pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0247669**
Facility Type	**Non-Municipal**	APS ID	**546077**
Major / Minor	**Minor**	Authorization ID	**1327435**

Applicant and Facility Information

Applicant Name	**John E. Groninger, Inc.**	Facility Name	**Arch Rock Development STP**
Applicant Address	PO Box 36	Facility Address	Arch Rock Development
	Mexico, PA 17056-0036		Mifflintown, PA 17054
Applicant Contact	David Bomberger	Facility Contact	David Bomberger
Applicant Phone	(717) 436-6982	Facility Phone	(717) 436-6982
Client ID	169402	Site ID	646661
Ch 94 Load Status	Not Overloaded	Municipality	Fermanagh Township
Connection Status	No Limitations	County	Juniata
Date Application Received	September 14, 2020	EPA Waived?	Yes
Date Application Accepted	September 18, 2020	If No, Reason	

Purpose of Application: NPDES permit renewal.

Summary of Review

On behalf of John E. Groninger, Inc., Skelly and Loy, Inc. has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit No. PA0247669. The permit was issued on February 24, 2016 and became effective on April 1, 2016. The permit authorized discharge of treated sewage from the existing wastewater treatment plant (WWTP) located in Fermanagh Township, Juniata County to Horning Run. The existing permit expiration date is March 31, 2021.

The average annual and hydraulic capacity flow are 0.04 MGD.

WQM Part II No. 3406401 original was issued on April 24, 2006.

Sludge use and disposal description and location(s): N/A due to sewage hauler Skelly and Loy, Inc.

Changes from the previous permit: Unit of Fecal Coliform changed from CFU/100 ml to No./100 ml.

Based on the review outline in this fact sheet, it is recommended that the permit be drafted and published in the Pennsylvania Bulletin for public comments for 30 days.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	January 29, 2021
		Daniel W. Martin, P.E. / Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.04
Latitude	40º 35' 49.08"	Longitude	-77º 24' 53.04"
Quad Name	Mifflintown	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Horning Run (CWF & MF)	Stream Code	12339
NHD Com ID	66204755	RMI	0.32
Drainage Area	6.8 mi.^{2}	Yield (cfs/mi^2)	See comment below
Q_{7-10} Flow (cfs)	See comment below	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	442	Slope (ft/ft)	
Watershed No.	12-A	Chapter 93 Class.	CWF & MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Mifflintown Municipal Authority, Juniata County		
PWS Waters	Juniata River	Flow at Intake (cfs)	
PWS RMI	34.4 miles	Distance from Outfall (mi)	Approximate 2.2 miles

Changes Since Last Permit Issuance: none

Drainage Area:
The discharge is to Horning Run at RMI 0.32 mile. A drainage area upstream of the discharge is estimated to be 6.8 mi.^{2}, according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow:
There are no nearby stream gages with low flow data that have extensive or recent periods of record. Since USGS PA StreamStats estimated the drainage area that is below the minimum value allowed by USGS's regression equations, the USGS StreamStats on Juniata River in the Juniata County, RMI 36.3 miles, will be used to calculate the Q_{7-10} at the point of discharge using a low flow yield method. The Q_{7-10} here is 330 cfs and the drainage area is 28,000 mi.^{2} which results in a Q_{7-10} low flow yield of 0.12 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):

Low Flow Yield = 330 cfs/28,000 mi.^{2} = 0.12 cfs/mi.^{2}
Q_{7-10} = 6.8 mi.^{2} x 0.12 cfs/mi.^{2} = 0.8 cfs
Q_{30-10} = 1.36 x 0.8 cfs = 1.09 cfs
Q_{1-10} = 0.64 x 0.8 cfs = 0.51 cfs

The resulting Q_{7-10} dilution ratio is: Q_{stream} / $Q_{discharge}$ = 0.8 cfs / [0.04 MGD * (1.547 cfs/MGD)] = 12.9:1

Horning Run:
25 Pa. Code § 93.9n classifies Horning Run as Cold-Water Fishes (CWF) and Migratory Fishes (MF). Based on the 2018 Integrated Report, Horning Run, assessment unit IDs 400 & 21486, is not impaired. A TMDL currently does not exist for this stream segment, therefore, no TMDL has been taken into consideration during this review.

Public Water Supply:
The closest water supply intake is located downstream from the discharge in the Mifflintown Municipal Authority, Juniata County approximately 2.2 miles from the point of discharge. Given the nature and dilution, the discharge is not expected to significantly impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: Arch Rock Development STP				
WQM Permit No.	**Issuance Date**			
3406401	4/24/2006			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Tertiary	Activated Sludge With Solids Removal	Gas Chlorine	0.04
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.04	80	Not Overloaded		

Changes Since Last Permit Issuance: none

Other Comments:

Arch Rock Development STP is a 0.04 MGD Minor Sewer Facility (MISF1) which serves a development of approximately 10 acres and will include approximately 100 to 125 apartments and a 2 acres commercial site. The existing development includes apartments, a state police barracks building, and an office building. The treatment facility consists of the following components:

- Two 10,000 GPD Cromaglass CA-150D aerobic treatment units,
- Two 5,000-gallon Cromaglass for coagulation/floc tank and chlorine contact,
- Two 5,000-gallon Cromaglass aerated sludge processing tanks,
- Discharge pipe to Horning Run.

Chemical used chlorine tablets for disinfection, lime/sodium hydroxide for maintaining alkalinity and pH adjustments.

Compliance History	
Summary of DMRs:	The DMRs reported from December 1, 2019 to November 30, 2020 is summarized in the Table below (Pages # 3 & 4).
Summary of Inspections:	3/3/2016: Mr. Bowen, DEP WQS, conducted compliance evaluation inspection. Field test results were within permitted limits except the TRC IMAX limit exceeded. Plant effluent appeared clear. 8/29/2017: Mr. Bowen, DEP WQS, conducted compliance evaluation inspection. Field test results were within permitted limits. Plant effluent appeared clear.
Other Comments:	There are currently no open violations associated to the permittee or the facility

Other Comments:

Compliance History

DMR Data for Outfall 001 (from December 1, 2019 to November 30, 2020)

Parameter	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19
Flow (MGD) Average Monthly	0.005	0.005	0.006	0.005	0.006	0.004	0.005	0.005	0.004	0.005	0.006	0.005
Flow (MGD) Daily Maximum	0.007	0.008	0.011	0.008	0.010	0.006	0.011	0.008	0.008	0.008	0.008	0.008
pH (S.U.) Minimum	7.2	7.26	7.3	7.04	7.14	7.11	7.17	7.1	7.2	7.17	7.19	7.12
pH (S.U.) Maximum	7.6	7.65	7.6	7.6	7.39	7.54	7.39	7.4	7.4	7.41	7.41	7.42
DO (mg/L) Minimum	5.2	5.1	5.2	5.1	5.16	5.16	5.1	5.2	5.16	5.1	5.12	5.16
TRC (mg/L) Average Monthly	0.42	0.46	0.34	0.24	0.22	0.26	0.29	0.2	0.25	0.29	0.26	0.26
TRC (mg/L) Instantaneous Maximum	0.9	0.88	0.9	1.0	0.56	0.68	0.68	0.8	0.49	0.68	0.71	0.62
CBOD5 (mg/L) Average Monthly	< 3	2.9	< 2.6	3	< 2.6	3.1	< 2.8	7	4.2	7.9	3.5	6.4
TSS (mg/L) Average Monthly	8	6	< 5	6	7	9	< 8	15	21	17	22	18
Fecal Coliform (CFU/100 ml) Geometric Mean	< 2	37	< 1	< 1	< 14	< 65	< 1	< 7	< 3	44	408	700
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	3	450	< 1	1	200	5300	< 1	53	7	645	520	7000
Nitrate-Nitrite (mg/L) Average Monthly	38.5	< 41.4	< 44.5	< 29.48	< 33.6	< 30	< 29.2	< 20.2	< 30	< 36.7	< 30.4	< 21.9
Nitrate-Nitrite (lbs) Total Monthly	2	< 63	< 96	< 41	< 39	< 34	< 35	< 23	< 31	< 58	< 44	< 31
Total Nitrogen (mg/L) Average Monthly	< 40	< 41.7	< 45.5	< 30.5	< 34.6	31.1	< 30.9	< 22.1	< 31.6	< 38.2	< 31.7	< 23.6
Total Nitrogen (lbs) Total Monthly	< 3	< 65	< 98	< 43	< 40	< 35	< 36	< 25	< 33	< 60	< 46	< 34
Total Nitrogen (lbs) Total Annual			< 586									
Ammonia (mg/L) Average Monthly	< 0.2	< 0.129	< 0.11	0.527	< 0.284	< 0.171	< 0.153	< 0.33	0.228	< 0.159	0.382	< 0.18
Ammonia (lbs) Total Monthly	< 0.3	< 0.2	< 0.2	0.8	< 0.3	< 0.2	< 0.2	< 0.3	0.2	< 0.3	0.5	< 0.2

TKN (mg/L) Average Monthly	< 1.0	< 1	< 1	< 1	< 1	< 1.1	< 1.7	1.9	1.6	1.5	< 1.4	< 1.8
TKN (lbs) Total Monthly	< 0.06	< 2	< 2	< 1	< 1	< 1	< 2	< 2	2	2	< 2	< 3
Total Phosphorus (mg/L) Average Monthly	6.8	6.6	6.6	7.1	8.2	7.5	6	2.7	8.2	7	6.6	7.9
Total Phosphorus (lbs) Total Monthly	9	10	14	10	10	8	7	4	8	11	10	11
Total Phosphorus (lbs) Total Annual			117									

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.04
Latitude 40º 35' 49.00" **Longitude** -77º 24' 53.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments:

Best Professional Judgment (BPJ) Limitations

Ammonia (NH_3-N):
WQM 7.0 suggested NH_3-N limit of 25 mg/l as monthly average and 50 mg/l as instantaneous maximum limit during summer to protect water quality standards. Therefore, the permittee is not required to monitor or report NH_3-N for the proposed permit.

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$):
The WQM 7.0 modeling results show that secondary treatment is adequate to protect the water quality of the stream. The model suggests a monthly average $CBOD_5$ limit to be 25 mg/l year-round which is also consistent with current permit. Recent DMRs and inspection reports show that the facility has been consistently achieving concentrations below this existing limit. Reporting requirement of 2/month will also remain the same in the proposed permit.

Dissolved Oxygen (D.O.):
A minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. This is consistent with the previous permit renewal and current Department criteria.

pH:
The effluent discharge pH should remain above 6 and below 9 standard units according to 25 Pa. Code § 95.2(1) which is consistent with previous permit renewal.

Total Suspended Solids (TSS):
There is no water quality criterion for TSS. The existing limits of 30 mg/L average monthly and 60 mg/L instantaneous maximum will remain in the proposed permit based on the minimum level of effluent quality attainable by secondary treatment, 25 Pa. Code § 92a.47 and 40CFR 133.102(b). Recent DMRs and inspection reports show that the facility has been consistently achieving concentrations below these limits.

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. Therefore, instantaneous maximum limits for summer and winter seasons will be introduced in this renewal to be consistent with regulations. Inspection reports are showing that the permittee is capable of meeting this requirement.

Total Residual Chlorine (TRC):
The attached TRC_CALC printout utilizes the equations and calculations as presented in the Department's 2003 Implementation Guidance for Total Residual Chlorine (TRC) (Document ID#391-2000-015) for developing chlorine limitations. The attached printout indicates that a water quality limit of 0.5 mg/l as average monthly limit and 1.6 mg/l as instantaneous maximum would be needed to prevent toxicity concerns; however, the existing permit has the IMAX value to be 1.0 mg/l which is more stringent. Due to federal anti-backsliding policy, the existing limits will be carried over in the proposed permit. The reporting frequency will also remain the same.

Chesapeake Bay Strategy:
The Department formulated a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). Sewage discharges have been prioritized by Central Office based on their delivered TN loadings to the Bay. The highest priority (Phases I, II, and III) dischargers will receive annual loading caps based on their design flow on August 29, 2005 and concentrations of 6 mg/L TN and 0.8 mg/L TP. These limits may be achieved through a combination of treatment technology, credits, or offsets. Phase IV (0.2 -0.4 MGD) will be required to monitor and report TN and TP during permit renewal monthly and Phase V (below 0.2 MGD) will monitor during current permit renewal once a year. However, any facility in Phases IV and V that undergoes expansion is subjected to cap load right away. This plant, classified as a phase V, will be required to monitor and report for Total Phosphorus, Nitrate-Nitrite as N, Total Kjeldahl Nitrogen, and Total Nitrogen.

The 2/month "Monitor & Report" requirements for Nitrate-Nitrite as N, and Total Kjeldahl Nitrogen; and 2/month calculation "Monitor & Report" for TN will remain in the proposed permit. The yearly calculation "report" for TP & TN will remain in the proposed permit.

Stormwater:
There is no stormwater outfall associated with this facility.

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.

303d Listed Streams:
The discharge is not located on a 303d listed stream segment. The stream segment that receive the discharge is listed as attaining its used for aquatic life and fish consumption.

WQM 7.0:

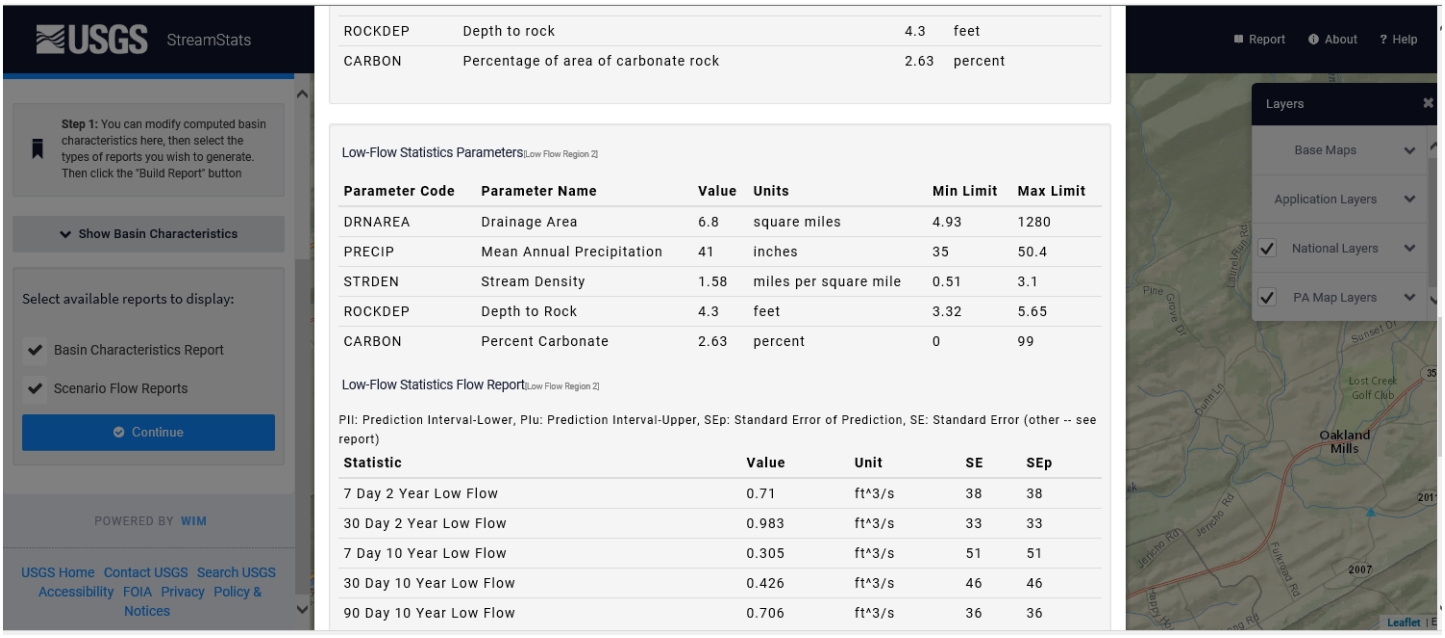
The following data were used in the attached computer model (WQM 7.0) of the stream:

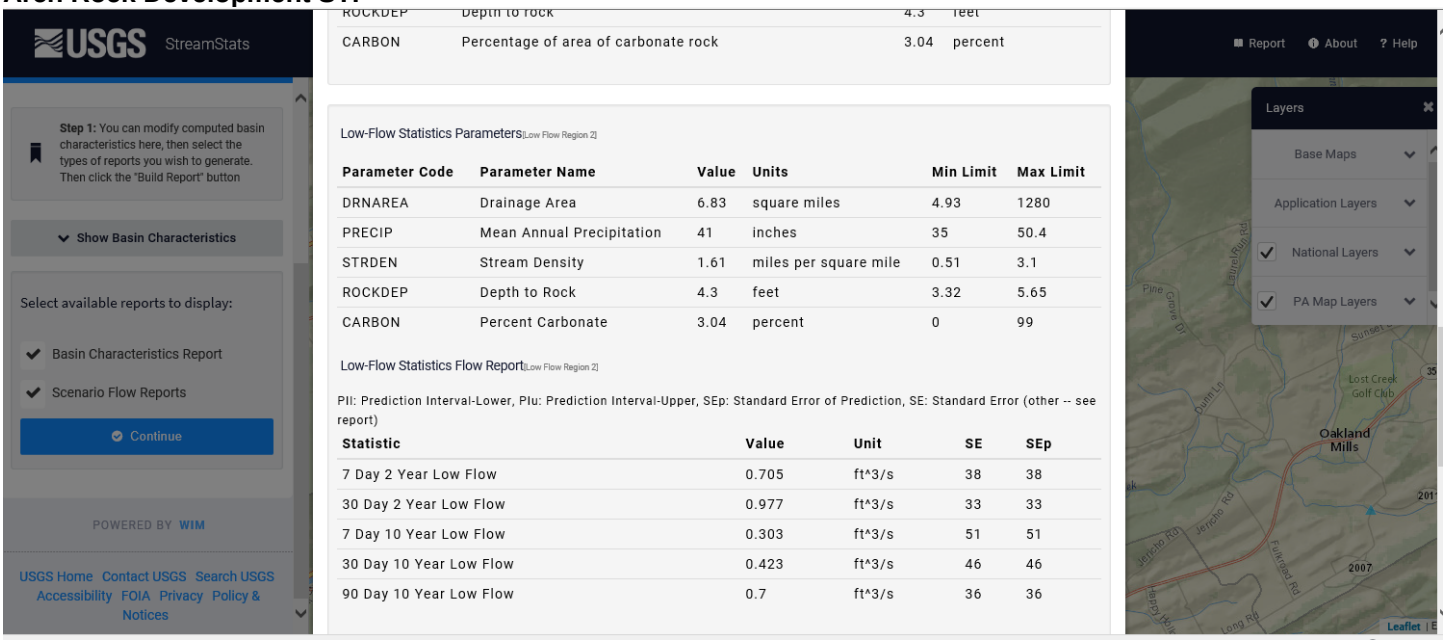
- Discharge pH 7.0 (Default)
- Discharge Temperature 20°C (Default value)
- Stream pH 7.0 (Default)
- Stream Temperature 20°C (Default, CWF)

The following two nodes were used in modeling:

Node 1: Outfall 001 on Horning Run (12339)
Elevation: 442 ft (USGS National Map Viewer)
Drainage Area: 6.8 mi^2 (USGS PA StreamStats)
River Mile Index: 0.32 (PA DEP eMapPA)
Low Flow Yield: 0.12 cfs/mi^2 (0.12)
Discharge Flow: 0.04 MGD

Node 2: At the confluence with Juniata River
Elevation: 421.58 ft (USGS National Map Viewer)
Drainage Area: 6.83 mi^2 (USGS PA StreamStats)
River Mile Index: 0.001 (PA DEP eMapPA)
Low Flow Yield: 0.12 cfs/mi^2
Discharge Flow: 0.0 MGD





USGS StreamStats

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

Continue

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ROCKDEP	Depth to rock	4.3	feet
CARBON	Percentage of area of carbonate rock	3.04	percent

Low-Flow Statistics Parameters[Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.83	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
STRDEN	Stream Density	1.61	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.3	feet	3.32	5.65
CARBON	Percent Carbonate	3.04	percent	0	99

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

PII: Prediction Interval-Lower, Plu: 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	0.705	ft^3/s	38	38
30 Day 2 Year Low Flow	0.977	ft^3/s	33	33
7 Day 10 Year Low Flow	0.303	ft^3/s	51	51
30 Day 10 Year Low Flow	0.423	ft^3/s	46	46
90 Day 10 Year Low Flow	0.7	ft^3/s	36	36

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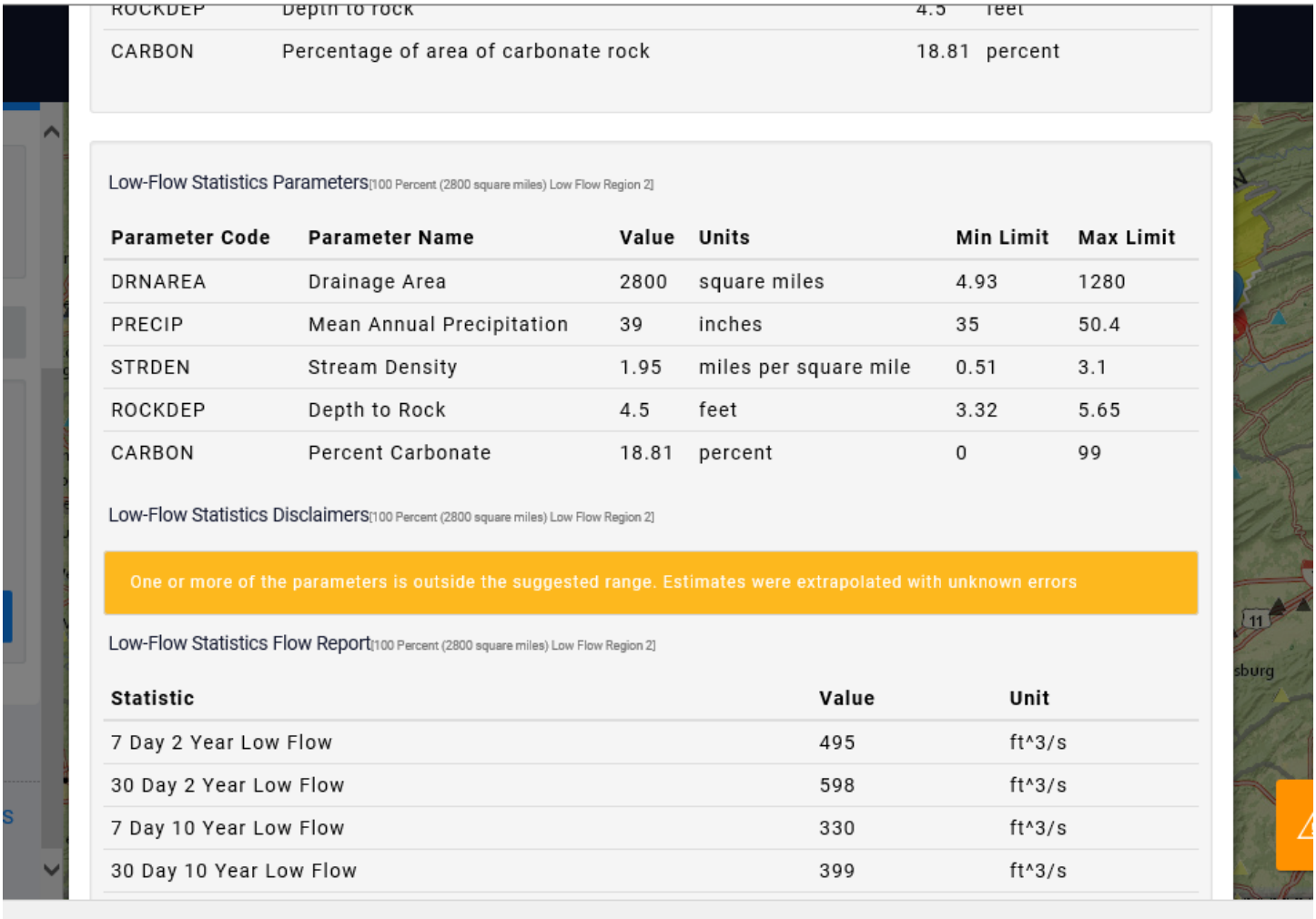

ROCKDEP	Depth to rock	4.5	feet
CARBON	Percentage of area of carbonate rock	18.81	percent

Low-Flow Statistics Parameters[100 Percent (2800 square miles) Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2800	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	1.95	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.5	feet	3.32	5.65
CARBON	Percent Carbonate	18.81	percent	0	99

Low-Flow Statistics Disclaimers[100 Percent (2800 square miles) Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[100 Percent (2800 square miles) Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	495	ft^3/s
30 Day 2 Year Low Flow	598	ft^3/s
7 Day 10 Year Low Flow	330	ft^3/s
30 Day 10 Year Low Flow	399	ft^3/s

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.8	= Q stream (cfs)	0.5	= CV Daily
0.04	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 4.143	1.3.2.iii	WLA cfc = 4.032
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 1.544	5.1d	LTA_cfc = 2.344

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.635	

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...** **...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...** **...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**

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)
0.32	Arch Rock STP	PA0247669	0.0400

Parameter	Effluent Limit 30 Day Average (mg/L)	Effluent Limit Maximum (mg/L)	Effluent Limit Minimum (mg/L)
CBOD5	25		
NH3-N	25	50	
Dissolved Oxygen			5

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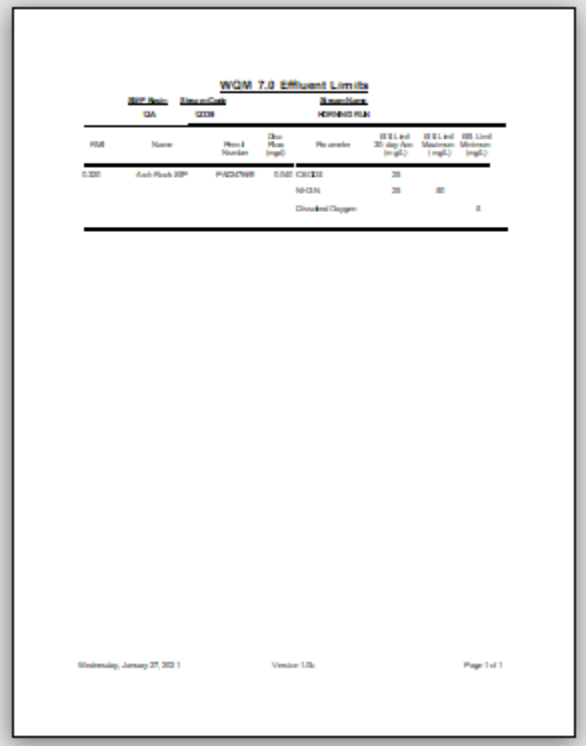
rptEffLimits



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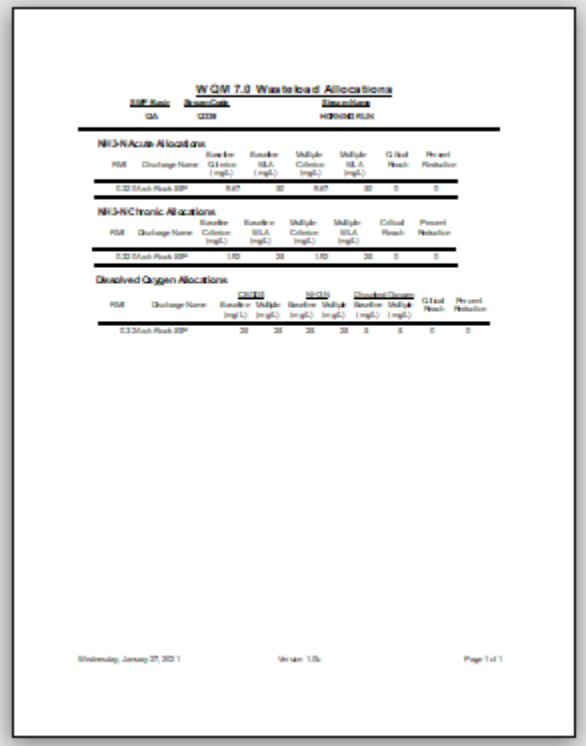

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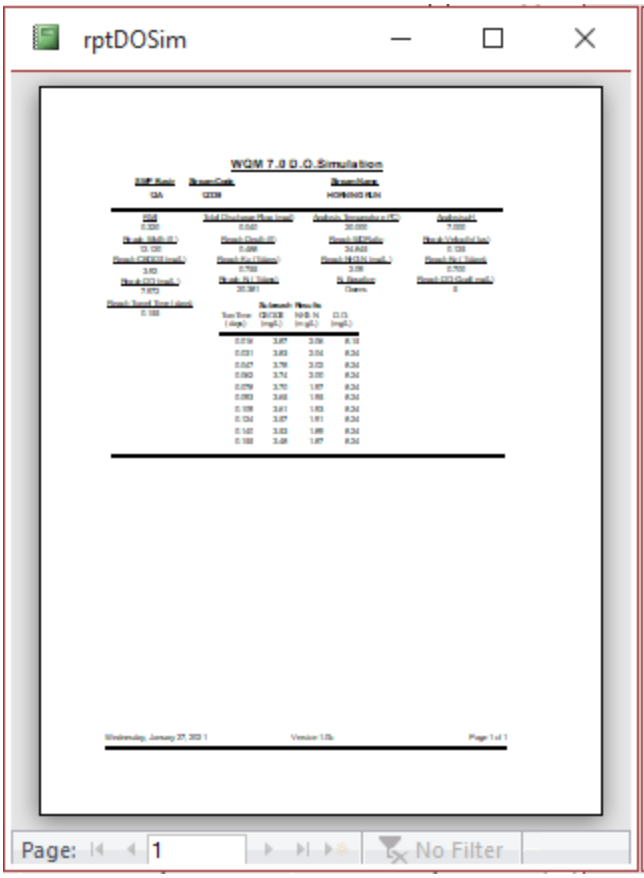
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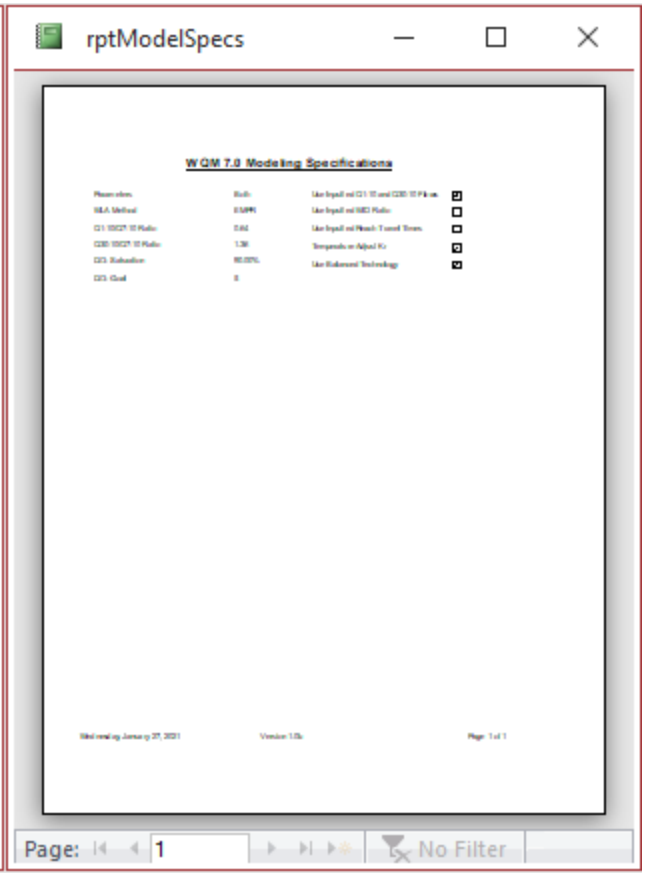
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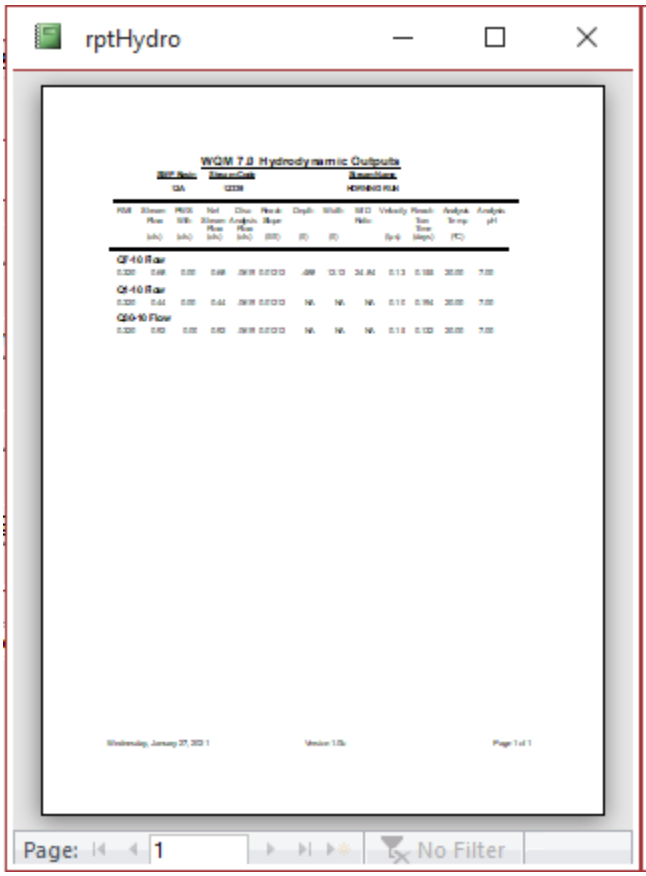
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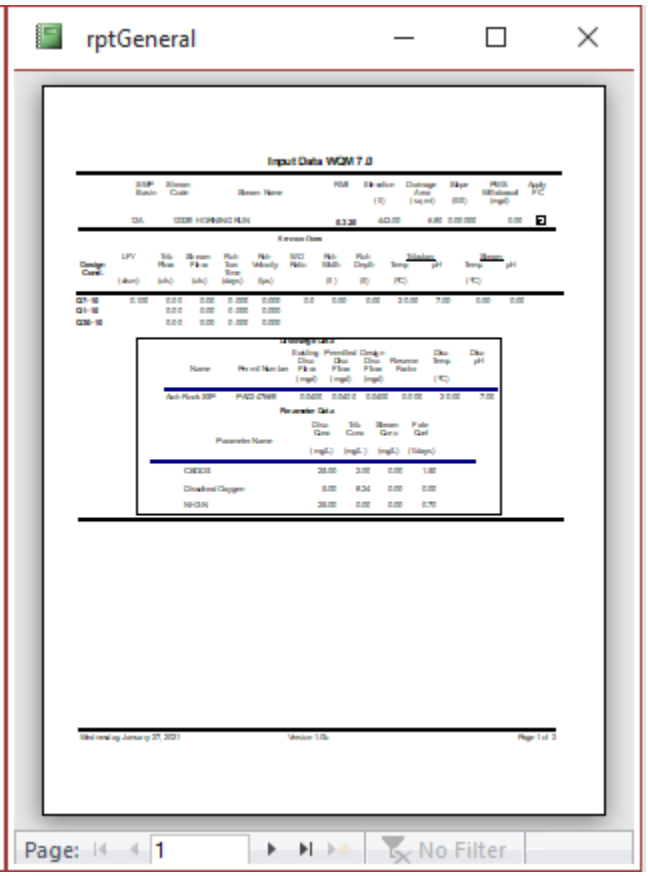
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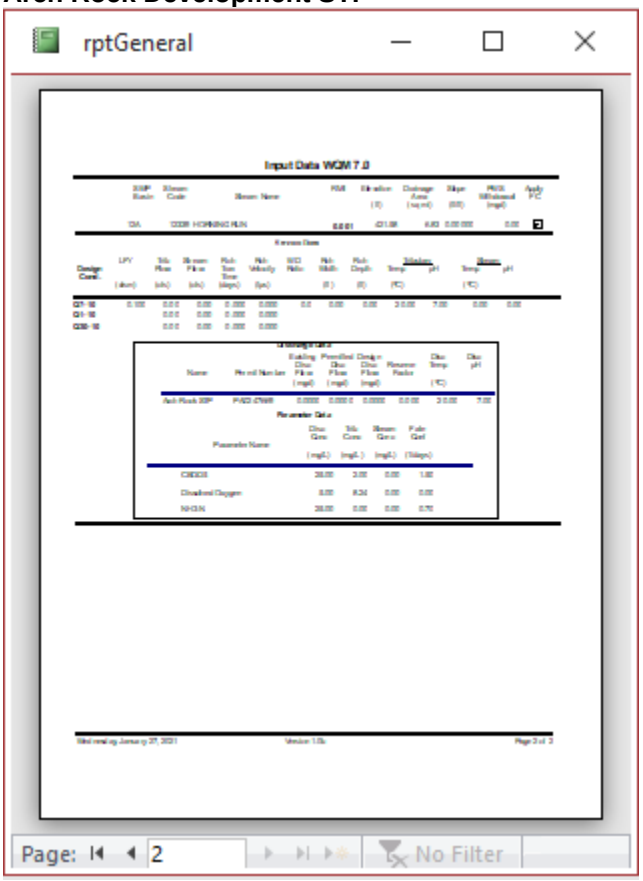
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Existing Effluent Limitations and Monitoring Requirements

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	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1	1/day	Grab
$CBOD_5$	XXX	XXX	XXX	25	XXX	50	2/month	24-Hr Composite
TSS	XXX	XXX	XXX	30	XXX	60	2/month	24-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab

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
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia-Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	2/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/month	24-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	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.0	1/day	Grab
$CBOD_5$	XXX	XXX	XXX	25	XXX	50	2/month	24-Hr Composite
TSS	XXX	XXX	XXX	30	XXX	60	2/month	24-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/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" (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
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia-Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	2/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/month	24-Hr Composite

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, 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:
☐	Other: