pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0084450**
Facility Type	**Industrial**	APS ID	**975303**
Major / Minor	**Minor**	Authorization ID	**1436608**

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

Applicant and Facility Information

Applicant Name	**Raven Rock Mountain Complex**	Facility Name	**Raven Rock Mountain Complex**
Applicant Address	1155 Defense Pentagon	Facility Address	450 Harbaugh Valley Road
	Washington, DC 20301-1155		Fairfield, PA 17320
Applicant Contact	Kevin Upson	Facility Contact	Ringler Jack
Applicant Phone	(717) 878-2771	Facility Phone	(717) 878-2526
Client ID	163703	Site ID	452770
SIC Code	4952,9711	Municipality	Liberty Township
SIC Description	Public Admin. - National Security,Trans. & Utilities - Sewerage Systems	County	Adams
Date Application Received	April 17, 2023	EPA Waived?	Yes
Date Application Accepted	April 20, 2023	If No, Reason	
Purpose of Application	NPDES permit renewal.		

Summary of Review

The PA Department of Environmental Protection (DEP or Department) received an NPDES permit renewal application from Raven Rock Mountain Complex (RRMC), located in Liberty Township, Adams County on April 21, 2023. The permit expires on November 30, 2023.

The effluent limitations for Outfall Nos. 002 & 003 flow are 0.051 MGD & 0.12 MGD. The Outfall Nos. 001, 004, & 005 are stormwater with 0.0 MGD of flow. This is a Minor Industrial Waste (MIIW) facility without Effluent Limitation Guidelines (ELG) with a Sewage Treatment Plant (STP). The MIIW discharges to onsite drain to Miney Branch near the STP discharge. Miney Branch is in state watershed 13-D, Cold Water Fishes (CWF) / Migratory Fishes (MF).

The WQM Part II No. 0109405 was issued on 3/12/2010, and 0109405 T-1 ownership transferred was issued on 11/08/2018.

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

Changes from the previous permit: Outfall No. 003 added the E. Coli monitoring and report requirements of the proposed permit.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted. A public notice of the draft permit will be published in the *Pennsylvania Bulletin* for public comments for 30 days.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H Le / Environmental Engineering Specialist	October 12, 2023
X		*Maria D. Bebenek for Daniel W. Martin* Daniel W. Martin, P.E. / Environmental Engineer Manager	December 7, 2023

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0
Latitude	39º 44' 26.7"	Longitude	-77º 25' 33.5"
Quad Name	Blue Ridge Summit	Quad Code	2126
Wastewater Description:	Stormwater (Fuel receiving station oil water separator)		
Receiving Waters	Unnamed Tributary to Miney Branch (CWF)	Stream Code	58760
NHD Com ID	53321968	RMI	3.65

Discharge, Receiving Waters and Water Supply Information

Outfall No.	004	Design Flow (MGD)	0
Latitude	39º 44' 23"	Longitude	-77º 25' 37"
Quad Name	Blue Ridge Summit	Quad Code	2126
Wastewater Description:	Stormwater (Runoff from a Fire station)		
Receiving Waters	UNT to Miney Branch (CWF)	Stream Code	58760
NHD Com ID	53322052	RMI	3.81

Discharge, Receiving Waters and Water Supply Information

Outfall No.	005	Design Flow (MGD)	0
Latitude	39º 44' 21.09"	Longitude	-77º 24' 48.65"
Quad Name	Blue Ridge Summit	Quad Code	2126
Wastewater Description:	Stormwater (Fuel receiving station oil water separator)		
Receiving Waters	UNT to Miney Branch (CWF)	Stream Code	58760
NHD Com ID	53322052	RMI	2.39

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0.051
Latitude	39º 44' 19.47"	Longitude	-77º 24' 44"
Quad Name	Blue Ridge Summit	Quad Code	2126
Wastewater Description:	Noncontact Cooling Water (NCCW)		
Receiving Waters	Unnamed Tributary to Miney Branch (CWF)	Stream Code	58760
NHD Com ID	53322210	RMI	2.39
Drainage Area	5.88 $mi.^2$	Yield (cfs/mi^2)	0.128
Q_{7-10} Flow (cfs)	0.752	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	622.13	Slope (ft/ft)	
Watershed No.	13-D	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Pathogens		
Source(s) of Impairment	Source Unknown		
TMDL Status	None	Name	
Nearest Downstream Public Water Supply Intake	City of Frederick, MD		
PWS Waters	Monocacy River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	Approximate 35.0 miles

Changes Since Last Permit Issuance: none

Other Comments: This IW outfall discharges into a dry swale/drainage ditch. Per the protection report issued on June 25, 1997, Point of First Use (POFU) was determined at the confluence with Miney Branch, approximately same location as Outfall No. 003. The ditch runs approximately 1,100' before it reaches to Miney Branch. Same stream properties will be used for both outfalls.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	0.12
Latitude	39º 44' 28"	Longitude	-77º 24' 37"
Quad Name	Blue Ridge Summit	Quad Code	2126
Wastewater Description:	Sewage Effluent		
Receiving Waters	Miney Branch (CWF)	Stream Code	58760
NHD Com ID	53321968	RMI	2.39
Drainage Area	5.88 mi.^{2}	Yield (cfs/mi^2)	0.128
Q_{7-10} Flow (cfs)	0.752	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	622.13	Slope (ft/ft)	
Watershed No.	13-D	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Pathogens		
Source(s) of Impairment	Source Unknown		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	City of Frederick, MD		
PWS Waters	Monocacy River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	Approximate 35.0 miles

Changes Since Last Permit Issuance: none

Drainage Area

The discharge is to Miney Branch at RMI 2.39 miles. A drainage area upstream of the discharge is estimated to be 5.88 mi.^{2}, according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow

According to USGS StreamStats, the point of first use has a Q_{7-10} of 0.752 cfs and a drainage area of 5.88 mi.^{2}, which results in a Q_{7-10} low flow yield of 0.128 cfs/mi.^{2}. This information is used to obtain a chronic or 30-day (Q_{30-10}), and an acute or 1-day (Q_{1-10}) exposure stream flow for the discharge point as follows (Guidance No. 391-2000-023):

Q_{7-10} = 0.752 cfs
Low Flow Yield = 0.752 cfs / 5.88 mi.^{2} = 0.128 cfs/mi.^{2}
Q_{30-10} = 1.36 * 0.752 cfs = 1.02 cfs
Q_{1-10} = 0.64 * 0.752 cfs = 0.48 cfs

The resulting Q_{7-10} dilution ratio is: Q_{stream} / $Q_{discharge}$ = 0.752 cfs / [0.12 MGD * (1.547 cfs/MGD)] = 4.05:1

303d Listed Streams

The receiving stream, Miney Branch, is supporting Aquatic life but not attaining recreational use due to pathogens from unknown source. UV disinfection is in place to treat sewage effluent. The discharges from this facility is not expected to contribute to the existing impairment.

PWS Intake

There is no PWS intake downstream from the discharge in PA. The nearest downstream public water supply is City of Frederick, MD on the Monocacy River, located at approximately 35.0 miles from the discharge. Due to the distance, dilution, and effluent limits the discharge is not expected to impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: Raven Rock Mountain Complex Site R IW Outfall 002				
WQM Permit No.	**Issuance Date**			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Other Processes (Industrial Waste)	Oil and Grease Removal (Skim/Septr)	No Disinfection	0.051
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
		Not Overloaded		

Treatment Facility Summary				
Treatment Facility Name: Raven Rock Mountain Complex Site R IW Outfall 003				
WQM Permit No.	**Issuance Date**			
0109405	03/02/2010			
0109405 T-1	11/08/2018			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Other Processes (Industrial Waste)	Oil and Grease Removal (Skim/Septr)	No Disinfection	0.12
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.12		Not Overloaded		

Changes Since Last Permit Issuance: None

Other Comments:
Raven Rock Mountain Complex (RRMC/Permittee) owns and operates an Industrial Waste Treatment Facility (IWTP) and Sewage Treatment Facility (STP) named Raven Rock Mountain Complex Site R (Site R/Facility) located in Liberty Township, Adams County. The STP had a separate NPDES permit number, PA0036404, which was merged with IWTP during 1997 permit renewal. This is a federal facility that has SIC code 9711 (National Security) and NAICS code 92811 (National Security). The facility does not generate any Industrial products, however, due to the Non-Contact Cooling Water (NCCW) discharge through Outfall No. 002, the facility is termed as IWTP. There is no process wastewater being generated from this facility.

The facility had three permitted outfalls named Outfall Nos. 001, 002, and 003. During 2010-2011 amendment, two more outfalls were added named Outfall Nos. 004 and 005. The Outfall Nos. 001, 004, and 005 are stormwater outfalls. Outfall Nos. 001 and 005 discharge stormwater from fuel transfer stations whereas Outfall No. 004 discharges stormwater from vehicle washing area and RRMC Fire Station. The Outfall No. 002 discharges IW consisting NCCW, emergency cooling water, tunnel groundwater, and stormwater. The Outfall No. 003 discharges wastewater consisting wastewater from STP, intermittent wash-rack water, and stormwater from wash-rack. The Outfall No. 003 also receives some flow from reservoir to prevent it from freezing during cold weather due to low discharge flow. The 1997 fact sheet indicated the Outfall No. 003 received a constant groundwater from the tunnels and added an additional 0.075 cfs to the Q_{7-10} of the receiving stream. The resubmitted application, however, didn't indicate that Outfall No. 003 still receives that groundwater but included it with Outfall No. 002. Therefore, the groundwater contribution will not be added with Q_{7-10} for Outfall No. 003.

The Outfall Nos. 001 and 003 are close-by and discharge into UNT to Miney Branch (58760) at RMI 2.39. The Outfall Nos. 002 and 005 are close-by and discharge to a channel running through the WWTP to UNT to Miney Branch. A Point of First Use (POFU) survey was conducted and POFU was determined at the confluence with Miney Branch. The stream characteristics at the POFU will be used to determine the WQBELs for both Outfall Nos. 002 and 003.

The design flow for Outfall Nos. 001, 004, and 005 is 0.0 MGD, intermittent flow. The Average Annual Design Flow for Outfall Nos. 002 and 003 is 0.051 MGD and 0.12 MGD, respectively, continuous flow. A brief discussion on treatment units for each outfall is discussed below:

Outfall No. 001: Non-continuous stormwater from Facility 12 and fuel receiving station storm drain to Oil Water Separator (OWS) to UNT to Miney Branch.

Outfall No. 002: NCCW, emergency cooling water, tunnel groundwater, and stormwater to an OWS to a channel running through the WWTP to UNT to Miney Branch. Per submitted Schematic of Waterflow, there is a switch valve that can divert the flow to WWTP that is tributary to Outfall No. 003, in case of emergency. Effluent sample is collected from channel.

Outfall No. 003: It has three contributors:

1. Wash water from vehicle wash to OWS to manhole to WWTP to Outfall No. 003
2. Sanitary sewage to WWTP to Outfall No. 003. The WWTP consists of the following treatment units per DEP's recent inspection report on May 23, 2023:
    a. Two grinders
    b. One Imhoff Tank
    c. One dosing tank
    d. One trickling filter with Rock media
    e. One Flocculation tank
    f. Two final clarifiers
    g. Two disk filters, alternately used
    h. UV disinfection: 2 banks, 6 racks, 2 bulbs per rack
3. Emergency discharge from Switch Valve

Outfall No. 004: Stormwater runoff from RRMC fire station to storm drain to OWS to a dry swale to Miney Branch

Outfall No. 005: Stormwater runoff from fuel unloading station to storm drain to OWS to a channel to Miney Branch.

Compliance History	
Summary of DMRs:	A summary of past 12-month DMRs is presented on pages 7 & 8.
Summary of Inspections:	**5/23/2023**: Mr. Hoy, DEP WQS, conducted compliance evaluation inspection. There were no violations noted during inspection. The field sample test results were within permit limits. Effluent appeared clear. Requests/Recommendations: 1. DEP requests submitting a Change of Operator form. 2. DEP requests that the effluent composite sampler tube is relocated to collect samples after UV treatment. 3. DEP recommends having generator maintenance records on-site for future inspections to verify regular maintenance. 4. DEP requests submitting the sludge hauling supplemental report monthly and checking the box when hauling does not occur. 5. DEP requests having sections of the Preparedness Prevention, and Contingency (PPC) Plan required by NPDES Permit PA0084450 available to review on-site. 6. DEP recommends looking into options to have easy accessibility to Outfall 001. 7. DEP recommends labeling all NPDES outfall points for easy identification. 8. DEP recommends that all fueling stations be included in renewal submission information.
Other Comments:	There are 34 open violations against the permittee or applicant from DEP Storage Tanks unit.

Other Comments:

Compliance History

DMR Data for Outfall 002 (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	0.018	0.02	0.019	0.021	0.02	0.017	0.015	0.018	0.014	0.018	0.02	0.016
Flow (MGD) Daily Maximum	0.021	0.022	0.021	0.043	0.021	0.021	0.022	0.022	0.021	0.021	0.021	0.021
pH (S.U.) Daily Minimum	7.3	7.6	7.4	7.5	7.9	7.8	7.9	7.8	7.7	7.6	7.4	7.9
pH (S.U.) IMAX	8.0	7.7	7.9	7.9	8.0	8.0	8.0	8.0	8.2	7.9	7.9	8.0
Temperature (ºF) Daily Maximum	69	70	67	59	59	50	48	47	45	61	59	69
Oil and Grease (mg/L) Average Monthly	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Oil and Grease (mg/L) IMAX	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

DMR Data for Outfall 003 (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	0.015	0.0138	0.016	0.017	0.021	0.02	0.016	0.02	0.021	0.016	0.017	0.015
Flow (MGD) Daily Maximum	0.033	0.028	0.032	0.031	0.037	0.031	0.028	0.028	0.056	0.041	0.034	0.027
pH (S.U.) Daily Minimum	7.3	7.3	7.3	7.3	7.1	7.3	7.3	7.3	7.1	7.0	7.3	7.5
pH (S.U.) IMAX	7.7	7.8	7.7	7.6	7.6	7.9	7.7	7.7	7.8	7.9	7.9	8.6
DO (mg/L) Daily Minimum	5.1	5.2	5.1	5.9	6.8	6.9	7.4	7.4	6.7	6.5	8.8	8.3
CBOD5 (mg/L) Average Monthly	5.0	5.0	4.0	7.0	6.0	6.0	4.0	5	< 3.0	3	3.0	2.0
TSS (mg/L) Average Monthly	2.0	3.0	3.0	4.0	3.0	2.0	2.0	2	2.0	3.0	3.0	1.0
Oil and Grease (mg/L) Average Monthly	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Oil and Grease (mg/L) IMAX	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Fecal Coliform (No./100 ml) Geometric Mean	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1	< 1.0	< 1	< 1.0	< 1.0
Fecal Coliform (No./100 ml) IMAX	< 1.0	< 1.0	< 1.0	8.0	< 1.0	< 1.0	< 1.0	< 1	< 1.0	1	< 1.0	< 1.0
UV Intensity (mW/cm²) Daily Minimum	0.2	0.2	0.3	0.6	1.5	2.2	1.8	1.4	1.5	1.5	0.4	0.4
Nitrate-Nitrite (mg/L) Average Monthly	< 0.16	16.3	< 25.4	< 19.4	< 27.4	< 33.4	25.49	20.57	< 28.4	< 26.4	20.5	< 22.4
Nitrate-Nitrite (lbs) Total Monthly	< 19.4	38.0	< 121	< 125	< 144	< 242	95	122	< 154.0	< 139	111	< 118.0
Total Nitrogen (mg/L) Average Monthly	20.32	< 16.8	< 25.9	< 19.9	< 27.9	< 35.6	32.49	23.77	< 28.9	< 26.9	< 21	< 22.9
Total Nitrogen (lbs) Total Monthly	84	< 39.0	< 123	< 129	< 147	< 258	121	141	< 157.0	< 141	< 114	< 120.0
Total Nitrogen (lbs) Total Annual												< 1591
Ammonia (mg/L) Average Monthly	< 0.16	< 0.22	< 0.24	< 0.11	1.28	1.7	3.0	1.91	1.54	< 0.16	< 0.14	< 0.1
Ammonia (lbs) Total Monthly	< 0.7	< 0.7	< 1.0	< 0.6	7.0	9.0	12	9	8.0	< 0.6	< 0.7	< 0.5
Ammonia (lbs) Total Annual												< 39
TKN (mg/L) Average Monthly	0.92	< 0.5	< 0.5	< 0.5	< 0.5	2.2	7.0	3.2	< 0.5	< 0.5	< 0.5	< 0.5
TKN (lbs) Total Monthly	4	< 1.0	< 2.0	< 3.0	< 3.0	16	26	19	< 3.0	< 3	< 3	< 3.0
Total Phosphorus (mg/L) Average Monthly	6.1	5.8	< 6.2	5.5	4.9	6.0	5.2	4.2	5.9	4.8	4.7	6.1
Total Phosphorus (lbs) Total Monthly	24	25.0	22	30	25	31	34	18	34.0	11	12	18.0
Total Phosphorus (lbs) Total Annual												350

DMR Data for Outfall 005 (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
TRPH (mg/L) Daily Maximum					< 5.0	< 5.0			< 5.0			< 5.0

Development of Effluent Limitations

Outfall No.	002	**Design Flow (MGD)**	0.051
Latitude	39º 44' 19.47"	**Longitude**	-77º 24' 44"

Wastewater Description: Noncontact Cooling Water (NCCW), tunnel groundwater, tunnel wash water, emergency cooling water, and storm water

There is no applicable Effluent Limit Guideline (ELG) for this Industrial Waste (IW) outfall, since there is no actual product manufactured from the industrial activities associated to this outfall. Effluent limits/monitoring requirements will be based on WQBEL and BPJ based on different contributing waste stream to this outfall. DMRs and submitted effluent test data for pollutant group 1 will be analyzed.

Oil Water Separator (OWS):

1. Temperature: The source of cooling water and the amount of discharge from non-contact and emergency cooling water is marked as "Classified". The 1997 fact sheet indicated a fraction (12 gpm or 0.01728 MGD) of the design flow was non-contact and emergency which was discharged in batch for 96 minutes per day. The equivalent MGD of 12 gpm in 96 minutes/day is 0.001152 MGD. Thermal Discharge Limits Calc Spreadsheet was utilized for this number considering Case 2 scenario (external source). The model result showed 110°F year-round. This limit is less stringent compared to existing limit and existing limit will be carried over in this renewal due to federal anti-backsliding policy.

2. Toxics: Pollutants group 1 was analyzed for renewal application purpose which doesn't have any metals or toxics. The current NPDES permit doesn't require monitoring for metals/toxics either. In absence of available data, toxic screening was not performed. Since there is no actual "product" from the industrial activities, it is believed that there will be no metals/toxics present in the effluent.

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

4. pH: The minimum and maximum pH of 6.0 and 9.0, respectively, will be maintained per 40 CFR § 423.12(b)(1) and 25 Pa. Code § 95.2(1).

5. Oil and Grease: The existing permit doesn't have limit or monitoring requirement for oil and grease. Pa Code 25 § 95.2.(2) indicated: *(2) Oil-bearing wastewaters, except those subject to paragraph (3), must comply with the following:*

   (i) At no time cause a film or sheen upon or discoloration of the waters of this Commonwealth or adjoining shoreline.

   (ii) At no time contain more than 15 milligrams of oil per liter as a daily average value nor more than 30 milligrams of oil per liter at any time, or whatever lesser amount the Department may specify for a given discharge or type of discharge as being necessary for the proper protection of the public interest or to meet any requirements based upon the State Act or the Federal Act, as defined in § 92.1 (relating to definitions).

   The 1997 fact sheet indicated that oil and grease limit was removed due to Freon ban. EPA withdrew all oil and grease methods using chlorofluorocarbon-113 (CFC-113; Freon-113) as an extraction solvent in the final rule published March 7, 2007; 72 FR 11199. 40 CFR 136.3 table IB indicated Standard Method 5520 and B-2011 can be used to analyze Oil and Grease by *Hexane Extractable Material (HEM): n-Hexane extraction and gravimetry* method. It is the opinion of the permit writer that since this outfall receives wastewater discharged from an OWS that was resulted from tunnel groundwater and tunnel wash water, limit on oil and grease is necessary. It may also help the permittee to check the effectiveness of the OWS. An average monthly limit of 15 mg/L and Instantaneous Maximum value of 30 mg/L will be placed in the draft permit. The sampling type will be grab.

6. TDS, Sulfate, Chloride, Bromide: The application data indicated a maximum TDS of 250 mg/L and maximum Bromide concentration of 1.3 mg/L *(reference Outfall No. 2 data Group 1 renewal application, page 13).* The design discharge flow is 0.05 MGD < 0.1 MGD. Per directive from PADEP's Central Office, it is recommended that no TDS or its constituents need monitoring or limit at this time.

7. Nutrients: The renewal application indicated non-detect Total Phosphorus, non-detect ammonia-N, average (3.4 + 3.0)/2 = 3.2 mg/L of Total Nitrogen (TKN + Nitrate-Nitrite-N) (*reference Outfall No. 2 data Group 1 renewal application, page 13*). It is apparent that nutrients are not a concern for this outfall. The chemical additives used in the contributing waste stream do not appear to contain TN or TP. No nutrients monitoring is proposed for this outfall.

8. Chemical Additives: The renewal application indicated use of four chemical additives as listed below.

Name	Purpose	Use Frequency	Max use rate	Notification form submitted	Analytical method
Aquamag	Corrosion inhibitor	continuous	3.2 lbs/day		
ChemTreat CL4907	Microbiocide	Per OMP 40 lbs/day	50 gal	Jan, 2016	colorimeter
ChemTreat CT2015	Microbiocide & slimicide	Per OPM 90 days	50 gal	Jan, 2016	Colorimeter
ChemTreat CLG11455	Scale inhibitor	Per OMP 90 days	50gal	Apr, 2018	colorimeter
RydLyme	Decalcifier	Every two years	1200 gal	Apr, 2018	colorimeter

ChemTreat CL4907 and ChemTreat CT2015 is on DEP's Approved Chemical Additives list. ChemTreat CL11455 and RedLyme is not on the list yet. The permittee has submitted the New Chemical Additives Request Form to DEP's Central Office for approval. PENTOXSD model was utilized to calculate the maximum safe use rate for the approved additives.

ChemTreat CL4907: 0.149761 mg/l * 8.34 * 0.05 MGD = 0.06 lbs./day
Per MSDS, Specific Gravity of CL4907 is 1.307
Specific gravity of water is 8.34 lbs./gallon
Allowable maximum safe use = 0.06 lbs./day/(1.307 * 8.34 lbs./gallon) = 0.0055 gallon/day

The permittee is allowed to use maximum of 0.0055 gallons/day of ChemTreat CL4907.

ChemTreat CT2015: 0.738108 mg/l * 8.34 * 0.05 MGD = 0.308 lbs./day
Per MSDS, Specific Gravity is 1.025
Allowable maximum safe use = 0.308 lbs./day /(1.025 * 8.34 lbs./gallon) = 0.036 gallon/day

The permittee is allowed to use maximum of 0.036 gallon/day of ChemTreat CT2015

ChemTreat CL11455 and RedLyme: These additives are not yet on the approved chemical additives list. The permittee is requested not to use them prior to their approval or switch to other additives that are already on the list.

Water Quality-Based Limitations
There is no oxygen demanding substance discharged from this outfall as evident from the sample results (Non-detect for BOD_5 and COD.) Ammonia-N is also non-detect. No Water Quality Modeling was utilized to determine the need of Ammonia-N, $CBOD_5$, or D.O. limits.

Anti-Backsliding
The proposed limits are at least as stringent as are in the existing permit, therefore, the anti-backsliding policy is not applicable.

Development of Effluent Limitations

Outfall No. 003 **Design Flow (MGD)** 0.12
Latitude 39º 44' 28" **Longitude** -77º 24' 37"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

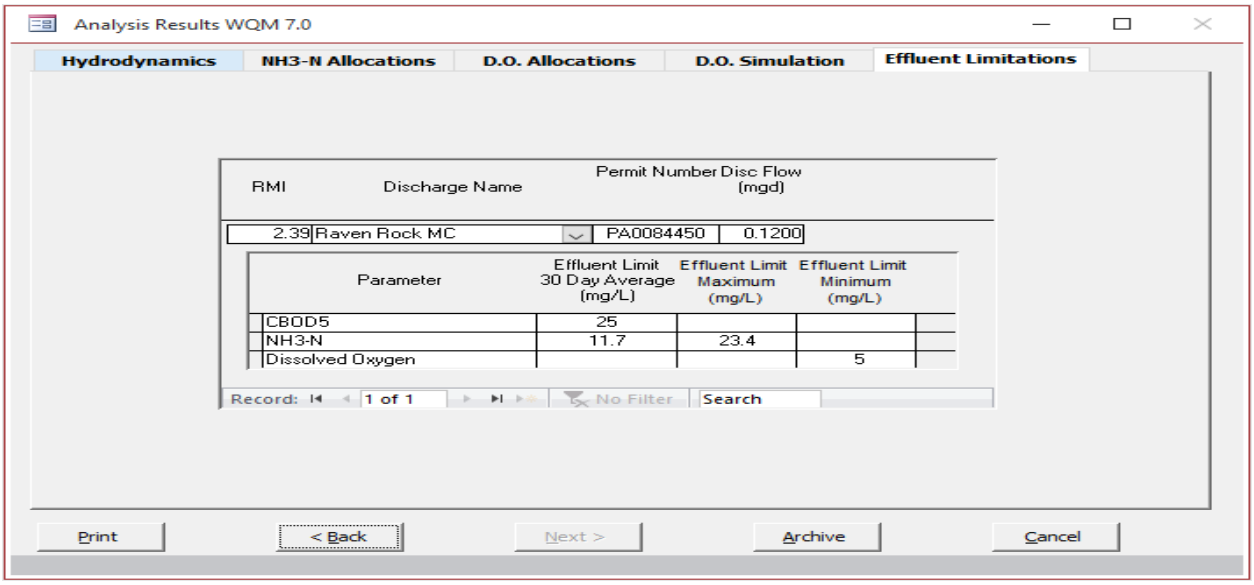
Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	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)

Comments: Total Residual Chlorine is not applied.

Water Quality-Based Limitations

Ammonia (NH_3-N):
NH_3-N calculations were based on the Department's Implementation Guidance of Section 93.7 Ammonia Criteria, dated 11/4/97 (ID No. 391-2000-013). The following data is necessary to determine the in-stream NH_3-N criteria used in the attached computer model of the stream:

* Discharge pH 7.0 (Default)
* Discharge Temperature 25°C (Default)
* Stream pH 7.0 (Default)
* Stream Temperature 20°C (Default)
* Background NH_3-N 0 mg/L (Assumed since no nearby upstream WWTPs)



Regarding NH_3-N limits, the attached computer printout of the WQM 7.0 stream model (version 1.1) indicates that a limit of 11.7 mg/L NH_3-N as a monthly average (AML) and 23.4 mg/L NH_3-N instantaneous maximum (IMAX) are necessary to protect the aquatic life from toxicity effects. However, the existing limits of 3.0 mg/L AML & 6.0 mg/L IMAX were more stringent and will remain in the proposed permit. The AML and IMAX winter limit will be 9.0 mg/L and 18.0 mg/L, respectively which is derived by multiplying the summer limits by a factor of 3. Recent DMRs and inspection reports indicate that the facility has been consistently achieving these limits. The minimum monitoring frequency will remain the same as 1/week per 362-0400-001.

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$):
The attached computer printout of the WQM 7.0 stream model (ver. 1.1) indicates that a monthly average limit (AML) of 25.0 mg/L, & 50.0 mg/L will remain in the proposed permit. Recent DMRs and inspection reports show that the facility has typically been achieving concentrations below this limit. The minimum monitoring frequency will remain the same as 1/week.

Dissolved Oxygen (D.O.):
The D.O. goal is 6.0 mg/L. However, a minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. It is recommended that this limit be maintained in the proposed permit to ensure the protection of water quality standards. This approach is consistent with DEP's current Standard Operating Procedure (SOP) No. BCW-PMT-033, version 1.9 revised March 22, 2021, and has been applied to other point source dischargers throughout the state.

pH:
The effluent discharge pH should remain above 6.0 and below 9.0 standard units according to 25 Pa. Code § 95.2(1).

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 25 Pa. Code § 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.

E. Coli:
As recommended by DEP's SOP No. BCW-PMT-033, version 1.9 revised March 22, 2021, a routine monitoring for E. Coli will be included in the permit under 25 Pa. Code § 92a.61. This requirement applies to all sewage dischargers greater than 0.002 MGD in their new and reissued permits. A monitoring frequency of 1/quarter will be included in the permit to be consistent with the recommendation from this SOP.

Total Suspended Solids (TSS):
The existing limits of 30.0 mg/L average monthly (AML), and 60.0 mg/L instantaneous maximum (IMAX) will remain in the permit based on the minimum level of effluent quality attainable by secondary treatment based on 25 Pa. Code § 92a.47. Past DMRs and inspection reports show that the facility has been consistently achieving these limits.

UV:
The UV system daily monitor and report the UV light intensity (mW/cm^2) will remain in the proposed permit.

Toxics:
There is no toxicity concern from this facility. Minor facilities are not required to report toxics if there is no industrial or commercial contribution per DEP's application form 3800-PM-BCW0342b revised 10/2017.

Total Phosphorus:
This facility is not located in Lower Susquehanna Sub-basin and the receiving stream doesn't have phosphorus related impairment. Local phosphorus limit is not warranted at this time. The facility, however, will be monitoring Total Phosphorus as part of Chesapeake Bay Tributary Strategy.

Total Dissolved Solids (TDS):
TDS and its associated solids including Bromide, Chloride, and Sulfate have become statewide pollutants of concern. The requirement to monitor these pollutants must be considered under the criteria specified in 25 Pa. Code § 95.10 and the following January 23, 2014 DEP Central Office Directive:

> *For point source discharges and upon issuance or reissuance of an individual NPDES permit:*
>
> *-Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor*

and report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.

-Where the concentration of bromide in a discharge exceeds 1 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.

-Where the concentration of 1,4-dioxane (CAS 123-91-1) in a discharge exceeds 10 µg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for 1,4-dioxane. Discharges of 0.1 MGD or less should monitor and report for 1,4-dioxane if the concentration of 1,4-dioxane in the discharge exceeds 100 µg/L.

The sample result shows that effluent contains a maximum TDS concentration of 312 mg/L (*reference see outfall No. 003 renewal application, page 6*). The maximum Bromide concentration is reported to be Non-detect. Thus, monitoring and reporting requirement will not be required for TDS, Sulfate, Chloride, and Bromide.

Chesapeake Bay Strategy:
According to DEP's Chesapeake Bay Phase II Watershed Implementation Plan (WIP) Wastewater Supplement, this facility is considered a phase 5 non-significant sewage discharger with design flow less than 0.2 MGD but greater than 0.002 MGD. In general, DEP will issue permits for all phase 5 facilities with monitoring and reporting for Total Nitrogen (TN) and Total Phosphorus (TP) throughout the permit term at a frequency no less than annually. Furthermore, DEP's SOP No. BPNPSM-PMT-033 states that in general, at a minimum, monitoring for TN and TP should be included in new and reissued permits for sewage discharges with design flows > 2,000 GPD. At this time, the Department is not requiring a total maximum annual nitrogen or phosphorus loading cap. Ammonia-Nitrogen, Nitrate-Nitrite as N, Total Kjeldahl Nitrogen, TN, and TP monitoring is already included in the existing permit and will remain in the proposed renewal.

The monthly "Monitor & Report" requirements for Ammonia-Nitrogen, Nitrate-Nitrite as N, and Total Kjeldahl Nitrogen; and yearly calculation "Monitor & Report" for Ammonia-N, TN, & TP will remain in the proposed permit.

WETT:
Minor facilities and facilities without a formal EPA approved pretreatment program are exempted from WETT.

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

Antidegradation (93.4)
The effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High-Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

Class A Wild Trout Fisheries
No Class A Wild Trout Fisheries are impacted by this discharge.

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	0
Latitude	39º 44' 22.00"	**Longitude**	-77º 24' 37.53"

Wastewater Description: Stormwater (Fuel receiving station oil water separator)

Development of Effluent Limitations

Outfall No.	004	**Design Flow (MGD)**	0
Latitude	39º 44' 23.00"	**Longitude**	-77º 25' 37.00"

Wastewater Description: Stormwater from a fire station

Development of Effluent Limitations

Outfall No.	005	**Design Flow (MGD)**	0
Latitude	39º 44' 21.09"	**Longitude**	-77º 24' 48.65"

Wastewater Description: Stormwater (Fuel receiving station oil water separator)

There is no sector specific limit related to stormwater from the industrial activity performed on the site. The “Industrial Activity” performed at the site is Sewage Treatment Works which is excluded from coverage under PAG-03 and must be covered under Stormwater Individual Permit. The stormwater activity is covered under the individual permit PA0084450 which will contain Best Management Practices (BMPs) conditions. The existing permit has Total Recoverable Petroleum Hydrocarbon (TRPH) monitoring only for Outfall Nos. 001, 004, and 005 which will be carried over in this renewal. The minimum monitoring frequency is 1/week when discharging.

WQM 7.0: Outfall 003

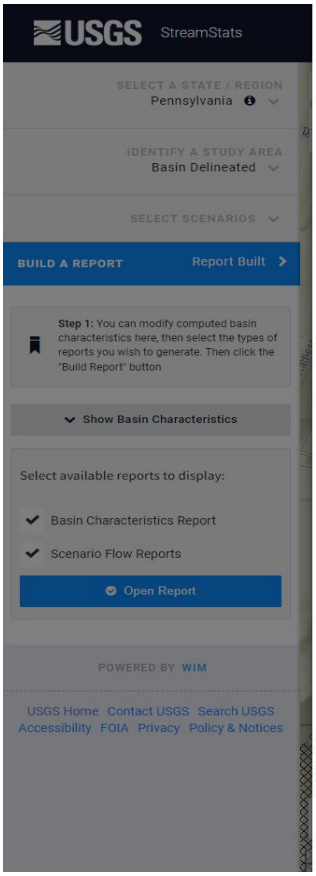
The following data were used in the attached computer model (WQM 7.0) of the stream:

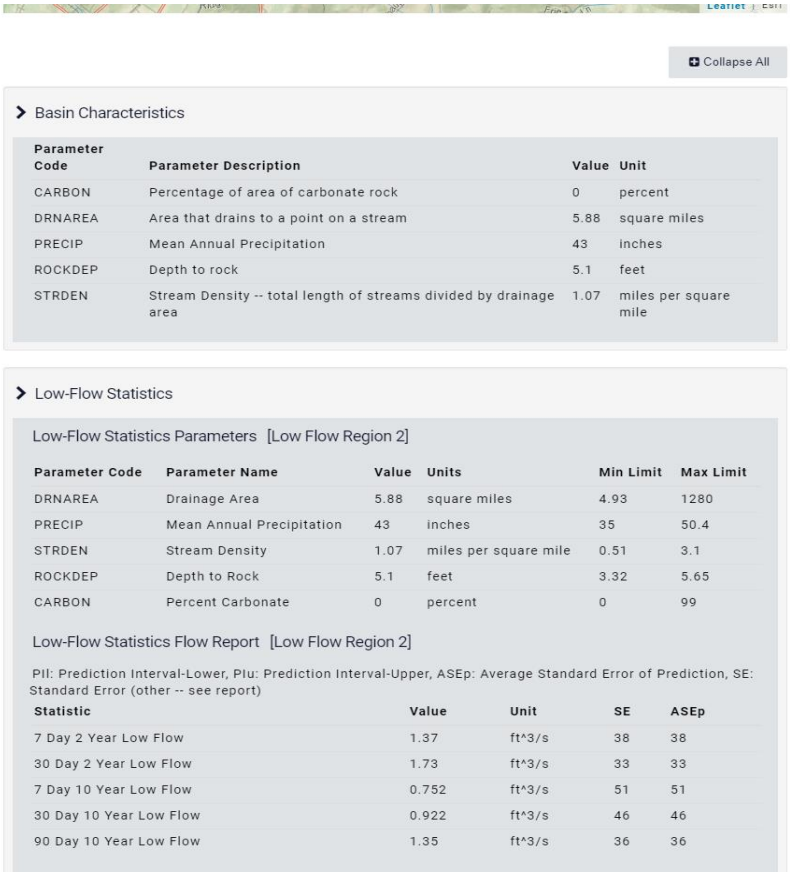
- Discharge pH 7.0 (Default)
- Discharge Temperature 25°C (Default)
- Stream pH 7.0 (Default)
- Stream Temperature 20°C (Default)

The following two nodes were used in modeling:

Node 1: Outfall 003 at Miney Branch (58760)
Elevation: 622.13 ft (USGS National Map)
Drainage Area: 5.88 mi^2 (USGS StreamStats)
River Mile Index: 2.39 (PA DEP eMapPA)
Low Flow Yield: 0.128 cfs/mi^2 (calculated)
Discharge Flow: 0.12 MGD

Node 2: At the confluence with Toms Creek
Elevation: 470.16 ft (USGS National Map)
Drainage Area: 8.55 mi^2 (USGS StreamStats)
River Mile Index: 0.001 (PA DEP eMapPA)
Low Flow Yield: 0.128 cfs/mi^2 (calculated)
Discharge Flow: 0.00 MGD





Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	5.88	square miles
PRECIP	Mean Annual Precipitation	43	inches
ROCKDEP	Depth to rock	5.1	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.07	miles per square mile

Low-Flow Statistics

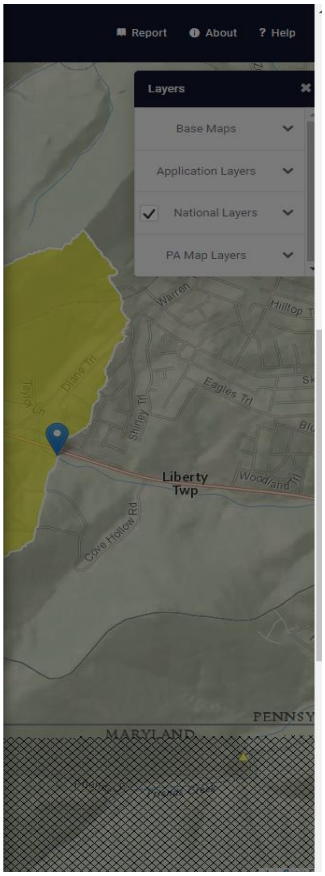
Low-Flow Statistics Parameters [Low Flow Region 2]

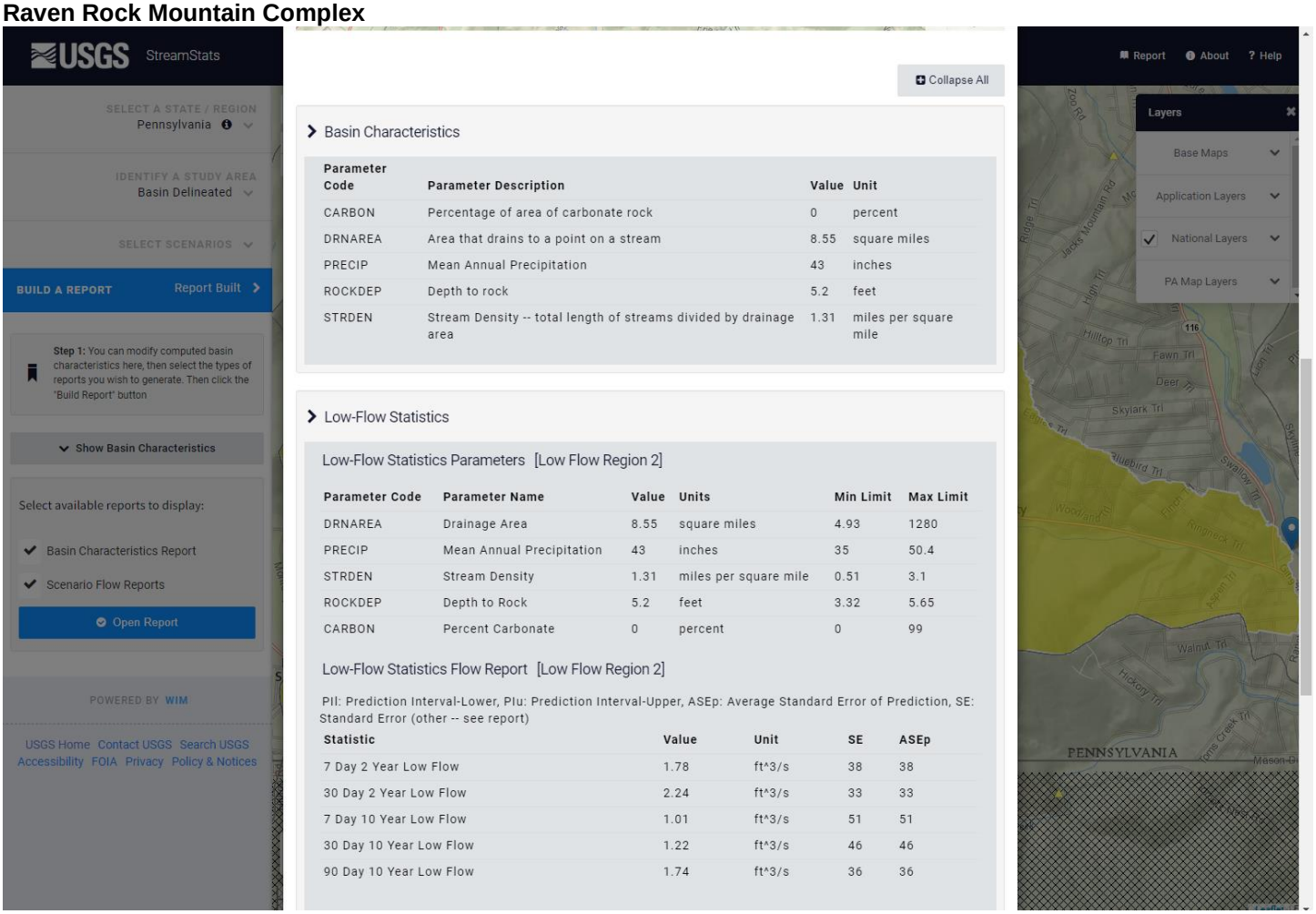
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	5.88	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	43	inches	35	50.4
STRDEN	Stream Density	1.07	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	5.1	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

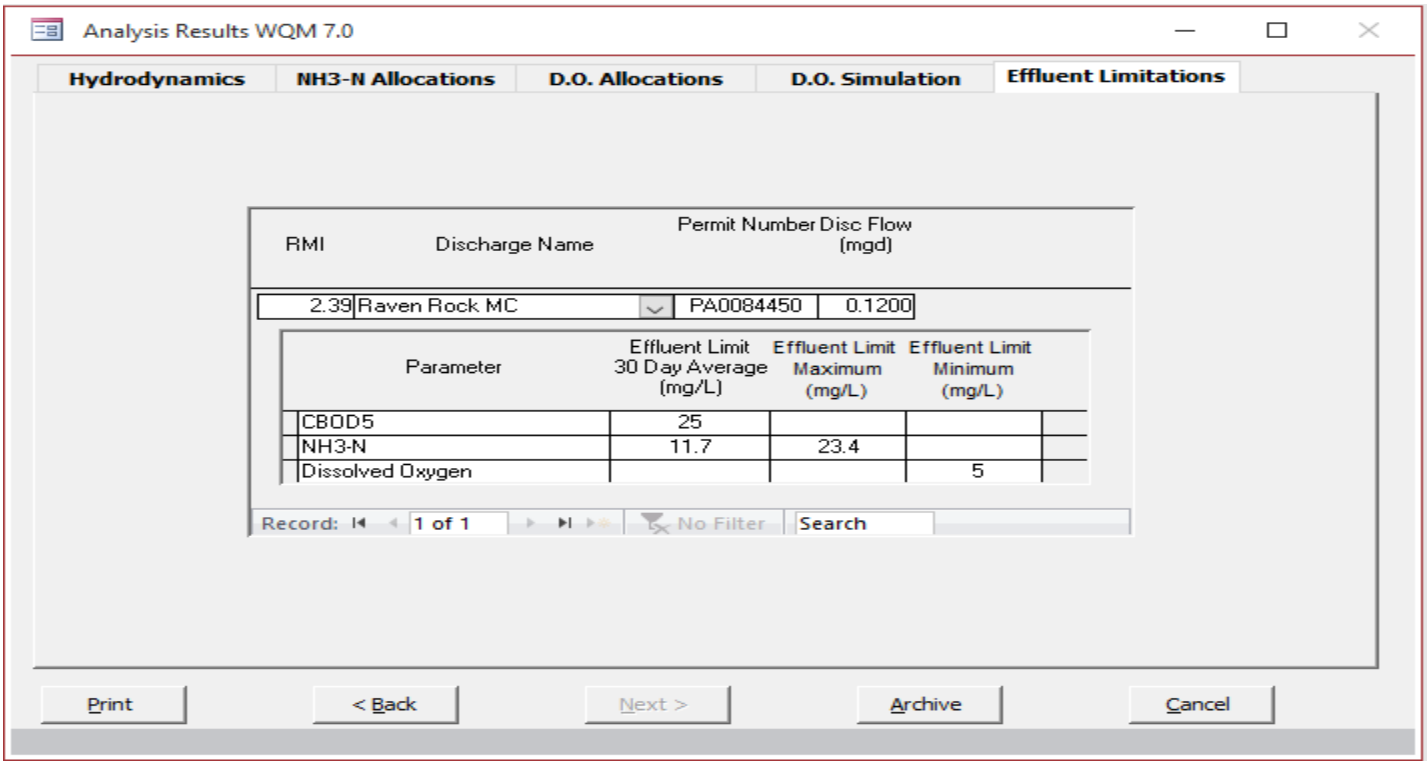
Low-Flow Statistics Flow Report [Low Flow Region 2]

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

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	1.37	ft^3/s	38	38
30 Day 2 Year Low Flow	1.73	ft^3/s	33	33
7 Day 10 Year Low Flow	0.752	ft^3/s	51	51
30 Day 10 Year Low Flow	0.922	ft^3/s	46	46
90 Day 10 Year Low Flow	1.35	ft^3/s	36	36




USGS StreamStats
SELECT A STATE / REGION
Pennsylvania
IDENTIFY A STUDY AREA
Basin Delineated
SELECT SCENARIOS
BUILD A REPORT
Report Built
Step 1: You can modify computed basin characteristics here, then select the types of reports you wish to generate. Then click the "Build Report" button
Show Basin Characteristics
Select available reports to display:
Basin Characteristics Report
Scenario Flow Reports
Open Report
POWERED BY WIM
USGS Home Contact USGS Search USGS
Accessibility FOIA Privacy Policy & Notices
Collapse All
Basin Characteristics
Parameter Code | Parameter Description | Value | Unit
CARBON | Percentage of area of carbonate rock | 0 | percent
DRNAREA | Area that drains to a point on a stream | 8.55 | square miles
PRECIP | Mean Annual Precipitation | 43 | inches
ROCKDEP | Depth to rock | 5.2 | feet
STRDEN | Stream Density -- total length of streams divided by drainage area | 1.31 | miles per square mile
Low-Flow Statistics
Low-Flow Statistics Parameters [Low Flow Region 2]
Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit
DRNAREA | Drainage Area | 8.55 | square miles | 4.93 | 1280
PRECIP | Mean Annual Precipitation | 43 | inches | 35 | 50.4
STRDEN | Stream Density | 1.31 | miles per square mile | 0.51 | 3.1
ROCKDEP | Depth to Rock | 5.2 | feet | 3.32 | 5.65
CARBON | Percent Carbonate | 0 | percent | 0 | 99
Low-Flow Statistics Flow Report [Low Flow Region 2]
PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)
Statistic | Value | Unit | SE | ASEp
7 Day 2 Year Low Flow | 1.78 | ft^3/s | 38 | 38
30 Day 2 Year Low Flow | 2.24 | ft^3/s | 33 | 33
7 Day 10 Year Low Flow | 1.01 | ft^3/s | 51 | 51
30 Day 10 Year Low Flow | 1.22 | ft^3/s | 46 | 46
90 Day 10 Year Low Flow | 1.74 | ft^3/s | 36 | 36
Report
About
Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers
PENNSYLVANIA


Analysis Results WQM 7.0
Hydrodynamics
NH3-N Allocations
D.O. Allocations
D.O. Simulation
Effluent Limitations
RMI
Discharge Name
Permit Number
Disc Flow (mgd)
2.39
Raven Rock MC
PA0084450
0.1200
Parameter
Effluent Limit 30 Day Average (mg/L)
Effluent Limit Maximum (mg/L)
Effluent Limit Minimum (mg/L)
CBOD5
25
NH3-N
11.7
23.4
Dissolved Oxygen
5
Record: 1 of 1
No Filter
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Cancel

rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
13D	58760	MINEY BRANCH

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Eff. Limit 30-day Ave. (mg/L)	Eff. Limit Maximum (mg/L)	Eff. Limit Minimum (mg/L)
2.390	Raven Rock MC	PA0084450	0.120	CBOD5	25		
				NH3-N	11.7	23.4	
				Dissolved Oxygen			5

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rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
13D	58760	MINEY BRANCH

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
2.390	Raven Rock MC	14.94	50	14.94	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
2.390	Raven Rock MC	1.8	11.7	1.8	11.7	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5 Baseline (mg/L)	CBOD5 Multiple (mg/L)	NH3-N Baseline (mg/L)	NH3-N Multiple (mg/L)	Dissolved Oxygen Baseline (mg/L)	Dissolved Oxygen Multiple (mg/L)	Critical Reach	Percent Reduction
2.39	Raven Rock MC	25	25	11.7	11.7	5	5	0	0

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rptDOSim

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
13D	58760	MINEY BRANCH

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
2.390	0.120	20.989	7.000
Reach Width (ft)	Reach Depth (ft)	Reach WCRatio	Reach Velocity (fps)
12.644	0.502	25.183	0.148
Reach CBOD5 (mg/L)	Reach Kc (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
6.55	0.874	2.31	0.755
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
7.861	22.033	Owens	6
Reach Travel Time (days)			
0.989			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.099	5.98	2.15	8.09
0.198	5.47	1.99	8.09
0.297	4.99	1.85	8.09
0.395	4.56	1.72	8.09
0.494	4.17	1.59	8.09
0.593	3.81	1.48	8.09
0.692	3.48	1.37	8.09
0.791	3.18	1.27	8.09
0.890	2.90	1.18	8.09
0.989	2.65	1.10	8.09

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rptModelSpecs

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q5-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.84	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	6		

Wednesday, October 11, 2023 Version 1.1 Page 1 of 1

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rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
13D	58760	MINEY BRANCH

RM	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												
2.390	0.75	0.00	0.75	.1896	0.01205	.502	1.284	25.16	0.15	0.989	20.99	7.00
Q1-10 Flow												
2.390	0.48	0.00	0.48	.1896	0.01205	NA	NA	NA	0.12	1.198	21.39	7.00
Q30-10 Flow												
2.390	1.02	0.00	1.02	.1896	0.01205	NA	NA	NA	0.17	0.858	20.77	7.00

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rptGeneral

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RM	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
13D	58760	MINEY BRANCH	2.390	622.13	5.88	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	0.128	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
Raven Rock MC	PA0084450	0.1200	0.1200	0.1200	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

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rptGeneral

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RM	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
13D	58760	MINEY BRANCH	0.001	470.16	8.55	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	0.128	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
Raven Rock MC	PA0084450	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	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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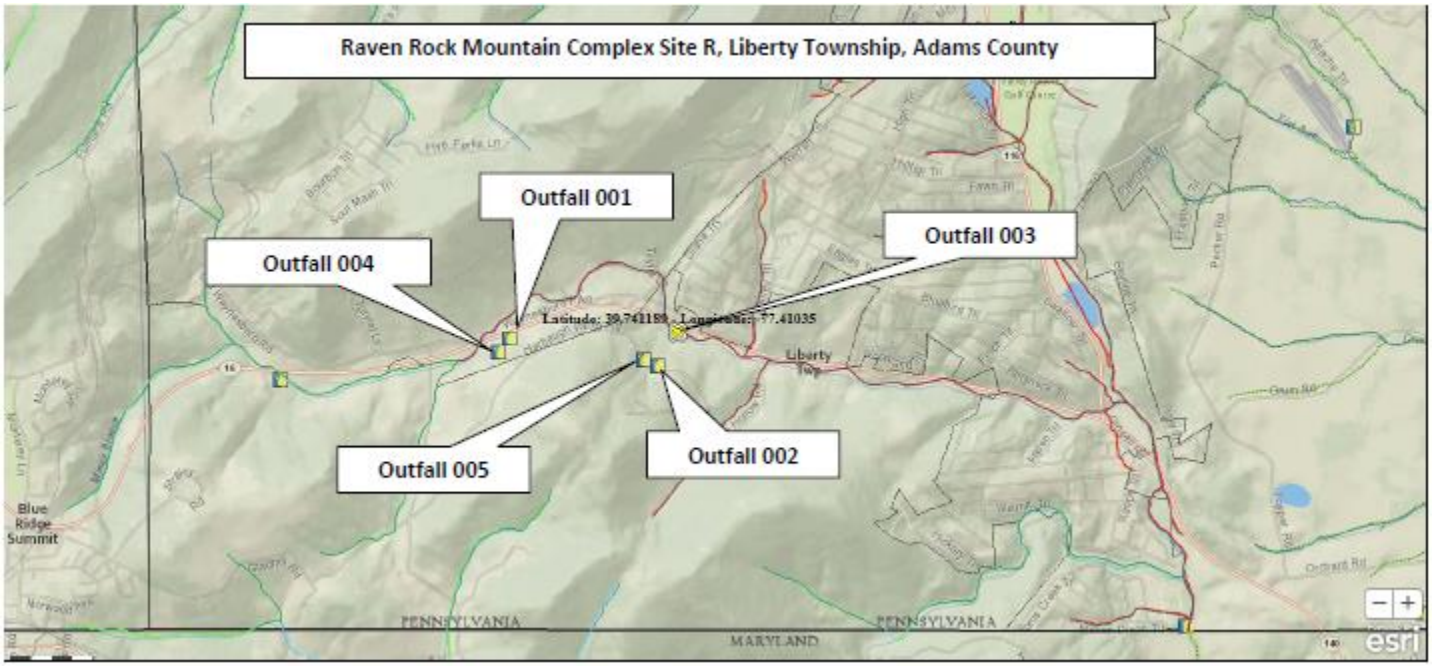
Page: 2 No Filter


Raven Rock Mountain Complex Site R, Liberty Township, Adams County
Outfall 001
Outfall 003
Outfall 004
Outfall 005
Outfall 002
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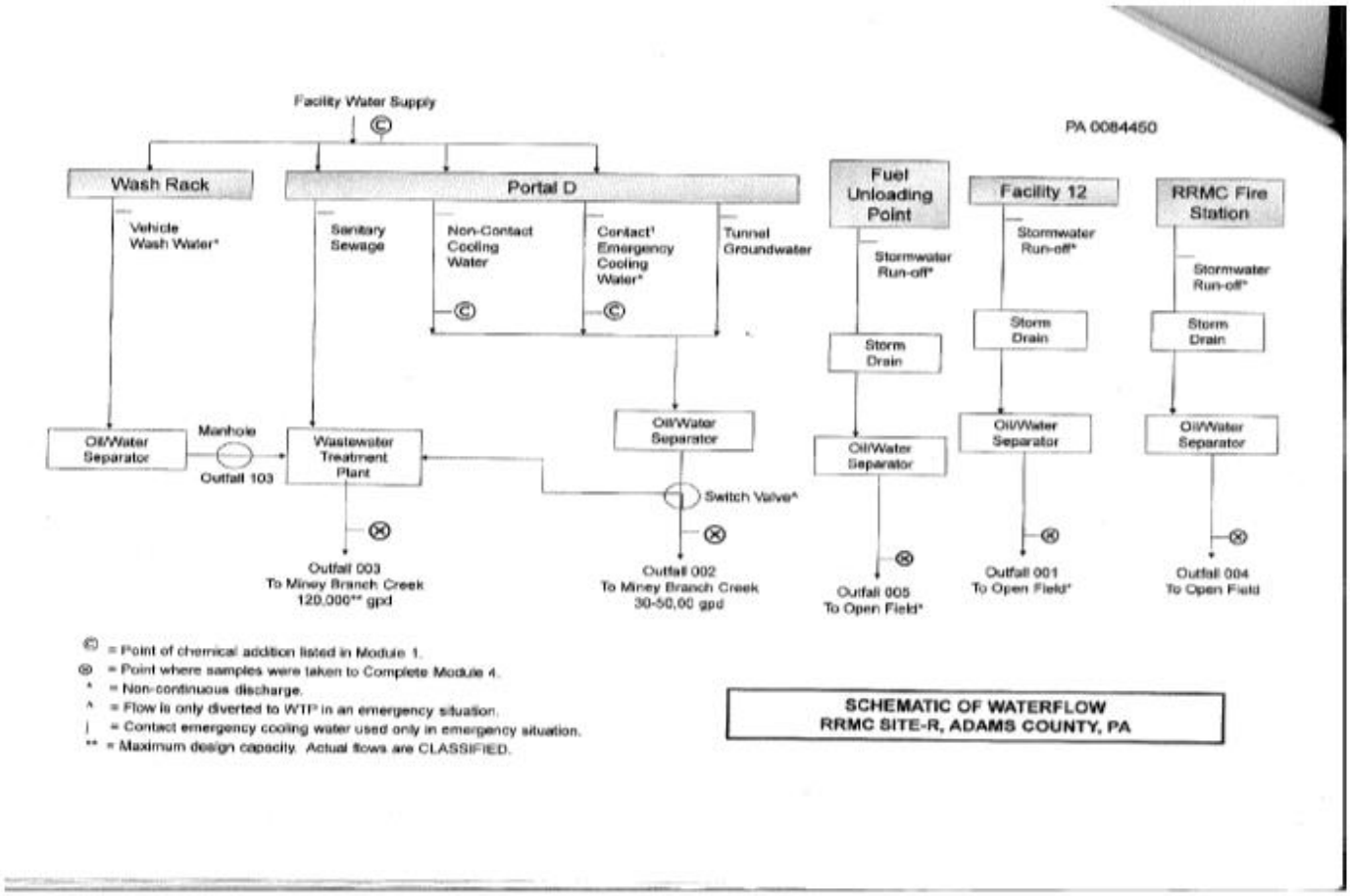
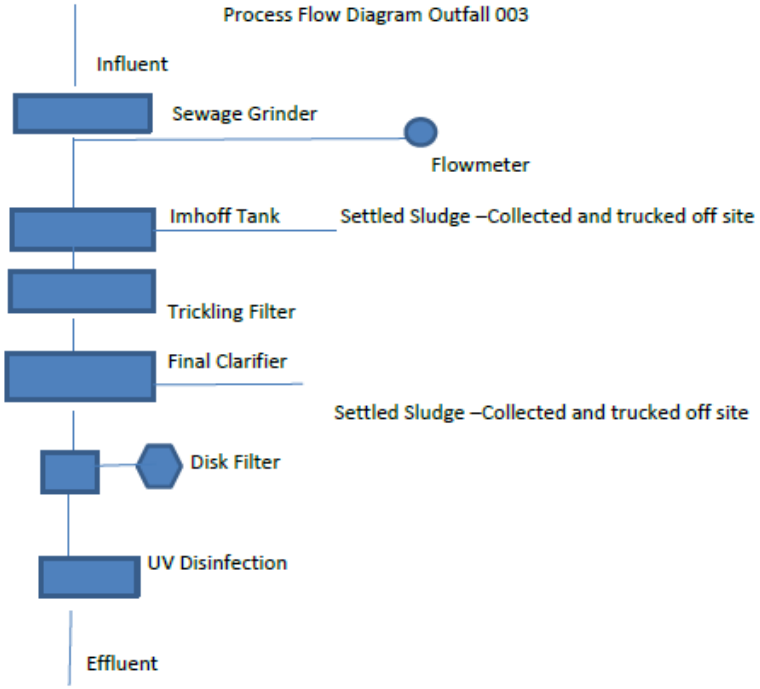
Liberty
Blue Ridge Summit
PENNSYLVANIA
MARYLAND
PENNSYLVANIA
esri


PA 0084450
Facility Water Supply
Wash Rack
Portal D
Fuel Unloading Point
Facility 12
RRMC Fire Station
Vehicle Wash Water*
Sanitary Sewage
Non-Contact Cooling Water
Contact¹ Emergency Cooling Water*
Tunnel Groundwater
Stormwater Run-off*
Stormwater Run-off*
Stormwater Run-off*
Storm Drain
Storm Drain
Storm Drain
Oil/Water Separator
Manhole
Outfall 103
Wastewater Treatment Plant
Oil/Water Separator
Oil/Water Separator
Oil/Water Separator
Oil/Water Separator
Switch Valve^
Outfall 003
To Miney Branch Creek
120,000** gpd
Outfall 002
To Miney Branch Creek
30-50,00 gpd
Outfall 005
To Open Field*
Outfall 001
To Open Field*
Outfall 004
To Open Field
© = Point of chemical addition listed in Module 1.
⊗ = Point where samples were taken to Complete Module 4.
* = Non-continuous discharge.
^ = Flow is only diverted to WTP in an emergency situation.
| = Contact emergency cooling water used only in emergency situation.
** = Maximum design capacity. Actual flows are CLASSIFIED.
SCHEMATIC OF WATERFLOW
RRMC SITE-R, ADAMS COUNTY, PA


Process Flow Diagram Outfall 003
Influent
Sewage Grinder
Flowmeter
Imhoff Tank
Settled Sludge –Collected and trucked off site
Trickling Filter
Final Clarifier
Settled Sludge –Collected and trucked off site
Disk Filter
UV Disinfection
Effluent

Existing Effluent Limitations and Monitoring Requirements

Outfall 001,

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	Daily Maximum	Maximum	Instant. Maximum		
TRPH	XXX	XXX	XXX	Report	XXX	XXX	Weekly when Discharging	Grab

Existing Effluent Limitations and Monitoring Requirements

Outfall 002,

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	Estimate
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	XXX	9.0	1/week	Grab
Temperature (ºF) Dec 1 - May 31	XXX	XXX	XXX	XXX	110 Daily Max	XXX	1/day	I-S
Temperature (ºF) Jun 1 - 30	XXX	XXX	XXX	XXX	94 Daily Max	XXX	1/day	I-S
Temperature (ºF) Jul 1 - 31	XXX	XXX	XXX	XXX	86 Daily Max	XXX	1/day	I-S
Temperature (ºF) Aug 1 - 31	XXX	XXX	XXX	XXX	82 Daily Max	XXX	1/day	I-S
Temperature (ºF) Sep 1 - 30	XXX	XXX	XXX	XXX	71 Daily Max	XXX	1/day	I-S
Temperature (ºF) Oct 1 - Nov 30	XXX	XXX	XXX	XXX	65 Daily Max	XXX	1/day	I-S
Oil and Grease	XXX	XXX	XXX	15.0	XXX	30.0	1/month	Grab

Existing Effluent Limitations and Monitoring Requirements

Outfall 003,

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Daily Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Intensity (mW/cm^2)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
$CBOD_5$	XXX	XXX	XXX	25	XXX	50	1/week	8-Hr Composite
TSS	XXX	XXX	XXX	30	XXX	60	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	3.0	XXX	6	1/week	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	9.0	XXX	18	1/week	8-Hr Composite
Oil and Grease	XXX	XXX	XXX	15.0	XXX	30	1/month	Grab

Existing Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, to comply with Pennsylvania's Chesapeake Bay Tributary Strategy.

Outfall 003,

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	1/month	8-Hr Composite

Existing Effluent Limitations and Monitoring Requirements

Outfall 004,

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	Daily Maximum	Maximum	Instant. Maximum		
TRPH	XXX	XXX	XXX	Report	XXX	XXX	Weekly when Discharging	Grab

Existing Effluent Limitations and Monitoring Requirements

Outfall 005,

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	Daily Maximum	Maximum	Instant. Maximum		
TRPH	XXX	XXX	XXX	Report	XXX	XXX	Weekly when Discharging	Grab

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	Daily Maximum	Maximum	Instant. Maximum		
TRPH	XXX	XXX	XXX	Report	XXX	XXX	Weekly when Discharging	Grab

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 002, 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	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/week	Estimate
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/week	Grab
Temperature (ºF) Dec 1 - May 31	XXX	XXX	XXX	XXX	110 Daily Max	XXX	1/day	I-S
Temperature (ºF) Jun 1 - 30	XXX	XXX	XXX	XXX	94 Daily Max	XXX	1/day	I-S
Temperature (ºF) Jul 1 - 31	XXX	XXX	XXX	XXX	86 Daily Max	XXX	1/day	I-S
Temperature (ºF) Aug 1 - 31	XXX	XXX	XXX	XXX	82 Daily Max	XXX	1/day	I-S
Temperature (ºF) Sep 1 - 30	XXX	XXX	XXX	XXX	71 Daily Max	XXX	1/day	I-S
Temperature (ºF) Oct 1 - Nov 30	XXX	XXX	XXX	XXX	65 Daily Max	XXX	1/day	I-S
Oil and Grease	XXX	XXX	XXX	15.0	XXX	30.0	1/month	Grab

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 003, 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	Daily Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Intensity (mW/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
$CBOD_5$	XXX	XXX	XXX	25.0	XXX	50.0	1/week	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60.0	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	3.0	XXX	6.0	1/week	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	9.0	XXX	18.0	1/week	8-Hr Composite
Oil and Grease	XXX	XXX	XXX	15.0	XXX	30.0	1/month	Grab

Compliance Sampling Location:

Other Comments:

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 003, 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
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	1/month	8-Hr Composite

Compliance Sampling Location:

Other Comments:

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 004, 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	Daily Maximum	Maximum	Instant. Maximum		
TRPH	XXX	XXX	XXX	Report	XXX	XXX	Weekly when Discharging	Grab

Compliance Sampling Location:

Other Comments:

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 005, 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	Daily Maximum	Maximum	Instant. Maximum		
TRPH	XXX	XXX	XXX	Report	XXX	XXX	Weekly when Discharging	Grab

Compliance Sampling Location:

Other Comments:

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: BCW-PMT-033
☐	Other: