

Application Type Renewal  
 Facility Type Non-Municipal  
 Major / Minor Minor

**NPDES PERMIT FACT SHEET  
INDIVIDUAL SEWAGE**

Application No. PA0031968  
 APS ID 274923  
 Authorization ID 1419432

**Applicant and Facility Information**

Applicant Name	<u>PA DPW</u>	Facility Name	<u>Youth Forestry Camp 3</u>
Applicant Address	<u>4534 Tar Kiln Road</u> <u>James Creek, PA 16657-7102</u>	Facility Address	<u>4534 Tar Kiln Road</u> <u>James Creek, PA 16657-7102</u>
Applicant Contact	<u>Greg Lego</u>	Facility Contact	<u>Gregory Lego</u>
Applicant Phone	<u>(814) 658-3492</u>	Facility Phone	<u>(814) 658-3492</u>
Client ID	<u>51700</u>	Site ID	<u>452098</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Todd Township</u>
Connection Status		County	<u>Huntingdon</u>
Date Application Received	<u>March 13, 2018</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>March 20, 2018</u>	If No, Reason	
Purpose of Application	<u>NPDES Renewal.</u>		

**Summary of Review**

The PA Department of Environmental Protection (DEP or Department) has received an NPDES permit renewal application from PA DPW (permittee) for permittee's Youth Forestry Camp # 3, located in Todd Township, Huntingdon County on March 13, 2018. The terms and conditions of existing permit was administratively extended since the renewal application was received at least 180 days prior to the permit expiration date.

The hydraulic design capacity & annual average design flow are 0.0095 MGD. The receiving stream is UNT to Great Trough Creek in watershed 11-D and classified as Trout Stocking Fishes (TSF). The existing permit was issued on September 14, 2014 which will expire on September 30, 2019.

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

Changes from the previous permit: Unit of Fecal Coliform changed from CFU/100 ml to No./100 ml. The E. Coli. monitoring and report requirements will add to the proposed permit. The UV intensity (mW/cm<sup>2</sup>) daily monitoring will be added to 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		<i>Hilaryle</i> Hilary H. Le / Environmental Engineering Specialist	December 8, 2022
X		<i>Maria D. Bebenek for Daniel W. Martin</i> Daniel W. Martin, P.E. / Environmental Engineer Manager	January 23, 2023

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.0095
Latitude	40° 18' 32.87"	Longitude	-78° 7' 18.90"
Quad Name	Cassville	Quad Code	1621
Wastewater Description: Sewage Effluent			
Receiving Waters	Unnamed Tributary to Great Trough Creek (TSF)	Stream Code	13476
NHD Com ID	65840957	RMI	0.17
Drainage Area	0.59 mi. <sup>2</sup>	Yield (cfs/mi <sup>2</sup> )	See comments below
Q <sub>7-10</sub> Flow (cfs)	See comments below	Q <sub>7-10</sub> Basis	See comments below
Elevation (ft)	972.4	Slope (ft/ft)	
Watershed No.	11-D	Chapter 93 Class.	TSF
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	Raystown Lake Corp. 7 PTS Plant		
PWS Waters	Raystown Branch Juniata River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	Approximate 13.0 miles

Changes Since Last Permit Issuance:

**Drainage Area**

The discharge is to Unnamed Tributary to Great Trough Creek at RMI 0.17 miles. A drainage area upstream of the discharge is estimated to be 0.59 mi.<sup>2</sup>, according to USGS StreamStats available at <https://streamstats.usgs.gov/ss/>.

**Stream Flow**

Streamflow will be correlated with past stream flow records taken from the nearby USGS stream gauge 01562500 located in Great Trough Creek near Marklesburg, PA, which is approximately 5.1 miles downstream of discharge point. Q<sub>7-10</sub>, and Q<sub>30-10</sub> values at this gage are 3.96 cfs, and 5.18 cfs. The drainage area at gauge station was found to be 85.2 mi<sup>2</sup>. These values were obtained from the latest USGS streamflow report. The drainage area at the Discharge Point (DP) was found to be 0.59 mi<sup>2</sup> from USGS StreamStats.

$$Q_{7-10} \text{ runoff rate} = 3.96 \text{ cfs} / 85.2 \text{ mi}^2 = 0.047 \text{ cfs/mi}^2$$

$$Q_{7-10} = 0.047 \text{ cfs/mi}^2 * 0.59 \text{ mi}^2 = 0.03 \text{ cfs}$$

**Unnamed Tributary to Great Trough Creek**

25 Pa. Code § 93.9n classifies Unnamed Tributary to Great Trough Creek as Trout Stocking Fishes (TSF) surface water. Based on the 2022 Integrated Report, Unnamed Tributary to Great Trough Creek, assessment unit IDs 6997, 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 Raystown Lake Corp. 7 PTS Plant in Huntingdon County, approximately 13.0 miles downstream of this discharge. Given the nature and dilution, the discharge is not expected to significantly impact the water supply.

Treatment Facility Summary				
<b>Treatment Facility Name:</b> Youth Forestry Camp #3				
<b>WQM Permit No.</b>		<b>Issuance Date</b>		
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Ultraviolet	0.0095
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0095		Not Overloaded	Aerobic Digestion	Combination of methods

Changes Since Last Permit Issuance: none

This facility is a 9,500 GPD system with the following treatment units:

- Comminutor/Bar Screen
- Equalization Tank
- Two (2), Aeration Tanks
- Final Clarifier
- Two (2), Rapid Sand Filters
- Ultraviolet Disinfection
- Sludge Holding Tank

The chemicals use Caustic Soda for control pH, and Aluminum Sulfate for control Phosphorus.

Compliance History	
<b>Summary of DMRs:</b>	The DMR data reports from November 1, 2021 to October 31, 2022 were summarized in the Table below.
<b>Summary of Inspections:</b>	<p>1/04/2022, Mr. Clark, DEP's WQS, conducted compliance evaluation inspection. There were no violations identified during inspection. The treatment plant appears to be operating properly. There was no discharge during the inspection, but effluent in UV tank looked clear.</p> <p>4/30/2020, Mr. Clark, DEP's WQS, conducted an admin inspection. There were no violations noted. The facility was operating under normal hours.</p> <p>10/9/2019: Mr. Clark, DEP's WQS, conducted compliance evaluation inspection. There were no violations identified during inspection. The treatment plant appears to be operating properly, effluent clear, field test results within permit limits. Recommendations were update the effluent supplemental form, record discharge flow daily, and calibrate pH meter daily.</p>
<b>Other Comments:</b>	There are no open violations against the facility or permittee.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from November 1, 2021 to October 31, 2022)

Parameter	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21
Flow (MGD) Average Monthly	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.002	0.002	0.002
Flow (MGD) Daily Maximum	0.004	0.003	0.005	0.007	0.003	0.003	0.004	0.004	0.004	0.003	0.003	0.003
pH (S.U.) Minimum	6.79	6.53	6.91	6.68	6.01	6.08	6.65	7.22	6.60	6.93	6.85	6.95
pH (S.U.) Maximum	8.11	7.54	8.02	8.02	7.52	8.43	8.78	7.75	8.23	8.40	8.44	8.05
DO (mg/L) Minimum	9.24	7.51	8.05	7.84	7.70	8.30	8.98	10.40	12.21	10.46	9.34	8.24
CBOD5 (mg/L) Average Monthly	< 3.00	5.64	< 3.00	< 3.00	< 3.00	3.97	< 3.00	9.87	5.84	< 3.00	< 3.00	< 3.00
TSS (mg/L) Average Monthly	4.40	2.80	2.20	6.40	7.60	6.60	13.80	13.80	14.80	8.40	18.4	3.20
Fecal Coliform (CFU/100 ml) Geometric Mean	< 1.000	2.915	< 1.000	< 1.000	< 1.000	< 1000	4.000	4.000	2.864	< 1.000	< 1.000	< 1.000
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	< 1.000	2.915	< 1.000	< 1.000	< 1.000	< 1.000	4.000	4.000	2.864	< 1.000	< 1.000	< 1.000
Nitrate-Nitrite (mg/L) Average Monthly	62.65	55	56.94	51	74.76	79.28	75.19	56.59	76	74.81	77.0	81.10
Total Nitrogen (mg/L) Average Monthly	63.175	56	57.44	51.5	75.26	79.78	75.69	57.09	76	75.31	78.0	81.6
Ammonia (mg/L) Average Monthly	< 0.10	< 0.10	< 0.10	0.89	0.27	< 0.10	0.36	0.25	0.43	< 0.10	< 0.10	< 0.10
TKN (mg/L) Average Monthly	0.5250	0.40	< 0.5	< 0.5	< 0.5000	< 0.5	< 0.5	< 0.5000	< 0.5	< 0.5000	< 0.5000	< 0.5000
Total Phosphorus (mg/L) Average Monthly	0.32	0.40	0.81	0.76	1.74	1.46	1.17	1.59	1.39	0.76	1.53	0.75

**Development of Effluent Limitations**

<b>Outfall No.</b> <u>001</u>	<b>Design Flow (MGD)</b> <u>0.0095</u>
<b>Latitude</b> <u>40° 18' 32.87"</u>	<b>Longitude</b> <u>-78° 7' 18.90"</u>
<b>Wastewater Description:</b> <u>Sewage Effluent</u>	

**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 <sub>5</sub>	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 does not apply.

**Water Quality-Based Limitations**

**Ammonia (NH<sub>3</sub>-N):**

NH<sub>3</sub>-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<sub>3</sub>-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        20°C                    (Default for WWF per 391-2000-003)
- \* Background NH<sub>3</sub>-N        0 mg/L                    (Assumed since no nearby upstream WWTPs)

Regarding NH<sub>3</sub>-N limits, the attached computer printout of the WQM 7.0 stream model (version 1.1) indicates that a limit of 6.73 mg/L NH<sub>3</sub>-N as a monthly average (AML) and 13.46 mg/L NH<sub>3</sub>-N instantaneous maximum (IMAX) are necessary to protect the aquatic life from toxicity effects. However, the existing permit limits of 5.5 mg/l average monthly & 11.0 mg/L IMAX for summer and 16.5 mg/l average monthly & 33.0 mg/L IMAX for winter are more stringent and will remain in the proposed permit. Monitoring frequency will also remain the same of 2/month. DMR data and site inspections reflect that the plant is capable of meeting this limit.

**CBOD<sub>5</sub>:**

The WQM 7.0 model (ver. 1.1) suggests a monthly average CBOD<sub>5</sub> limit of 25.0 mg/l which is the same as existing permit. Instantaneous Maximum limit will be 50.0 mg/l. The minimum monitoring frequency will remain the same as 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<sup>2</sup>) will be added in the proposed permit.

**Total Suspended Solids (TSS):**

The existing limits of 30.0 mg/L average monthly, and 60.0 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.

**Total Phosphorus:**

The existing permit limits of 2.0 mg/l as a monthly average and 4.0 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.

**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 6) 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. This plant is classified as a phase 5, which will be required to monitor and report Nitrate-Nitrite as N, Total Kjeldahl Nitrogen and Total Nitrogen once per month as per Table 6-3 of DEP's Technical Guidance for the Development and Specification of Effluent Limitations (362-0400-001).

**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. The basin is classified as a TSF. 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)
- Discharge Temperature 20°C (Default)
- Stream pH 7.0 (Default)
- Stream Temperature 20°C (Default)

The following two nodes were used in modeling:

Node 1: Outfall 001 at UNT to Great Trough Creek (13476)  
 Elevation: 972.4 ft (USGS)  
 Drainage Area: 0.59 mi<sup>2</sup> (USGS StreamStats)  
 River Mile Index: 0.17 (PA DEP eMapPA)  
 Low Flow Yield: 0.047 cfs/mi<sup>2</sup>  
 Discharge Flow: 0.0095 MGD

Node 2: At the confluence with Great Trough Creek (13460)  
 Elevation: 939.8 ft (USGS)  
 Drainage Area: 76.5 mi<sup>2</sup> (USGS StreamStats)  
 River Mile Index: 0.001 (PA DEP eMapPA)  
 Low Flow Yield: 0.047 cfs/mi<sup>2</sup>  
 Discharge Flow: 0.00 MGD

The screenshot displays the USGS StreamStats web application interface. On the left is a navigation sidebar with options like 'SELECT A STATE / REGION' (Pennsylvania), 'IDENTIFY A STUDY AREA' (Basin Delineated), and 'BUILD A REPORT'. The main content area is divided into two sections:

**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	0.59	square miles
PRECIP	Mean Annual Precipitation	39	inches
ROCKDEP	Depth to rock	5	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	3.85	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	0.59	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	3.85	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	5	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	0.0224	ft <sup>3</sup> /s
30 Day 2 Year Low Flow	0.0325	ft <sup>3</sup> /s
7 Day 10 Year Low Flow	0.00911	ft <sup>3</sup> /s
30 Day 10 Year Low Flow	0.0127	ft <sup>3</sup> /s
90 Day 10 Year Low Flow	0.0213	ft <sup>3</sup> /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

**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	85.2	square miles
PRECIP	Mean Annual Precipitation	39	inches
ROCKDEP	Depth to rock	4.7	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	2.37	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	85.2	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	2.37	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.7	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	7.46	ft <sup>3</sup> /s	38	38
30 Day 2 Year Low Flow	9.92	ft <sup>3</sup> /s	33	33
7 Day 10 Year Low Flow	3.96	ft <sup>3</sup> /s	51	51
30 Day 10 Year Low Flow	5.18	ft <sup>3</sup> /s	46	46
90 Day 10 Year Low Flow	7.78	ft <sup>3</sup> /s	36	36

Low-Flow Statistics Citations

Stuckey, M. H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.

Report About Help

Layers

- Base Maps
- Application Layers
- National Layers
- PA Map Layers

Displaying simplified Basin. See FAQ for more information.

**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

**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	76.5	square miles
PRECIP	Mean Annual Precipitation	39	inches
ROCKDEP	Depth to rock	4.6	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	2.35	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	76.5	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	2.35	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.6	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Low-Flow Statistics Flow Report [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	6.42	ft <sup>3</sup> /s	38	38
30 Day 2 Year Low Flow	8.62	ft <sup>3</sup> /s	33	33
7 Day 10 Year Low Flow	3.3	ft <sup>3</sup> /s	51	51
30 Day 10 Year Low Flow	4.38	ft <sup>3</sup> /s	46	46
90 Day 10 Year Low Flow	6.69	ft <sup>3</sup> /s	36	36

Low-Flow Statistics Citations

Report About Help

Layers

- Base Maps
- Application Layers
- National Layers
- PA Map Layers

Displaying simplified Basin. See FAQ for more information.



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)
0.17	PA DPW	PA0031968	0.0095

Parameter	Effluent Limit 30 Day Average (mg/L)	Effluent Limit Maximum (mg/L)	Effluent Limit Minimum (mg/L)
CBOD5	25		
NH3-N	6.73	13.46	
Dissolved Oxygen			5

Record: 1 of 1 | No Filter | Search

Print | < Back | Next > | Archive | Cancel

rptEffLimits

### WQM 7.0 Effluent Limits

WQP Basin		Stream Code		Stream Name			
11D	13476	Trib 13476 to Great Trough Creek					
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)
0.170	PA DPW	PA0031968	0.009	CBOD5	25		
				NH3-N	6.73	13.46	
				Dissolved Oxygen			5

Thursday, December 8, 2022 | Version 1.1 | Page 1 of 1

Page: 1 of 1 | No Filter

rpt\_WLA

### WQM 7.0 Wasteload Allocations

WQP Basin		Stream Code		Stream Name			
11D	13476	Trib 13476 to Great Trough Creek					
<b>NH3-N Acute Allocations</b>							
RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.170	PA DPW	16.76	37	16.76	37	0	0
<b>NH3-N Chronic Allocations</b>							
RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.170	PA DPW	1.89	6.73	1.89	6.73	0	0
<b>Dissolved Oxygen Allocations</b>							
RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen	
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)
0.17	PA DPW	25	25	6.73	6.73	5	5
						0	0

Thursday, December 8, 2022 | Version 1.1 | Page 1 of 1

Page: 1 of 1 | No Filter

rptDOSim

### WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name
11D	13476	Trib 13476 to Great Trough Creek

RM	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.170	0.039	20.00	7.00
Reach Width (ft)	Reach Depth (ft)	Reach Velocity (ft/s)	Reach Velocity (ft/s)
2.872	0.312	9.217	0.047
Reach CBOD5 (mg/L)	Reach NH3-N (mg/L)	Reach NH3-N (mg/L)	Reach DO (mg/L)
9.97	1.273	2.33	0.70
Reach DO (mg/L)	Reach Kr (1/day)	Kt Equation	Reach DO (mg/L)
7.120	24.342	Owens	6
Reach Travel Time (days)	Subreach Results		
0.218	TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)
			D.O. (mg/L)
	0.022	9.69	2.30
	0.044	9.43	2.26
	0.065	9.17	2.23
	0.087	8.92	2.19
	0.109	8.68	2.16
	0.131	8.44	2.13
	0.152	8.21	2.10
	0.174	7.98	2.06
	0.196	7.77	2.03
	0.218	7.55	2.00

Thursday, December 8, 2022 Version 1.1 Page 1 of 1

rptModelSpecs

### WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	EMPR	Use Inputted WLD Ratio	<input type="checkbox"/>
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	<input type="checkbox"/>
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	6		

Thursday, December 8, 2022 Version 1.1 Page 1 of 1

rptHydro

### WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
11D	13476	Trib 13476 to Great Trough Creek

RM	Stream Flow (cfs)	PWS With Flow (cfs)	Net Stream Flow (cfs)	Disc. Slope (ft/s)	Reach Slope (ft/s)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (ft/s)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
<b>Q7-10 Flow</b>	0.170	0.03	0.03	0.147	0.03653	.312	2.87	9.22	0.05	0.218	20.00	7.00
<b>Q1-10 Flow</b>	0.170	0.02	0.02	0.147	0.03653	NA	NA	NA	0.04	0.253	20.00	7.00
<b>Q30-10 Flow</b>	0.170	0.04	0.04	0.147	0.03653	NA	NA	NA	0.05	0.193	20.00	7.00

Thursday, December 8, 2022 Version 1.1 Page 1 of 1

rptGeneral

### Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RM	Elevation (ft)	Discharge Area (sq ft)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
11D	13476	Trib 13476 to Great Trough Creek	0.170	972.40	0.59	0.00000	0.00	<input checked="" type="checkbox"/>

#### Stream Data

Design Cond.	LFY (dftm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Flow Time (days)	Rch Velocity (ft/s)	W/D Ratio	Rch Width (ft)	Rch Depth (ft)	Trubidity (°C)	pH	Temp (°C)	Stream pH
<b>Q7-10</b>	0.047	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
<b>Q1-10</b>		0.00	0.00	0.000	0.000							
<b>Q30-10</b>		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
PADPW	PA0031968	0.0095	0.0095	0.0095	0.000	20.00	7.00

#### Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Goal (15days)
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, December 8, 2022 Version 1.1 Page 1 of 2

rptGeneral

### Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft%)	PWS Withdrawal (mgd)	Apply FC
11D	13476 Trib	13476 to Great Trough Creek	0.001	939.80	76.50	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data										
Design Cond.	LFY (diam)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (ft/s)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Stream pH
G7-10	0.047	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00
G1-10		0.00	0.00	0.000	0.000					
G30-10		0.00	0.00	0.000	0.000					

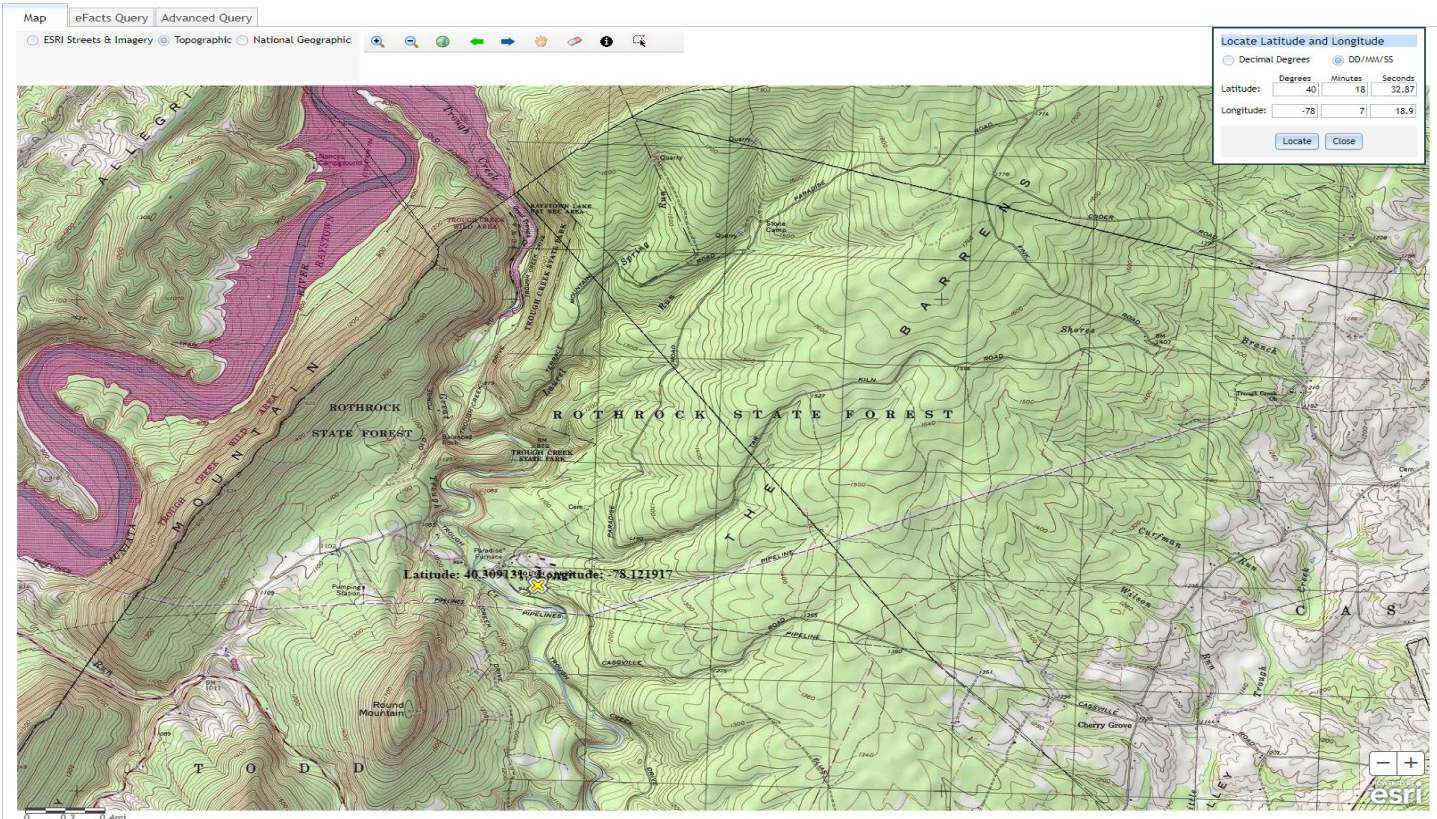
Discharge Data						
Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)
PADPW	PA0031968	0.0000	0.0000	0.0000	0.000	20.00

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, December 8, 2022      Version 1.1      Page 2 of 2

Page: 1 2      No Filter



**Existing Effluent Limitations and Monitoring Requirements**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> 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
D.O.	XXX	XXX	6.0	XXX	XXX	XXX	1/day	Grab
CBOD <sub>5</sub>	XXX	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30	XXX	60	2/month	8-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
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Ammonia May 1 - Oct 31	XXX	XXX	XXX	5.5	XXX	11	2/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	16.5	XXX	33	2/month	8-Hr Composite
TKN	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite

<b>Proposed Effluent Limitations and Monitoring Requirements</b>
--

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) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> 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
D.O.	XXX	XXX	6.0	XXX	XXX	XXX	1/day	Grab
Ultraviolet light intensity (mW/cm <sup>2</sup> )	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
CBOD <sub>5</sub>	XXX	XXX	XXX	25.0	XXX	50.0	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	8-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	XXX	XXX	XXX	5.5	XXX	11.0	2/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	16.5	XXX	33.0	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	2.0	XXX	4.0	2/month	8-Hr Composite
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
TKN	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment [redacted])
<input type="checkbox"/>	Toxics Management Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	TRC Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
<input checked="" type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 385-2000-011, 9/08.
<input checked="" type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
<input checked="" type="checkbox"/>	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.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
<input checked="" type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
<input checked="" type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
<input checked="" type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Design Stream Flows, 391-2000-023, 9/98.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
<input checked="" type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input type="checkbox"/>	SOP: [redacted]
<input type="checkbox"/>	Other: [redacted]