pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**New**	Application No.	**PA0255882**
Facility Type	**Non-Municipal**	APS ID	**1034696**
Major / Minor	**Minor**	Authorization ID	**1347193**

Applicant and Facility Information

Applicant Name	**Rettop Development Corp**	Facility Name	**Montgomery Ridge at Yellow Gate Estates**
Applicant Address	246 Mowry Road	Facility Address	Trillium Way
	Monaca, PA 15061-2224		Monaca, PA 15061
Applicant Contact	Ronald Robinson	Facility Contact	Same as Applicant
Applicant Phone	(412) 974-2669	Facility Phone	Same as Applicant
Client ID	361708	Site ID	848329
Ch 94 Load Status		Municipality	Potter Township
Connection Status		County	Beaver
Date Application Received	March 14, 2021	EPA Waived?	Yes
Date Application Accepted	March 25, 2021	If No, Reason	

Purpose of Application: Application for issuance of new NPDES Permit.

Summary of Review

The permit is being issued to approve the construction and operation of a minor sewage treatment plant that includes:

- Prelos effluent force main sewer
- 15,000-gallon flow equalization tank
- Stage one filtration system consisting of two AX-MAX250-35 Orenco filters and one AX-MAX150-28 Orenco filter.
- Stage two filtration system consisting of one AX-MAX275-42 Orenco filter
- 2 UV disinfection units

While not part of this permit, each residence will also have and be responsible for maintenance and pumping of an on-site septic tank. Therefore, biosolids disposal is considered to be the responsibility of the homeowner.

Associated WQM Permit No. 0421401 is also pending issuance upon approval from the department.

This facility, as proposed, includes four Orenco Advantex filters. While this type of treatment is new to the southwest region, it has been used in the southeast region and was classified as an alternative technology (Listing #A2009—0001-0004) on December 4, 2012. These treatment modules are typically used as SRTP's, however, for this facility, it is proposed to treat sewage from 38 EDU's. A similar set up is used in the East Salem WWTP (NPDES Permit No. PA0247618 and WQM Permit No. 3405401) where six Orenco units are used to treat 50 EDU's. Potters Mill Central Treatment System (NPDES Permit No. PA0232751 and WQM Permit No. 1416404) also employs Orenco Advantex filters, however, each individual residence is equipped with a filter system.

Approve	Deny	Signatures	Date
X		Stephanie Conrad / Environmental Engineering Specialist	June 11, 2021
X		James Vanek James M. Vanek, P.E. / Environmental Engineer Manager	June 21, 2021

Summary of Review

eDMR data generated for the East Salem WWTP for June 1, 2016 through June 15, 2021 was determined to have a minimum, maximum, and average of 0.03, 20, and 3.4 mg/L respectively. eDMR data generated for the East Salem WWTP for June 1, 2016 through June 15, 2021 was determined to have a minimum, maximum, and average of less than the detection limit, 25.36, and 2.3 mg/L respectively. The Engineer's design report provides target effluent limits of < 1.9 mg/L. All three sets of information suggest that additional ammonia removal may be necessary for the facility to reach the limits proposed in this permit.

Part C of the NPDES permit requires the permittee to register for DEP's Electronic Discharge Monitoring Report (eDMR) system for the submission of DMRs and Supplemental DMRs. The permittee also will receive paper copies of these forms for backup purposes.

Planning modules for the proposed sewage treatment plant were approved by the PA Department of Environmental Protection (DEP) on September 29, 2020.

On August 27, 2018 DEP biologists performed a point of first use study on the receiving stream (unnamed, undocumented tributary to Racoon Creek). The survey was conducting using a D-frame kick net. Nineteen taxa were identified, six of which have long-lived taxa. The presence of these macroinvertebrates indicates that the stream supports aquatic life and appropriate limits should be imposed in this permit. The full report is attached.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.015225
Latitude	40º 38' 43.22"	Longitude	-80º 21' 33.64"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Racoon Creek	Stream Code	
NHD Com ID		RMI	0.82
Drainage Area	0.04	Yield (cfs/mi^2)	0.004
Q_{7-10} Flow (cfs)	0.000142	Q_{7-10} Basis	USGS Stream Stats
Elevation (ft)		Slope (ft/ft)	
Watershed No.	20-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	Final	Name	Raccoon Creek Watershed

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake			
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

Treatment Facility Summary

Treatment Facility Name: Montgomery Ridge at Yellow Gate Estates WWTF

WQM Permit No.	Issuance Date
0421401	Pending

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Tertiary	Packed Bed Filtration Step System	Ultraviolet	

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.015225	19.06			

Changes Since Last Permit Issuance:

Other Comments:

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .015225
Latitude 40º 38' 43.22" **Longitude** -80º 21' 33.64"
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:

Water Quality-Based Limitations

The proposed discharge was evaluated using WQM 7.0 to evaluate the CBOD5, Ammonia Nitrogen and Dissolved Oxygen parameters. The modeling results show technology based effluent limitations for CBOD5 are appropriate as well as confirm that Ammonia-Nitrogen and Dissolved Oxygen limitations are necessary to meet in-stream water quality criterion.

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Dissolved Oxygen	5.0	Instantaneous Min	WQM 7.0
Ammonia-Nitrogen (winter)	2.5	Monthly Average	WQM 7.0
Ammonia-Nitrogen (summer)	1.5	Monthly Average	WQM 7.0

Comments:

Anti-Backsliding

Not applicable, new discharge.

Additional Considerations

Ultraviolet (UV) disinfection is used therefore Total Residual Chlorine (TRC) limits are not applicable. Routine monitoring of UV Intensity will be at the same monitoring frequency that is used for TRC.

Sewage discharges will include monitoring, at a minimum, for *E. coli*, in new and reissued permits, with a monitoring frequency of 1/year for design flows >= 0.002 and < 0.05 MGD.

For pH, Dissolved Oxygen (DO) and UV Intensity, a monitoring frequency 1/day has been imposed. In general, less frequent monitoring may be established only when the permittee demonstrates that there will be no discharge on days where monitoring is not required.

The receiving stream is not impaired for nutrients, therefore, annual sampling for nitrogen and phosphorus will be imposed per 25 PA Code §92a.6.

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations. Please note that Monitoring Requirements were changed for Flow to 1/week Metered to be consistent with the guidance.

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)	0.0152	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
UV Intensity (mW/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia Oct 1 - Apr 30	XXX	XXX	XXX	2.5	XXX	5.0	2/month	Grab
Ammonia May 1 - Sep 30	XXX	XXX	XXX	1.5	XXX	3.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Compliance Sampling Location: Outfall #001

Other Comments:

Summer WQM 7.0 Modeling

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20D	33564	RACCOON CREEK	0.820	1020.00	0.04	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	0.004	0.00	0.00	0.000	0.000	10.0	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
Montgomery Ridg	PA0255882	0.0000	0.0152	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	3.00	8.24	0.00	0.00
NH3-N	25.00	0.10	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20D	33564	RACCOON CREEK	0.010	700.00	0.48	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	0.004	0.00	0.00	0.000	0.000	10.0	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
Montgomery Ridg	PA0255882	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	3.00	8.24	0.00	0.00
NH3-N	25.00	0.10	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
20D	33564	RACCOON CREEK

RMI	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												
0.820	0.00	0.00	0.00	.0236	0.07482	.328	1.09	3.32	0.07	0.749	20.03	7.00
Q1-10 Flow												
0.820	0.00	0.00	0.00	.0236	0.07482	NA	NA	NA	0.07	0.750	20.02	7.00
Q30-10 Flow												
0.820	0.00	0.00	0.00	.0236	0.07482	NA	NA	NA	0.07	0.748	20.04	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 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	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20D	33564	RACCOON CREEK

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
0.820	Montgomery Ridg	9.66	9.7	9.66	9.7	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
0.820	Montgomery Ridg	1.91	1.93	1.91	1.93	0	0

Dissolved Oxygen Allocations

		CBOD5		NH3-N		Dissolved Oxygen			
RMI	Discharge Name	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Critical Reach	Percent Reduction
0.82	Montgomery Ridg	25	25	1.93	1.93	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20D	33564	RACCOON CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.820	0.015	20.030	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.092	0.328	3.325	0.066
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.86	1.499	1.92	0.702
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.019	27.584	Owens	5
Reach Travel Time (days)			
0.749			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.075	22.22	1.82	6.80
0.150	19.86	1.72	7.21
0.225	17.74	1.64	7.42
0.300	15.86	1.55	7.60
0.375	14.17	1.47	7.76
0.450	12.66	1.40	7.89
0.525	11.32	1.33	8.02
0.599	10.11	1.26	8.13
0.674	9.04	1.19	8.23
0.749	8.08	1.13	8.24

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20D	33564	RACCOON CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
0.820	Montgomery Ridg	PA0255882	0.000	CBOD5	25		
				NH3-N	1.93	3.86	
				Dissolved Oxygen			5

Winter WQM 7.0 Modeling

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20D	33564	RACCOON CREEK	0.820	1020.00	0.04	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	0.007	0.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	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
Montgomery Ridg	PA0255882	0.0000	0.0152	0.0000	0.000	15.00	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	3.00	12.51	0.00	0.00
NH3-N	25.00	0.10	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
20D	33564	RACCOON CREEK

RMI	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												
0.820	0.00	0.00	0.00	.0236	0.07482	.329	1.09	3.33	0.07	0.747	14.89	7.00
Q1-10 Flow												
0.820	0.00	0.00	0.00	.0236	0.07482	NA	NA	NA	0.07	0.749	14.93	7.00
Q30-10 Flow												
0.820	0.00	0.00	0.00	.0236	0.07482	NA	NA	NA	0.07	0.745	14.85	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 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	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20D	33564	RACCOON CREEK

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
0.820	Montgomery Ridg	14.09	14.2	14.09	14.2	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
0.820	Montgomery Ridg	2.81	2.85	2.81	2.85	0	0

Dissolved Oxygen Allocations

		CBOD5		NH3-N		Dissolved Oxygen			
RMI	Discharge Name	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Critical Reach	Percent Reduction
0.82	Montgomery Ridg	25	25	2.85	2.85	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20D	33564	RACCOON CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.820	0.015	14.886	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.093	0.329	3.325	0.066
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.74	1.498	2.82	0.472
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.086	24.418	Owens	5
Reach Travel Time (days)			
0.747			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.075	22.64	2.72	7.68
0.149	20.73	2.63	8.23
0.224	18.97	2.54	8.44
0.299	17.37	2.45	8.58
0.373	15.90	2.37	8.70
0.448	14.55	2.28	8.81
0.523	13.32	2.20	8.91
0.598	12.19	2.13	9.00
0.672	11.16	2.05	9.09
0.747	10.21	1.98	9.11

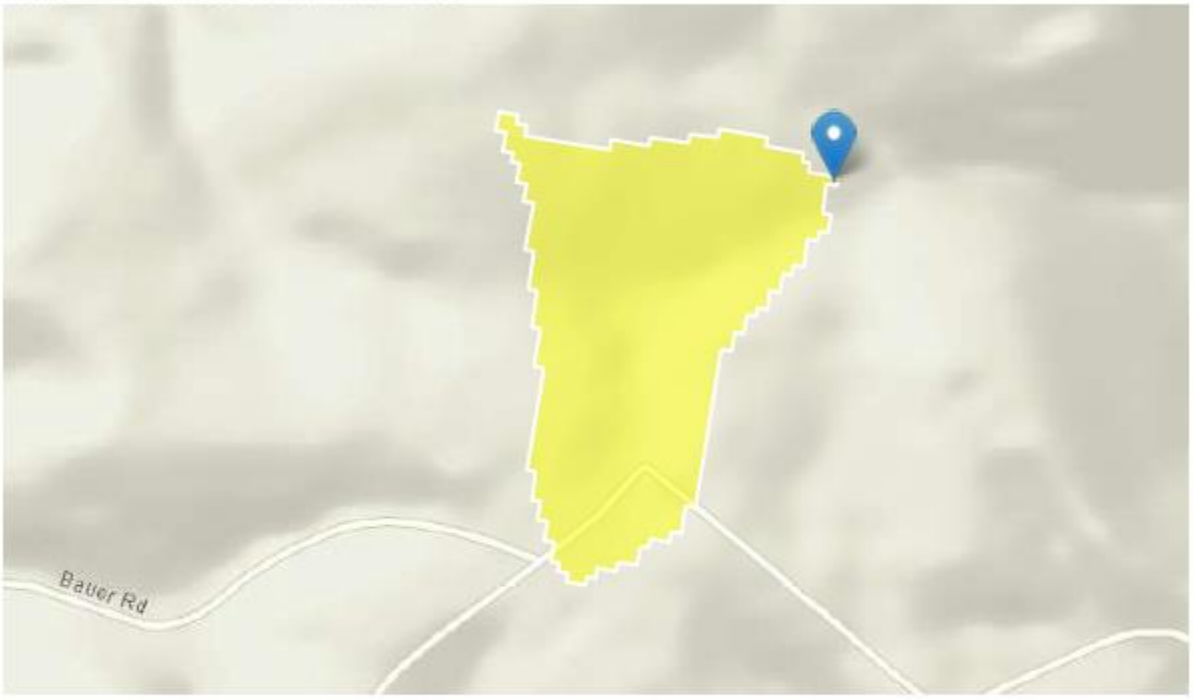
WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20D	33564	RACCOON CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
0.820	Montgomery Ridg	PA0255882	0.000	CBOD5	25		
				NH3-N	2.85	5.7	
				Dissolved Oxygen			5

StreamStats Report

Region ID: PA
Workspace ID: PA20210528172705106000
Clicked Point (Latitude, Longitude): 40.64548, -80.35924
Time: 2021-05-28 13:27:18 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0389	square miles
ELEV	Mean Basin Elevation	1093	feet

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0389	square miles	2.26	1400

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
ELEV	Mean Basin Elevation	1093	feet	1050	2580

Low-Flow Statistics Disclaimers [Low Flow Region 4]

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 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.000643	ft^3/s
30 Day 2 Year Low Flow	0.00143	ft^3/s
7 Day 10 Year Low Flow	0.000142	ft^3/s
30 Day 10 Year Low Flow	0.000385	ft^3/s
90 Day 10 Year Low Flow	0.000904	ft^3/s

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. (http://pubs.usgs.gov/sir/2006/5130/)

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Southwest Regional Office
October 25, 2018
(412) 442-5874

SUBJECT: **Point of First Use Survey**
Unnamed and Undocumented Tributary to Racoon Creek
State Water Plan 20D HUC Code 05030101, Stream Code N/A
Potter Township, Beaver County, Pennsylvania

To: Tom Flanagan
Sewage Planning Supervisor

From: Jamie Detweiler
Aquatic Biologist 2
Southwest Regional Office

On August 27, 2018, the Clean Water Program biologists performed an examination of an unnamed tributary to Racoon Creek that is not listed on a USGS topographic map or in the USGS Hydrological Unit Code (HUC) database (Figure 1). On Figure 1 we put a blue and yellow line as to our best guess where the unnamed tributary goes. It will be up to John Griffin of our Central office and his contacts as USGS to figure out the path of the unnamed tributary to Racoon Creek on the National Hydrologic Data (NHD) layer. The property is Yellow Gate Estates Phase III Development in Potter Township, Beaver County (Figure 1). Bill Davis from the Department accompanied us as well as Earl Shamp representing the developers. The watercourse was approximately 1 meter wide, with a forested riparian zone (Figures 2 and 3) The Latitude of the sample location was 40.64543119° and the longitude was -80.35921259°.

This survey was performed using a D-frame kick net. Each kick disturbed a 1m sq. area. Six kicks were conducted.

According to the "Implementation Guidance for Evaluating Wastewater Discharges to Drainage Swales and Ditches," a stream has an aquatic use where it is capable of supporting a benthic macroinvertebrate population composed of two or more recognizable taxonomic groups. The representative organisms must be large enough to be seen by the unaided eye and retained by a US Standard No. 30 Sieve (0.595 mm) as well as living part of their life cycle within or upon substrates in a body of water. In addition, the organisms must have relatively long aquatic life stages.

Sampling Results

The results from the kick samples collected a total of sixteen macroinvertebrate family level taxa, and 3 higher taxa. They included the following families: Heptageniidae (Flathead Mayflies), Leuctridae (Rolled-winged Stoneflies), Gerridae (Water Striders), Vellidae (Riffle bugs), Sialidae (Alderflies), Hydropshychidae (Net-spinning Caddisflies), Molannidae (Hood Casemaker Caddisflies), Polycentropodidae (Tube Maker Caddisflies), Dytiscidae (Predaceous Diving Beetles), Hydrophilidae (Scavenger Beetles), Chironomidae (Midges), Tipulidae (Crane Flies), Centropogonidae (Biting Midges), Tabanidae (Horse Flies), Stratyomyidae (Soldier Flies), and Cyrenidae (basket clams); and the following higher taxa: Oligochaeta (Segmented worms), Platyhelmenthes (Flat Worms), and Colembola (Spring Tails).

The water chemistries were taken out in the field with an YSI Pro DSS multimeter were as follows: Temperature 20.40° C, DO of 7.76mg/l, Specific Conductivity 513µg/cm and a pH of 7.13.

Conclusion

Six of the nineteen taxa identified have long-lived taxa. The presence of these macroinvertebrates indicates an aquatic life use that must be protected. There is an aquatic life use in the Unnamed and Undocumented Tributary to Racoon Creek and the discharge permit limits should support this aquatic use.

CC: **John Griffin**
Stacey Greenwald
Bill Davis
Don Leone
Chris Kriley
Stream Files

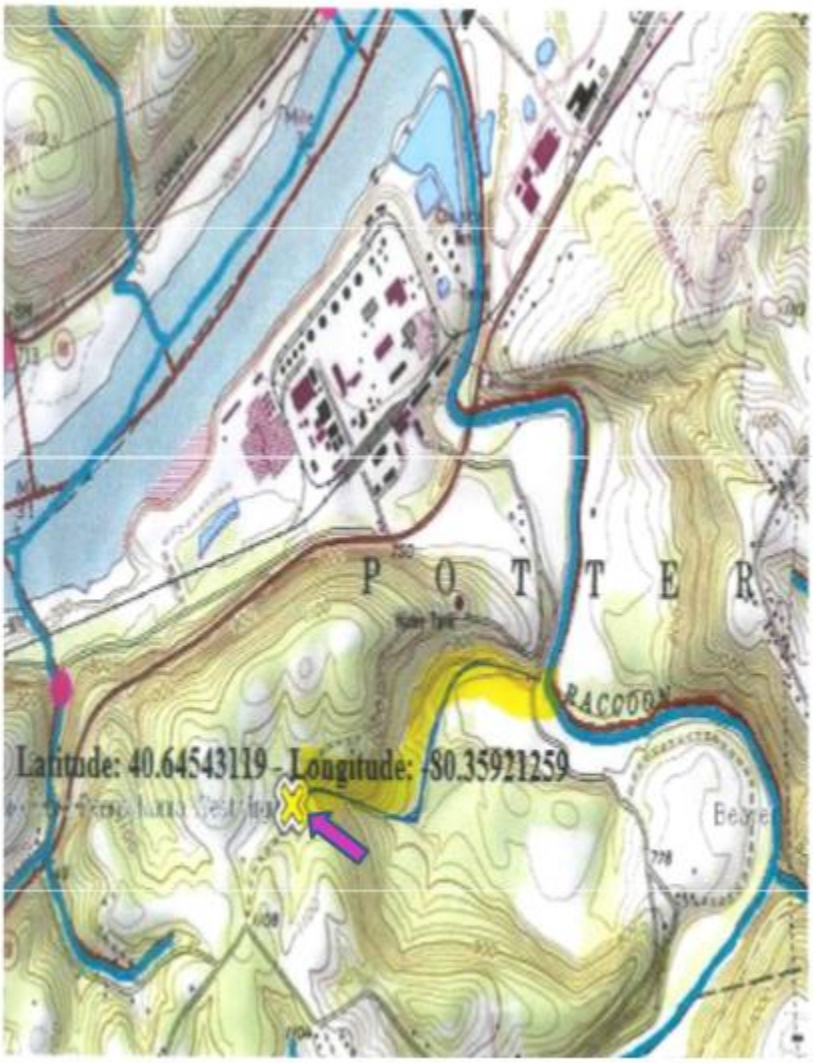


Figure 1. Unnamed and un-documented stream to Racoon Creek

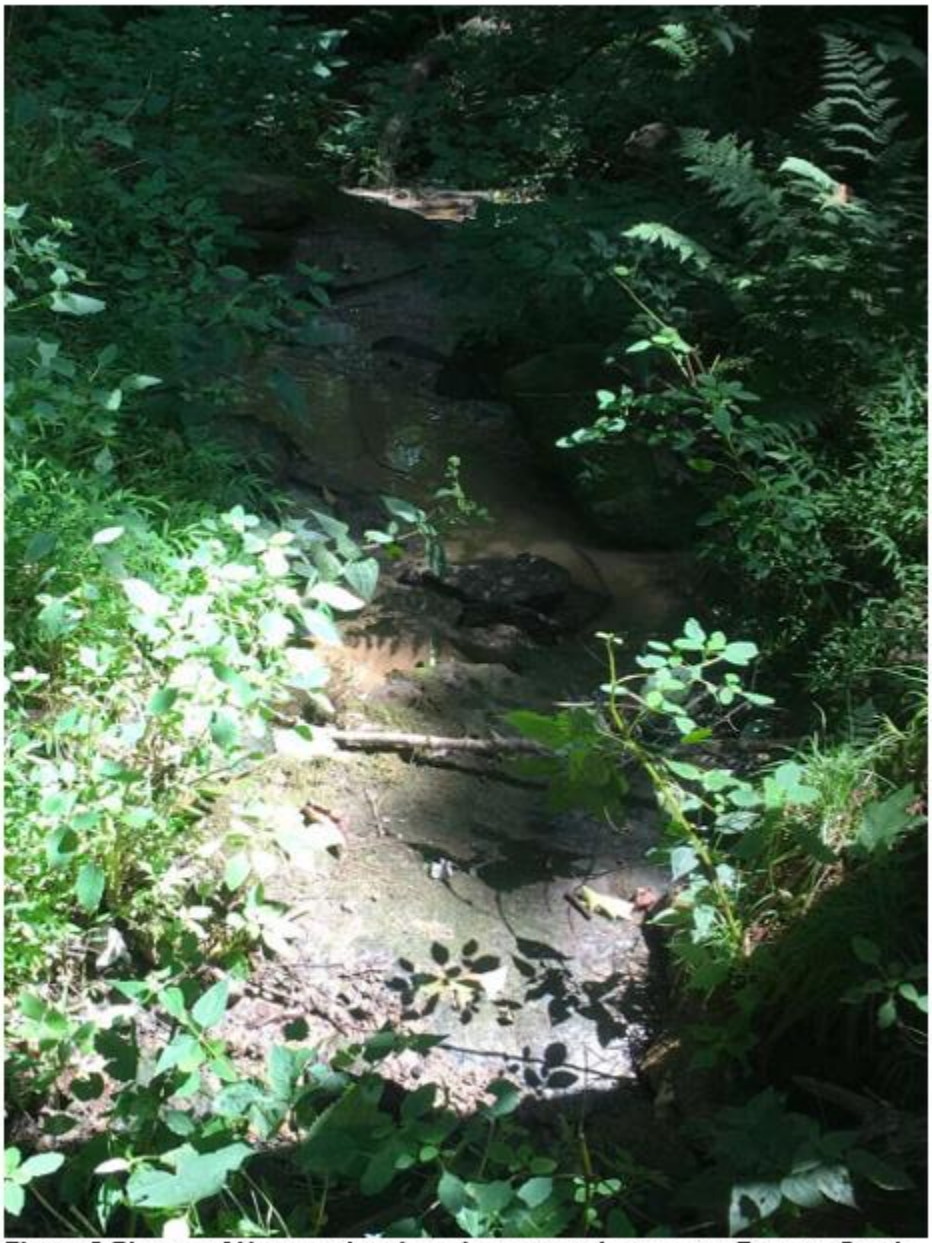


Figure 2 Picture of Unnamed and un-documented stream to Racoon Creek

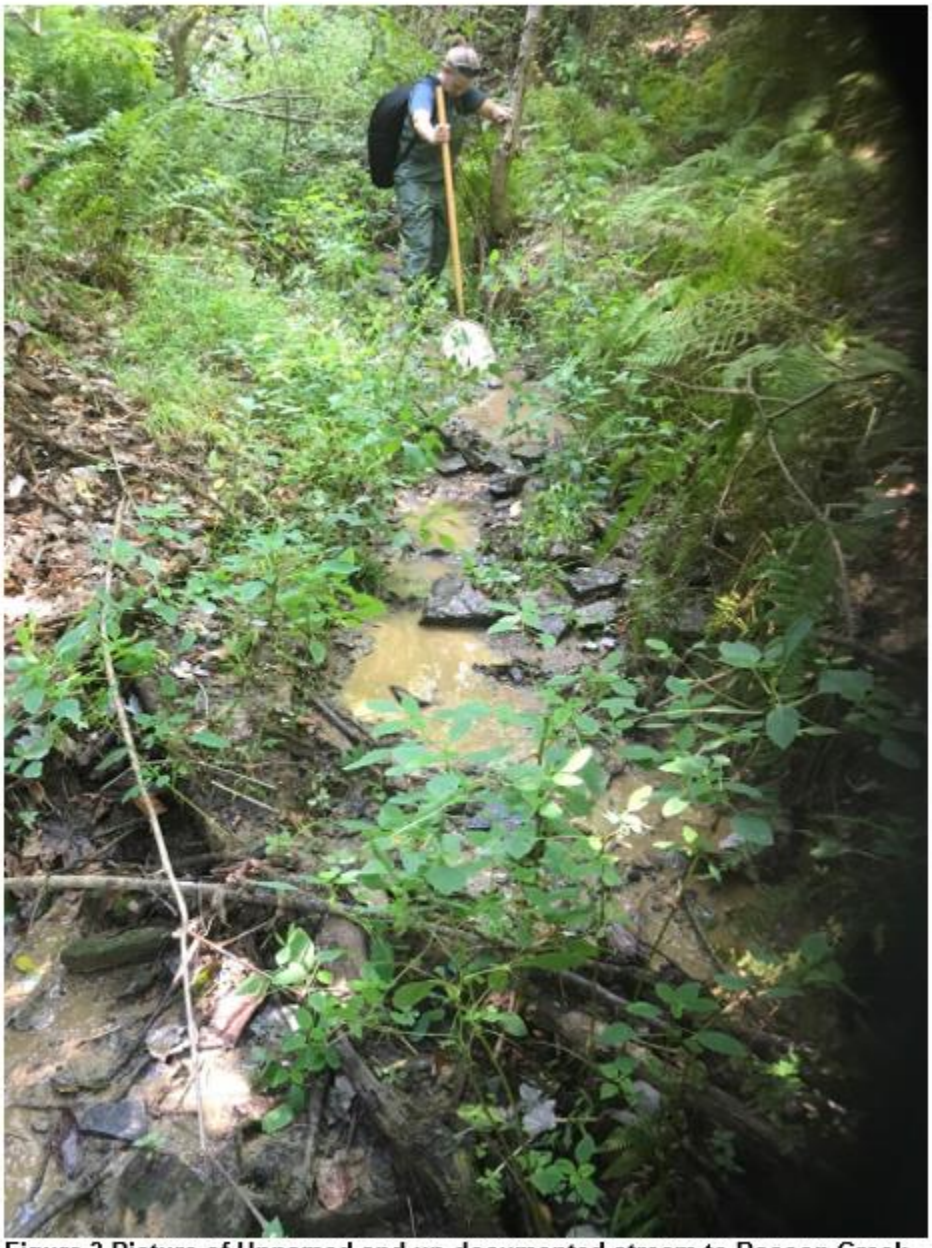


Figure 3 Picture of Unnamed and un-documented stream to Racoon Creek