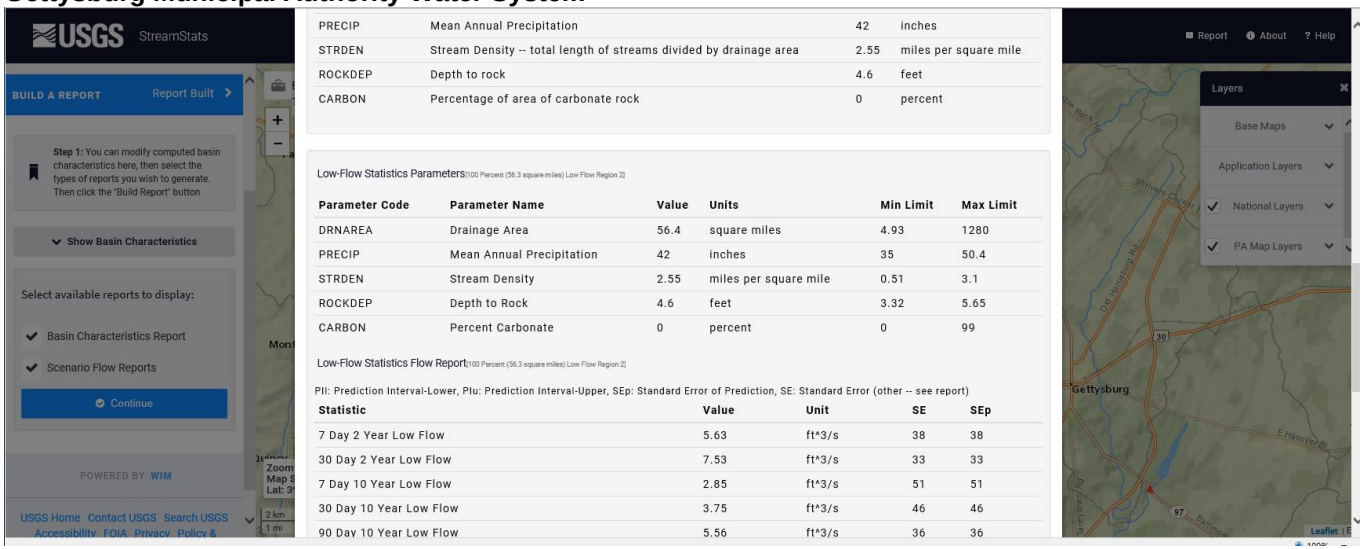
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Daily when Discharging	Estimate
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	Daily when Discharging	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.0	Daily when Discharging	Grab
TSS	XXX	XXX	XXX	30	60	75	2/month	8-Hr Composite
Total Aluminum	XXX	XXX	XXX	4.0	8.0	10	2/month	8-Hr Composite
Total Iron	XXX	XXX	XXX	2.0	4.0	5.0	2/month	8-Hr Composite
Total Manganese	XXX	XXX	XXX	1.0	2.0	2.5	2/month	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" (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	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Daily when Discharging	Estimate
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	Daily when Discharging	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.0	Daily when Discharging	Grab
TSS	XXX	XXX	XXX	30	60	75	2/month	8-Hr Composite
Total Aluminum	XXX	XXX	XXX	4.0	8.0	10	2/month	8-Hr Composite
Total Iron	XXX	XXX	XXX	2.0	4.0	5.0	2/month	8-Hr Composite
Total Manganese	XXX	XXX	XXX	1.0	2.0	2.5	2/month	8-Hr Composite



PRECIP	Mean Annual Precipitation	42	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	2.55	miles per square mile
ROCKDEP	Depth to rock	4.6	feet
CARBON	Percentage of area of carbonate rock	0	percent

Low-Flow Statistics Parameters[100 Percent (56.3 square miles) Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	56.4	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	42	inches	35	50.4
STRDEN	Stream Density	2.55	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.6	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Low-Flow Statistics Flow Report[100 Percent (56.3 square miles) Low Flow Region 2]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	SEp
7 Day 2 Year Low Flow	5.63	ft^3/s	38	38
30 Day 2 Year Low Flow	7.53	ft^3/s	33	33
7 Day 10 Year Low Flow	2.85	ft^3/s	51	51
30 Day 10 Year Low Flow	3.75	ft^3/s	46	46
90 Day 10 Year Low Flow	5.56	ft^3/s	36	36

	Tools and References Used to Develop Permit
☐	WQM for Windows Model (see Attachment)
☒	PENTOXSD for Windows Model (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Toxics Screening Analysis 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: No. BCW-PMT-037, revised October 1, 2020
☐	Other: