pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0081051**
Facility Type	**Non-Municipal**	APS ID	**988363**
Major / Minor	**Minor**	Authorization ID	**1425589**

Applicant and Facility Information

Applicant Name	**Round Top Sewer Cooperative, Inc.**	Facility Name	**Round Top Campground**
Applicant Address	2 N Riverside Plaza Suite 800	Facility Address	180 Knight Road
	Chicago, IL 60606-2682		Gettysburg, PA 17325-8767
Applicant Contact	Greggory Kane	Facility Contact	Scott Liddick
Applicant Phone	(312) 279-1692	Facility Phone	(717) 334-9565
Client ID	348398	Site ID	261174
Ch 94 Load Status	Not Overloaded	Municipality	Cumberland Township
Connection Status		County	Adams
Date Application Received	January 31, 2023	EPA Waived?	Yes
Date Application Accepted	February 3, 2023	If No, Reason	

Purpose of Application: NPDES permit renewal.

Summary of Review

Kline Engineering, on behalf of the Round Top Sewage Cooperative, Inc., applied to the Pennsylvania Department of Environmental Protection (DEP) for renewal and issuance of the NPDES permit. The permit was reissued on July 20, 2017 and became effective on August 1, 2018. The ownership transfer NPDES PA0081051 T-1 was issued on April 15, 2019. The permit expires on July 31, 2023.

The average annual design flow and hydraulic design capacity is 0.042 MGD.

The WQM Part II No. 0188405 original was issued on December 1, 1998, 0188405 A-1 & 0188405 A-2 amendment were issued on 11/6/2000 & 11/1/2006, and 0188405 T-1 & 0188405 T-2 transfer were issued on July 20, 2018 & April 15, 2019.

Sludge use and disposal description and location(s): N/A due to the sludge is hauled by Smith's Disposal Facility, LLC.

Changes from the previous permit: The E. Coli. monitoring and report requirements will add to the permit.

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	May 26, 2023
X		Maria D. Bebenek, P.E., for Daniel W. Martin Daniel W. Martin, P.E. / Environmental Engineer Manager	June 30, 2023

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.042
Latitude	39º 46' 36.00"	Longitude	-77º 13' 49.84"
Quad Name	Gettysburg	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Plum Run (WWF)	Stream Code	59062
NHD Com ID	53320972	RMI	0.8
Drainage Area	0.11	Yield (cfs/mi^2)	0.013
Q_{7-10} Flow (cfs)	0.0014	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	452	Slope (ft/ft)	
Watershed No.	13-D	Chapter 93 Class.	WWF
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	City if Frederick, MD		
PWS Waters	Monocacy River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	More than 36.0 miles

Changes Since Last Permit Issuance: none

Drainage Area
The discharge is to UNT to Plum Run at RMI 0.80 mile. A drainage area upstream of the discharge is estimated to be 0.11 mi.^{2}, according to USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow
According to StreamStats, the point of first use has a Q_{7-10} of 0.0014 cfs and a drainage area of 0.11 mi.^{2}, which results in a Q_{7-10} low flow yield of 0.019 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} = 0.0014 cfs
Low Flow Yield = 0.0014 cfs / 0.11 mi.^{2} = 0.013 cfs/mi.^{2}
Q_{30-10} = 1.36 * 0.0014 cfs = 0.002 cfs
Q_{1-10} = 0.64 * 0.0014 cfs = 0.001 cfs

The resulting Q_{7-10} dilution ratio is: Q_{stream} / $Q_{discharge}$ = 0.0014 cfs / [0.042 MGD * (1.547 cfs/MGD)] = 0.022:1

UNT to Plum Run
25 Pa. Code § 93.9o classifies UNT to Plum Run as Warm Water Fishes and Migratory Fishes (WWF & MF) surface water. Based on the 2022 Integrated Report, UNT to Plum Run, assessment unit ID 10203, 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 nearest downstream public water supply intake is the City of Frederick, MD on Monocacy River, which is more than 36.0 miles downstream of this discharge. Given the nature and dilution, the discharge is not expected to significantly impact the water supply.

Treatment Facility Summary				

Treatment Facility Name: Round Top Campground

WQM Permit No.	Issuance Date
0188405	12/1/1998
0188405 A-1	11/6/2000
0188405 A-2	11/1/2016
0188405 T-1	7/20/2018
0188405 T-2	4/15/2019

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Extended Aeration With Solids Removal	Ultraviolet	0.042

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.042		Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: none

Other Comments:
Per the site inspection dated December 10, 2018, the plant consists of the following treatment units:

- One bar screen
- One EQ tank
- One aeration tank
- One clarifier
- One Ultra-screen Disk Filter
- One UV
- One sludge holding

The chemicals used Aluminum Sulfate for phosphorus reduction, and Soda Ash Life for pH control.

Biosolids:
The total sewage sludge /biosolids production within the facility for the previous year was 0.901 dry tons.

Compliance History	
Summary of DMRs:	A summary of past 12-month DMRs is presented on the pages 4 & 5.
Summary of Inspections:	8/16/2022: Mr. Hoy, DEP's WQET, conducted a compliance evaluation inspection. There were no violations noted during the inspection. Recommendations were keeping the composite sampler refrigerator for temperature verification; ensure results observed during three points pH calibration are recorded on the on-site calibration log; and utilizing the on-site auto dialer alarm system. 12/10/2018: Mr. Benham, DEP WQET, conducted a compliance evaluation inspection. There were no violations identified during inspection.
Other Comments:	There are no open violations against the facility or the permittee.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from April 1, 2022 to March 31, 2023)

Parameter	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22
Flow (MGD) Average Monthly	0.0077	0.0062	0.0096	0.0099	0.00837	0.0069	0.0063	0.0062	0.008	0.0068	0.0102	0.0103
Flow (MGD) Daily Maximum	0.02	0.0118	0.0261	0.0423	0.0225	0.0142	0.0219	0.0138	0.0319	0.0325	0.0359	0.0263
pH (S.U.) Daily Minimum	7.1	7.0	6.8	6.7	6.8	6.9	6.9	7.0	6.9	7.2	7.1	7.3
pH (S.U.) Daily Maximum	7.7	7.8	7.7	7.6	7.4	7.6	7.7	7.7	7.8	7.8	7.9	7.7
DO (mg/L) Daily Minimum	9.1	9.0	8.5	9.0	8.4	7.2	7.0	7.0	7.3	8.0	7.1	9.0
CBOD5 (mg/L) Average Monthly	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 3.3	< 2.4	< 2.4
TSS (mg/L) Average Monthly	1.0	1.0	2.0	1.0	1.0	2.0	1.0	2.5	2.5	3.0	1.0	1.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 2	< 1
Fecal Coliform (No./100 ml) IMAX	< 1	< 1	< 1	< 1	< 1	5	< 1	< 1	< 1	< 1	3	< 1
UV Intensity (mW/cm²) Daily Minimum	0.6	0.9	0.7	1.8	1.9	3	4.0	4.5	3.1	4.0	2.7	3.1
Nitrate-Nitrite (lbs/day) Average Quarterly	< 2			< 5			< 3			< 5		
Nitrate-Nitrite (mg/L) Average Quarterly	< 21.4			< 70.4			< 50.4			< 69.4		
Total Nitrogen (lbs/day) Average Quarterly	< 2			< 5			< 3			< 5		
Total Nitrogen (mg/L) Average Quarterly	< 21.9			< 70.9			< 50.9			< 69.9		
Ammonia (lbs/day) Average Monthly	< 0.007	< 0.004	< 0.006	< 0.006	< 0.007	< 0.007	< 0.01	< 0.006	< 0.008	< 0.007	< 0.008	< 0.008
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TKN (lbs/day) Average Quarterly	< 0.04			< 0.04			< 0.03			< 0.04		
TKN (mg/L) Average Quarterly	< 0.5			< 0.5			< 0.5			< 0.5		

Total Phosphorus (lbs/day) Average Monthly	0.01	0.01	0.02	0.02	0.09	0.06	0.2	0.08	0.09	0.04	0.03	0.02
Total Phosphorus (mg/L) Average Monthly	0.2	0.3	0.3	0.4	1.2	1.0	1.5	1.5	1.2	0.5	0.4	0.3

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.042
Latitude 39º 46' 35.99" **Longitude** -77º 13' 49.97"
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: 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 per 391-2000-007)
*	Discharge Temperature	20°C	(Default per 391-2000-007)
*	Stream pH	7.0	(Default per 391-2000-006)
*	Stream Temperature	25°C	(Default for WWF per 391-2000-003)
*	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 1.93 mg/L NH_3-N as a monthly average (AML) and 3.86 mg/L NH_3-N instantaneous maximum (IMAX) are necessary to protect the aquatic life from toxicity effects. However, the existing permit limits of 1.0 mg/L average monthly & 2.0 mg/L IMAX for summer and 3.0 mg/L average monthly & 6.0 mg/L IMAX for winter are more stringent and will remain in the proposed permit. Monitoring frequency will also remain the same 2/month. DMR data and site inspections reflect that the plant is capable of meeting this limit.

$CBOD_5$:
The WQM 7.0 model (ver. 1.1) suggests a monthly average $CBOD_5$ limit of 25.0 mg/L. However, the existing permit limits of 10.0 mg/L average monthly & 20.0 mg/L IMAX are more stringent and will remain in the proposed permit. The minimum monitoring frequency will remain the same 2/month.

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. BPNPSM-PMT-033 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/year will be included in the permit to be consistent with the recommendation from this SOP.

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

Total Suspended Solids (TSS):
The existing limits of 10.0 mg/L average monthly, and 20.0 mg/L instantaneous maximum will remain in the proposed permit. Recent DMRs and inspection reports show that the facility has been consistently achieving concentrations below these limits. The minimum monitoring frequency will remain the same 2/month.

Total Phosphorus:
The existing permit limits of 1.5 mg/L as a monthly average and 3.0 mg/L as an instantaneous maximum are being continued in this renewal, consistent with DEP's Technical Guidance for Phosphorus (391-2000-018) and 25 Pa. Code § 96.5. The minimum monitoring frequency will remain the same 2/month.

Total Nitrogen:
Monitoring requirements for Total Nitrogen are being added to all NPDES permits in the State if the permit does not already include them, as authorized by 25 Pa. Code § 92a.61. Controlling nutrients in waterways requires data collection. The existing minimum monitoring and report calculation of quarterly for Total Nitrogen permit will remain in the proposed permit.

Toxics:
DEP utilizes a Toxics Management Spreadsheet (TMS) (last modified on March 2021, ver. 1.3) to facilitate calculations necessary for completing a reasonable potential analysis and determining WQBELs for toxic pollutants. The effluent testing information renewal application (page 7) indicates that there are no toxic pollutants of concern.

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

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. Nitrate-Nitrite as N, Total Kjeldahl Nitrogen, and TN monitoring is already included in the existing permit and will remain in the proposed renewal.

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

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.

303(d) Listed Streams:
The stream is listed as attaining its designated use(s).

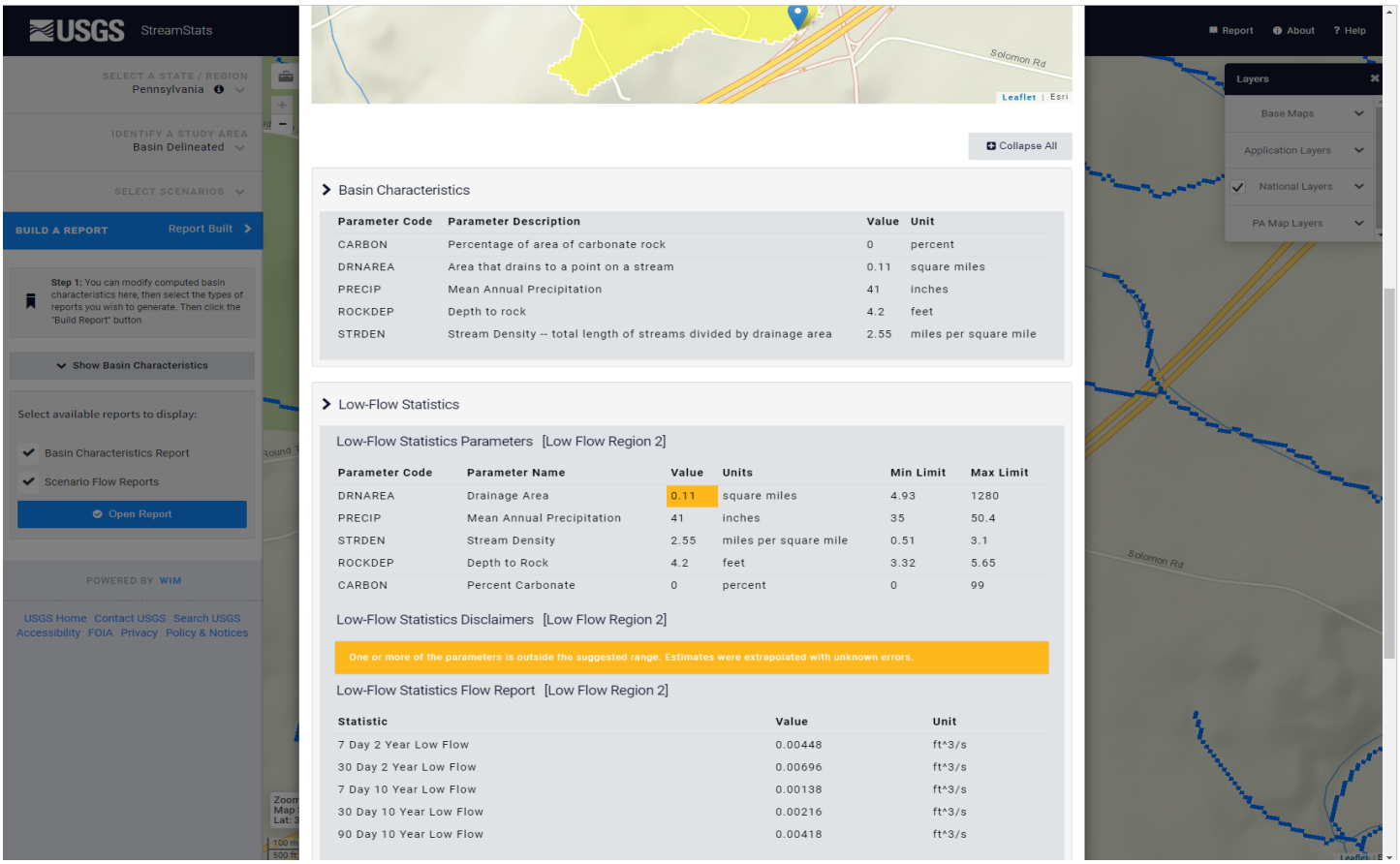
WQM 7.0:
The following data were used in the attached computer model (WQM 7.0) of the stream:

• Discharge pH	7.0	(Default per 391-2000-007)
• Discharge Temperature	20°C	(Default per 391-2000-013)
• Stream pH	7.0	(Default per 392-2000-013)
• Stream Temperature	25°C	(Default per 392-2000-013)

The following two nodes were used in modeling:

Node 1: Outfall 001 to UNT to Plum Run (59062)
Elevation: 452 ft (USGS National Map Viewer)
Drainage Area: 0.11 mi^2 (USGS PA StreamStats)
River Mile Index: 0.8 (PA DEP eMapPA)
Low Flow Yield: 0.013 cfs/mi^2
Discharge Flow: 0.042 MGD

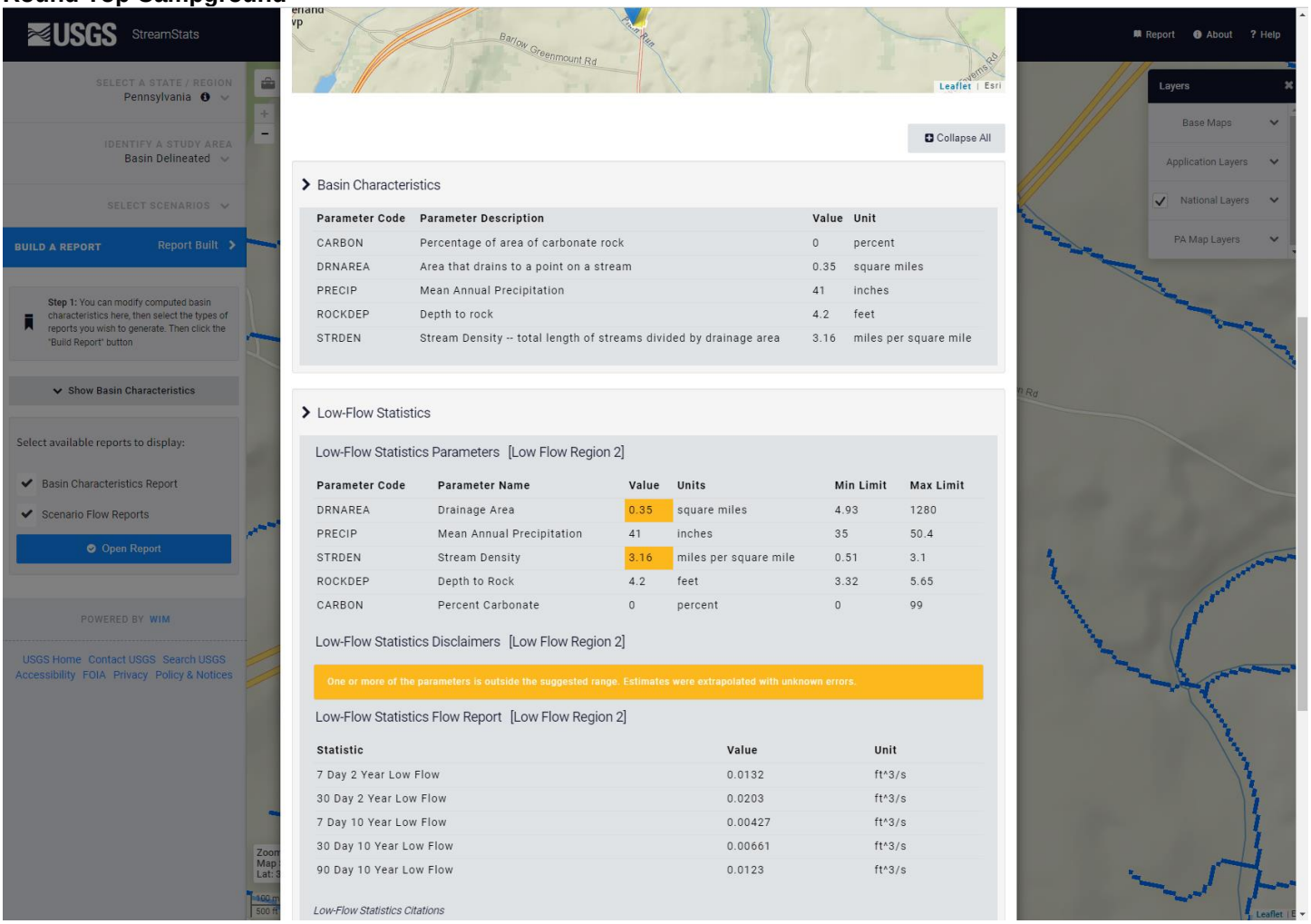
Node 2: At 59062 confluence with Plum Run
Elevation: 398 ft (USGS National Map Viewer)
Drainage Area: 0.35 mi^2 (USGS PA StreamStats)
River Mile Index: 0.001 (PA DEP eMapPA)
Low Flow Yield: 0.013 cfs/mi^2
Discharge Flow: 0.0 MGD

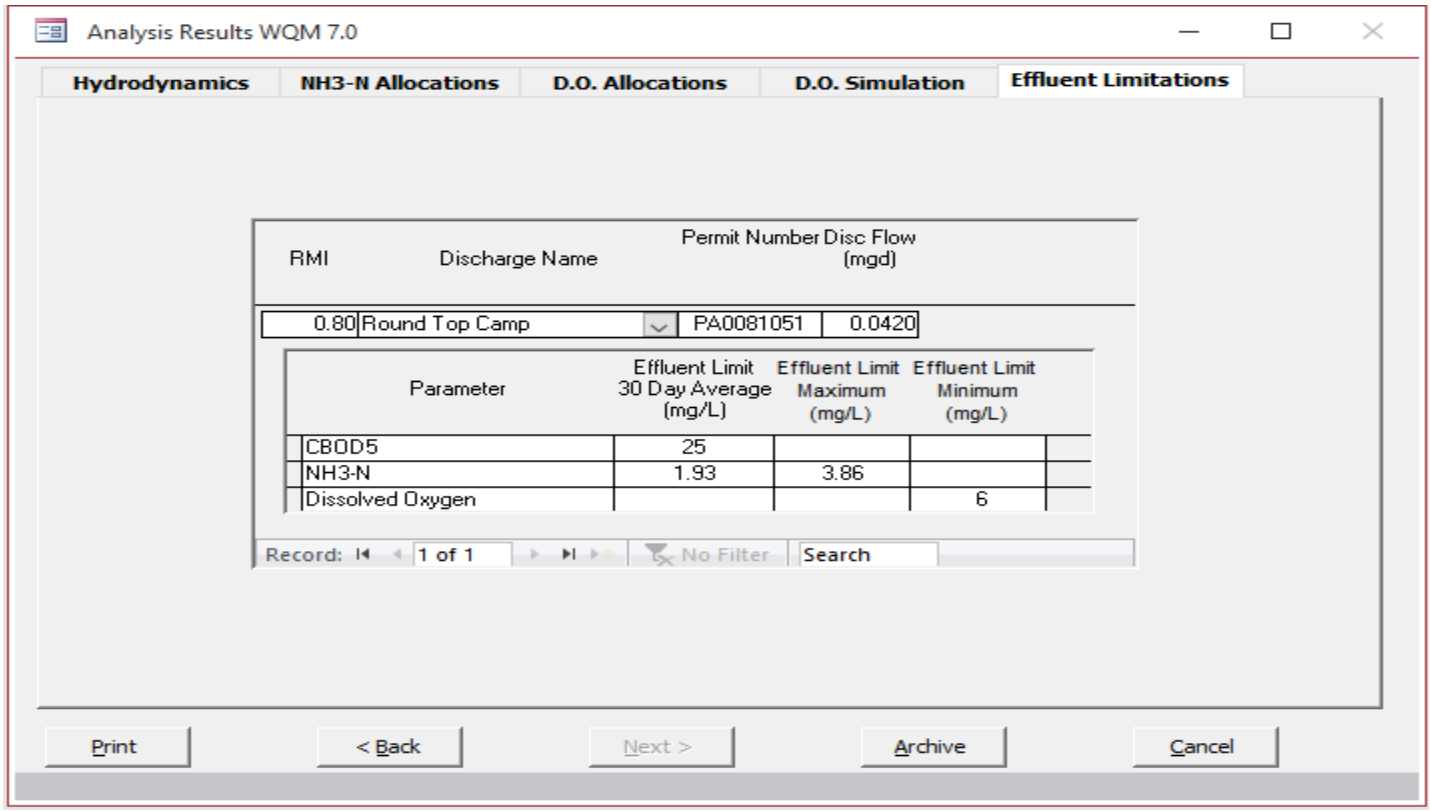


Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	0.11	square miles
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	4.2	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	2.55	miles per square mile

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.11	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
STRDEN	Stream Density	2.55	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.2	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00448	ft^3/s
30 Day 2 Year Low Flow	0.00696	ft^3/s
7 Day 10 Year Low Flow	0.00138	ft^3/s
30 Day 10 Year Low Flow	0.00216	ft^3/s
90 Day 10 Year Low Flow	0.00418	ft^3/s


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
Barlow Greenmount Rd
Leaflet | Esri
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 | 0.35 | square miles
PRECIP | Mean Annual Precipitation | 41 | inches
ROCKDEP | Depth to rock | 4.2 | feet
STRDEN | Stream Density -- total length of streams divided by drainage area | 3.16 | 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 | 0.35 | square miles | 4.93 | 1280
PRECIP | Mean Annual Precipitation | 41 | inches | 35 | 50.4
STRDEN | Stream Density | 3.16 | miles per square mile | 0.51 | 3.1
ROCKDEP | Depth to Rock | 4.2 | feet | 3.32 | 5.65
CARBON | Percent Carbonate | 0 | percent | 0 | 99
Low-Flow Statistics Disclaimers [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 [Low Flow Region 2]
Statistic | Value | Unit
7 Day 2 Year Low Flow | 0.0132 | ft^3/s
30 Day 2 Year Low Flow | 0.0203 | ft^3/s
7 Day 10 Year Low Flow | 0.00427 | ft^3/s
30 Day 10 Year Low Flow | 0.00661 | ft^3/s
90 Day 10 Year Low Flow | 0.0123 | ft^3/s
Low-Flow Statistics Citations
Report
About
Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers


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)
0.80 | Round Top Camp | PA0081051 | 0.0420
Parameter | Effluent Limit 30 Day Average (mg/L) | Effluent Limit Maximum (mg/L) | Effluent Limit Minimum (mg/L)
CBOD5 | 25 | |
NH3-N | 1.93 | 3.86 |
Dissolved Oxygen | | | 6
Record: 1 of 1
No Filter
Search
Print
< Back
Next >
Archive
Cancel

rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
13D	59062	Trib 59062 to Plum Run

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)
0.800	Round Top Camp	PA0081051	0.042	CBOD5	25		
				NH3-N	1.93	3.86	
				Dissolved Oxygen			6

Thursday, May 25, 2023 Version 1.1 Page 1 of 1

Page: 1 No Filter

rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
13D	59062	Trib 59062 to Plum Run

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
0.800	Round Top Camp	16.88	16.9	16.88	16.9	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
0.800	Round Top Camp	1.87	1.93	1.87	1.93	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
0.800	Round Top Camp	25	25	1.93	1.93	6	6	0	0

Thursday, May 25, 2023 Version 1.1 Page 1 of 1

Page: 1 No Filter

rptDOSim

WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name
13D	59062	Trib 59062 to Plum Run

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.800	0.042	20.105	7.000
Reach Width (ft)	Reach Depth (ft)	Reach W/D Ratio	Reach Velocity (fps)
2.308	0.396	6.487	0.081
Reach CBOD5 (mg/L)	Reach Kr (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
24.50	1.496	1.88	0.706
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
6.048	27.279	Owens	6
Reach Travel Time (days)			
0.804			

Subreach Results

Travel time (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.080	22.38	1.81	6.83
0.121	20.44	1.73	7.12
0.161	18.68	1.66	7.30
0.242	17.04	1.59	7.46
0.302	15.56	1.52	7.59
0.362	14.21	1.46	7.72
0.423	12.98	1.40	7.84
0.483	11.85	1.34	7.94
0.544	10.82	1.28	8.04
0.604	9.88	1.23	8.13

Thursday, May 25, 2023 Version 1.1 Page 1 of 1

Page: 1 No Filter

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	0.64	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		

Thursday, May 25, 2023 Version 1.1 Page 1 of 1

Page: 1 No Filter

rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
13D	59062	Trib 59062 to Plum Run

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												
0.800	0.00	0.00	0.00	.065	0.01280	.398	2.31	6.49	0.08	0.804	20.11	7.00
Q1-10 Flow												
0.800	0.00	0.00	0.00	.065	0.01280	NA	NA	NA	0.08	0.807	20.07	7.00
Q30-10 Flow												
0.800	0.00	0.00	0.00	.065	0.01280	NA	NA	NA	0.08	0.801	20.15	7.00

Thursday, May 25, 2023 Version 1.1 Page 1 of 1

Page: 1 No Filter

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	59062	Trib 59062 to Plum Run	0.800	452.00	0.11	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	0.013	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	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
Round Top Camp	PA0081051	0.0420	0.0420	0.0420	0.000	20.00	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

Thursday, May 25, 2023 Version 1.1 Page 1 of 2

Page: 1 No Filter

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	59062	Trib 59062 to Plum Run	0.001	398.00	0.35	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	0.013	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	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

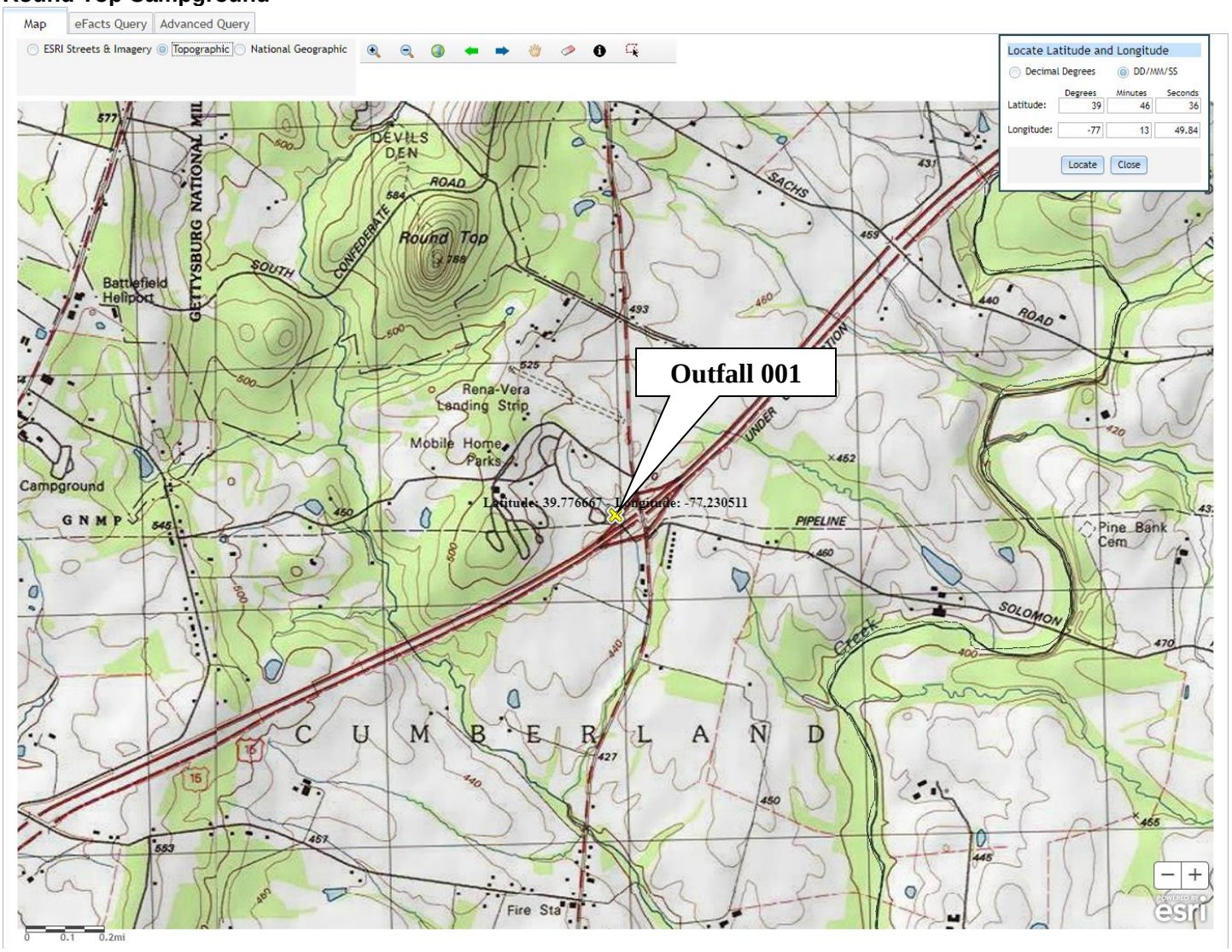
Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Round Top Camp	PA0081051	0.0000	0.0000	0.0000	0.000	20.00	7.00

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

Thursday, May 25, 2023 Version 1.1 Page 2 of 2

Page: 2 No Filter


Map
eFacts Query
Advanced Query
ESRI Streets & Imagery
Topographic
National Geographic
Locate Latitude and Longitude
Decimal Degrees
DD/MM/SS
Degrees
Minutes
Seconds
Latitude:
39
46
36
Longitude:
-77
13
49.84
Locate
Close
Outfall 001
Latitude: 39.776667 - Longitude: -77.230511
DEVILS DEN
ROAD
Round Top
788
CONFEDERATE
SOUTH
GETTYSBURG NATIONAL MIL
Battlefield Heliport
Rena-Vera Landing Strip
Mobile Home Parks
Campground
G N M P
PIPELINE
Pine Bank Cem
SOLOMON
Creek
C U M B E R L A N D
Fire Sta
SACHS
440 ROAD
esri

Existing Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	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 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
UV Intensity (mW/cm^2)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
CBOD5	XXX	XXX	XXX	10.0	XXX	20	2/month	24-Hr Composite
TSS	XXX	XXX	XXX	10.0	XXX	20	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
Ammonia May 1 - Oct 31	Report	XXX	XXX	1.0	XXX	2.0	2/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	Report	XXX	XXX	3.0	XXX	6.0	2/month	24-Hr Composite
Total Phosphorus	Report	XXX	XXX	1.5	XXX	3.0	2/month	24-Hr Composite
Nitrate-Nitrite as N	Report Qrtly	XXX	XXX	Report Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Total Kjeldahl Nitrogen	Report Qrtly	XXX	XXX	Report Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Total Nitrogen	Report Qrtly	XXX	XXX	Report Qrtly	XXX	XXX	1/quarter	Calculation

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	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	9.0 Daily Max	XXX	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	10.0	XXX	20	2/month	24-Hr Composite
TSS	XXX	XXX	XXX	10.0	XXX	20	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
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Ammonia May 1 - Oct 31	Report	XXX	XXX	1.0	XXX	2.0	2/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	Report	XXX	XXX	3.0	XXX	6.0	2/month	24-Hr Composite
Total Phosphorus	Report	XXX	XXX	1.5	XXX	3.0	2/month	24-Hr Composite
TKN	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Nitrate-Nitrite	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Total Nitrogen	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	Calculation

Compliance Sampling Location:

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: SOP No. BCW-PMT-033
☐	Other: