pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0261416**
Facility Type	**Municipal**	APS ID	**953796**
Major / Minor	**Minor**	Authorization ID	**1414820**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Reading Township Municipal Authority Adams County**	Facility Name	**Reading Township Lauchmans Bottom STP**
Applicant Address	843 W Middle Street	Facility Address	Conewago Drive
	Hanover, PA 17331-5011		East Berlin, PA 17316
Applicant Contact	Ryan Swope	Facility Contact	Ryan Swope
Applicant Phone	(717) 880-5738	Facility Phone	(717) 880-5738
Client ID	43791	Site ID	728611
Ch 94 Load Status	Not Overloaded	Municipality	Reading Township
Connection Status	No Limitations	County	Adams
Date Application Received	October 20, 2022	EPA Waived?	Yes
Date Application Accepted	October 25, 2022	If No, Reason	
Purpose of Application	NPDES permit renewal		

Summary of Review

William. F. Hill & Associates a division of Keller Engineers, on behalf of the Reading Township Municipal Authority, has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of the NPDES permit. The permit was reissued on January 12, 2018 and became effective on February 1, 2018. The permit expired on January 31, 2023.

The facility has an average annual design flow and a hydraulic design capacity of 0.04 MGD. The authorized discharge of treated sewage is from the existing treatment plant located in Reading Township, Adams County into Conewago Creek.

The WQM Part II Permit No. 0110401 was issued on October 31, 2011, however the Wastewater treatment plant is not constructed based on the NPDES renewal application document showed on page 1.

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

Changes from the previous permit: The E. Coli. monitoring and report requirements will add to the permit. Ammonia-Nitrogen limit of 75 mg/L IMAX corrected to 78.0 mg/L.

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	February 24, 2023
X		/s/ Daniel W. Martin, P.E. / Environmental Engineer Manager	April 26, 2023

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.04
Latitude	39º 56' 2.0"	Longitude	-76º 59' 5.0"
Quad Name	Abbottstown	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Conewago Creek (WWF)	Stream Code	08303
NHD Com ID	57470779	RMI	40.073
Drainage Area	218 mi.^{2}	Yield (cfs/mi^2)	0.067
Q_{7-10} Flow (cfs)	14.6	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	394.7	Slope (ft/ft)	
Watershed No.	7-F	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	Wrightsville Borough Water System		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	28.5 miles	Distance from Outfall (mi)	Approximate 53.0 miles

Changes Since Last Permit Issuance: None, facility is not built yet.

Drainage Area
The discharge is to Conewago Creek at RMI 40.073 miles. A drainage area upstream of the discharge is estimated to be 218 mi.^{2}, according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow
According to StreamStats, the point of first use has a Q_{7-10} of 14.6 cfs and a drainage area of 218 mi.^{2}, which results in a Q_{7-10} low flow yield of 0.067 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} = 14.6 cfs
Low Flow Yield = 14.6 cfs / 218 mi.^{2} = 0.067 cfs/mi.^{2}
Q_{30-10} = 1.36 * 14.6 cfs = 19.86 cfs
Q_{1-10} = 0.64 * 14.6 cfs = 9.34 cfs

Conewago Creek
25 Pa. Code § 93.90 classifies Conewago Creek as Warm Water & Migratory Fishes (WWF & MF) surface water. Based on the 2022 Integrated Report, Conewago Creek, assessment unit IDs 11762 & 18584, 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 Wrightsville Borough Water System in York County, approximately 53.0 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: Reading Township Municipal Authority (Launchman's Bottom WWTF)				
WQM Permit No.	**Issuance Date**			
0110401	10/3/2011			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Ammonia Reduction	Sequencing Batch Reactor	Ultraviolet	0.04
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.04	80	Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: the facility is not built yet.

Other Comments:
Reading Township Municipal Authority is a 0.04 MGD SBR with aerobic digestion Minor Sewer Facility (MISF1) located in Reading Township, Adams County which will discharge treated sewage through outfall 001 into Conewago Creek in watershed 07-F. The Hydraulic Design Capacity is 0.04 MGD and organic loading capacity is 80 lbs. BOD_5/day. The receiving stream is classified as WWF, MF. The new NPDES and WQM permits were issued on October 31, 2011. On February 10, 2023, Reading Township Municipal Authority's consultant (Mr. William Hill of Wm. F. Hill & Associates a division of Keller Engineers) via email indicated "*The Reading Township Municipal Authority following considerable review of the Lauchman's Bottom WWTF Project, has decided they will not proceed with the WWTF project and related sanitary sewer construction.*"

Per previous protection report for WQM permit, the treatment facility consists of the following units:

- One mechanical micro-screen: 0.08 MGD capacity
- Two SBR units: 0.04 MGD and 80 lbs. BOD_5/day
- One aerobic digester: 0.0094 MGD
- One UV disinfection unit: 0.144 MGD
- One outfall to Conewago Creek

Alum will be used as needed for phosphorus precipitation.

Compliance History	
Summary of DMRs:	None available since the facility is not built yet
Summary of Inspections:	11/08/2019, Mr. Bettinger, DEP environmental Trainee, conducted an inspection to determine if the facility has been constructed. There was no outfall pipe observed at this location. Construction of WWTP in the area was not noted.

Other Comments:

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.04
Latitude 39º 56' 2.00" **Longitude** -76º 59' 5.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

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

Comments: The Total Residual Chlorine is not applied because this facility uses UV disinfection.

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 (Document 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 25°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_3-N 0 mg/L (Assumed since no upstream WWTPs)

The detailed model results are attached. The above method indicates that at a discharge of 0.040 MGD, limits (rounded according to the NPDES Technical Guidance 362-0400-001) of 25.0 mg/L NH_3-N as a monthly average (AML) and 50.0 mg/L NH_3-N instantaneous maximum (IMAX) are necessary to protect the aquatic life from toxicity effects. Due to anti-backsliding policy, the existing average monthly limit (AML) of 13.0 mg/L, and IMAX of 26.0 mg/L will remain in the proposed permit. Winter NH_3-N limits are derived by a seasonal multiplier of 3, per 391-2000-013. Mass limits are calculated as follows:

Summer average monthly mass limit: 13.0 mg/L x 0.040 MGD x 8.34 = 4.34 (4.0) lbs/day
Winter average monthly mass limit: 39.0 mg/L x 0.040 MGD x 8.34 = 13.01 (13.0) lbs/day

Dissolved Oxygen (D.O.):
A minimum of 5.0 mg/L for D.O. is an existing effluent limit and will remain unchanged in the draft permit as recommended by DEP's SOP. This requirement has also been assigned to other sewage facilities in the region. 5.0 mg/L is taken directly from 25 Pa. Code § 93.7 and it is also determined to be appropriate per water quality modeling.

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

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$):
The attached computer printout of the WQM 7.0 stream model indicates that an average monthly limit of 25.0 mg/L, or secondary treatment, is adequate to protect the water quality of the stream. Due to anti-backsliding policy, the existing average monthly limit (AML) of 25.0 mg/L, average weekly limit (AWL) of 40.0 mg/L and IMAX of 50.0 mg/L will remain in the proposed permit. Mass limits are calculated as follows:

Average monthly mass limit: 25.0 mg/L x 0.04 MGD x 8.34 = 8.34 (8.0) lbs/day
Average weekly mass limit: 40.0 mg/L x 0.040 MGD x 8.34 = 13.3 (13.0) lbs/day

Total Suspended Solids (TSS):
The existing limits of 30.0 mg/L average monthly, 45.0 mg/L average weekly, and 60.00 mg/L instantaneous maximum will remain in the proposed permit based on the minimum level of effluent quality attainable by secondary treatment based on 25 Pa. Code § 92a.47. Mass limits are calculated as follows:

Average monthly mass limit: 30.0 mg/L x 0.040 MGD x 8.34 = 10.01 (10.0) lbs/day
Average weekly mass limit: 45.0 mg/L x 0.040 MGD x 8.34 = 15.01 (15.0) lbs/day

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 – 0.5 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 monitor and report the UV intensity (mW/cm^2) will remain in the proposed permit.

Influent BOD_5 and TSS Monitoring:
The permit will include influent BOD_5 and TSS monitoring at the same frequency as is done for effluent in order to implement 25 Pa. Code § 94.12 and assess percent removal requirements, per DEP policy.

Toxics:
DEP utilizes a Toxics Management Spreadsheet (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.

Total Phosphorus:
The discharge is located in lower Susquehanna River basin. Phosphorus limitations are based on the Department's Implementation Guidance for Section 96.5 Phosphorus Discharges to Free-flowing Streams, dated 10/27/97 (ID No. 391-2000-018). Total phosphorus loading from this discharge would be 8.34 x 10 mg/l x 0.04 MGD or 3.34 lbs/day. Using the equation that was documented in EPA's Chesapeake Bay Management Report, Total P @ Y = Total P x 0.99^Y, where Y = stream miles to PA-MD line, the actual loading to the critical part of the Susquehanna River would be 1.48 lbs/day at an estimated distance of 80.83 miles. This loading represents 1.48 lbs/day ÷ 3,814 lbs/day or 0.039% of the total phosphorus loading of all discharges in the Lower Susquehanna River Basin. According to the above phosphorus guidance, phosphorus removal will be required if this percentage is > 0.25%. Therefore, since 0.039% < 0.25%, phosphorus limitations will not be required. The existing permit has monitoring requirement in Part A of the permit which will be carried over.

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

Chesapeake Bay Strategy:
In the Phase 3 WIP Wastewater Supplement revised on July 29, 2022, Attachment C, page 29, of this document shows that Reading Township Municipal Authority-Lauchmans Bottom STP has been allocated 0.0 lbs/year of TN and 0.0 lbs/year of TP. This approach, consistent with the Chesapeake Bay TMDL, was based on the actual performance data previously evaluated by the Department. Since the permittee is easily capable of achieving compliance with these loads, the Department determines that no "compliance schedule" for the requirements associated with the Chesapeake Bay

Strategy is necessary. Accordingly, the Chesapeake Bay nutrient existing limitations and monitoring requirements will remain in the proposed permit.

Phase 3 WIP Wastewater Supplement
Revised, July 29, 2022

NPDES Permit No.	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0232971	FRANKLIN TWP LAIRDSVILLE WWTP	7/30/2018	7/31/2023	10/1/2018	60	9.7	0.656	0.517
PA0233692	SOUTH CREEK TOWNSHIP WWTP	6/11/2020	6/30/2025	2/1/2015	0	0	0.732	0.399
PA0234028	WETLAND EXT PROJ	5/22/2019	5/31/2024	10/1/2013	0	0	0.641	0.323
PA0247715	AMBLEBROOK GETTYSBURG	11/19/2020	5/31/2022	01/01/2009	5479	274	0.514	0.720
PA0248029	HUSTONTOWN STP	7/16/2020	7/31/2025	2/1/2013	682	85	0.683	0.298
PA0248061	JEFFERSON CODORUS STP	9/21/2020	9/30/2025	10/1/2013	6,624	828	0.709	0.411
PA0260738	NITTERHOUSE CONCRETE PRECAST PLT	11/22/2017	11/30/2022	10/1/2017	0	0	0.932	0.851
PA0261131	TAMARACK MHP	3/1/2019	2/29/2024	10/1/2008	1,260	0	0.558	0.553
PA0261343	JOSHUA HILL STP	7/21/2015	7/31/2020	8/1/2015	0	0	0.175	0.322
PA0261378	SHEETZ CLARKS FERRY	11/22/2016	11/30/2021	10/1/2013	38	3.8	0.739	0.400
PA0261416	READING TWP LAUCHMANS BOTTOM STP	1/12/2018	1/31/2023	12/1/2011	0	0	0.684	0.189
PA0261572	MT HOPE NAZARENE RETIREMENT COMM	1/23/2020	1/31/2025	10/1/2011	605	0	0.596	0.477
PA0261645	HERITAGE HOUSE WHITE SULPHUR SPRINGS	11/17/2017	11/30/2022	10/1/2011	380	0	0.472	0.216
PA0261661	COMFORT INN WASTEWATER	3/26/2020	3/31/2025	10/1/2012	181	0	0.780	0.477
PA0261718	WINTER GREENES HOMEOWNERS ASSOCIATION	10/26/2018	10/31/2023	7/1/2012	0	0	0.668	0.063
PA0262072	KNOUSE FOODS PEACH GLEN FRUIT PROC FAC	4/20/2016	4/30/2021	5/1/2016	0	0	0.495	0.218
PA0262137	LOG CABIN MHP STP	9/15/2015	9/30/2020	10/1/2015	0	0	0.602	0.563
PA0263711	BENEZETTE WWTP	4/17/2018	4/30/2023	10/1/2012	0	0	0.644	0.241
PA0266086	SPRING GROVE STP	9/23/2015	9/30/2020	10/1/2015	7,306	974	0.796	0.439
PA0266663	GETTYSBURG BATTLEFIELD RESORT STP	6/21/2018	6/30/2023	10/1/2018	0	0	0.631	0.720
PA0276073	LAKE CAREY WWTP	7/19/2018	7/31/2023	10/1/2018	0	0	0.806	0.517
PA0247910	BETHEL TOWNSHIP FRYSTOWN STP	5/24/2021	7/31/2024	6/1/2021	8,045	188	0.735	0.455

Biosolids Management:
Digested Sludge is sent out periodically to the drying beds.

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.

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

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

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	25°C	(Default)
*	Stream pH	7.0	(Default)
*	Stream Temperature	20°C	(Default)

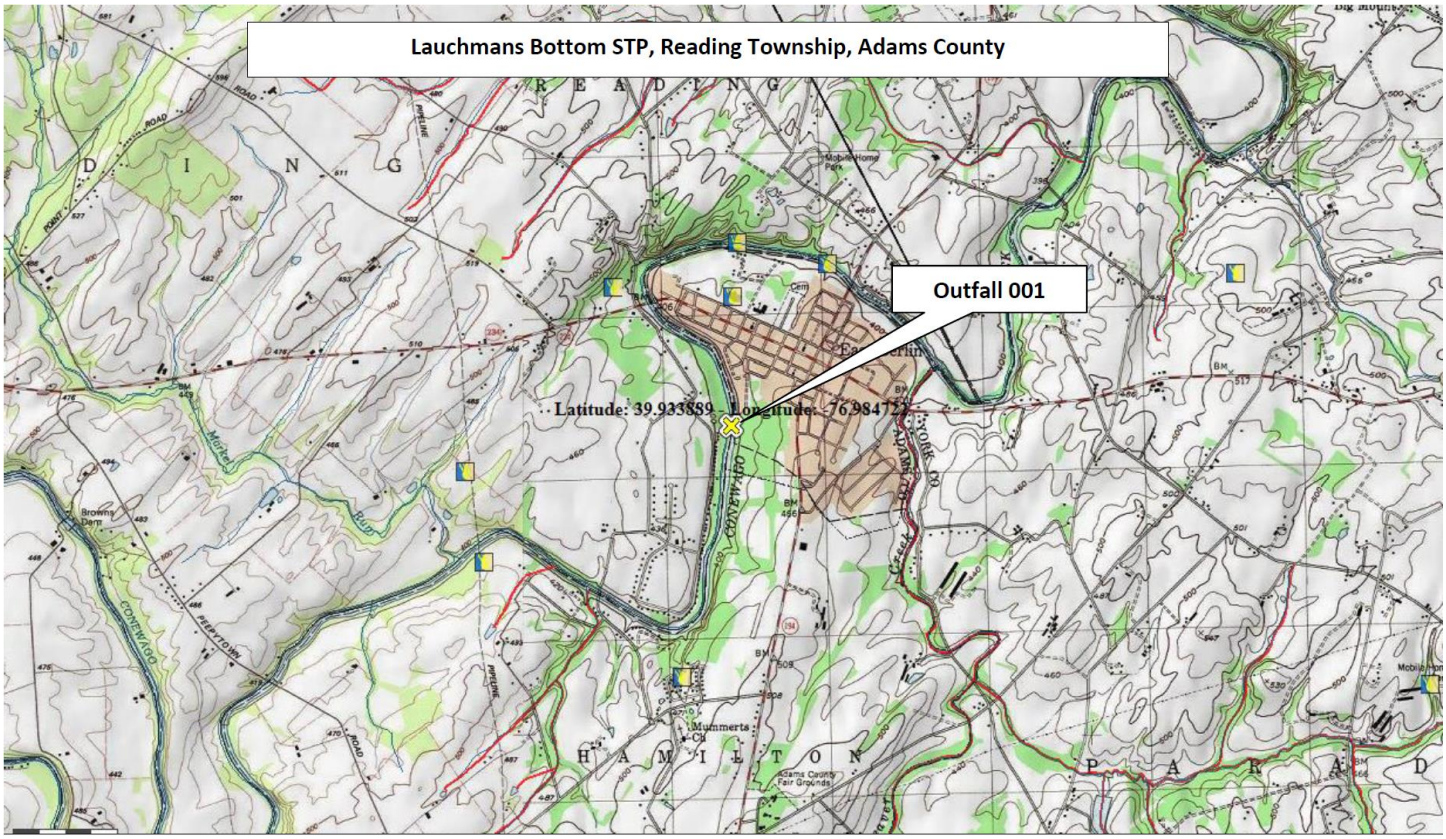
The following two nodes were used in modeling:

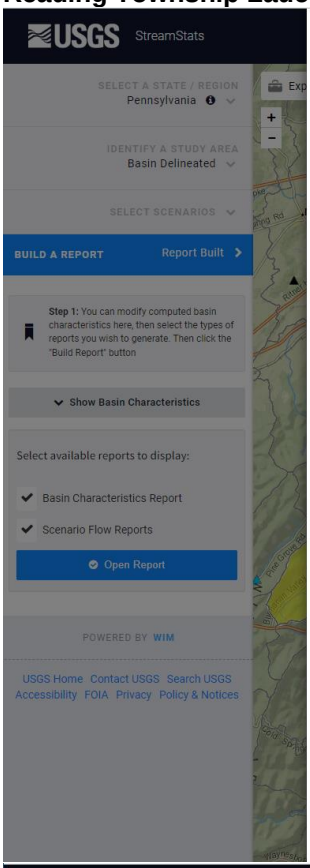
Node 1: Outfall 001 at Conewago Creek (08303)

Elevation:	394.7 ft (USGS)
Drainage Area:	218 mi^2 (USGS StreamStats)
River Mile Index:	40.073 (PA DEP eMapPA)
Low Flow Yield:	0.067 cfs/mi^2
Discharge Flow:	0.04 MGD

Node 2: At the confluence with Beaver Creek (08760)

Elevation:	385 ft (USGS)
Drainage Area:	237 mi^2 (USGS StreamStats)
River Mile Index:	37.97 (PA DEP eMapPA)
Low Flow Yield:	0.067 cfs/mi^2
Discharge Flow:	0.00 MGD





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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	3.4071	degrees
DRNAREA	Area that drains to a point on a stream	218	square miles
ROCKDEP	Depth to rock	4.7	feet
URBAN	Percentage of basin with urban development	3.3843	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [99.8 Percent (218 square miles) Low Flow Region 1]

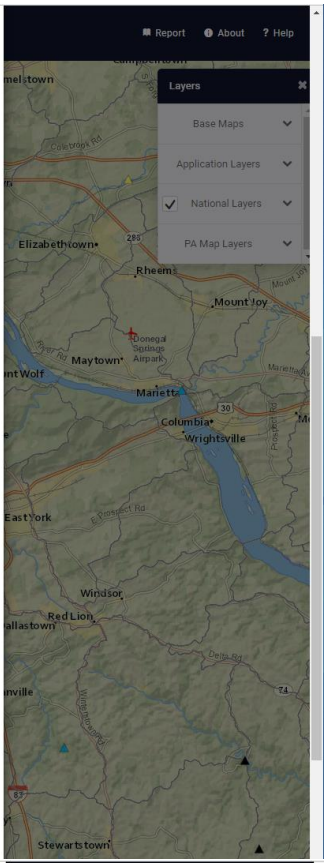
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	218	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	3.4071	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.7	feet	4.13	5.21
URBAN	Percent Urban	3.3843	percent	0	89

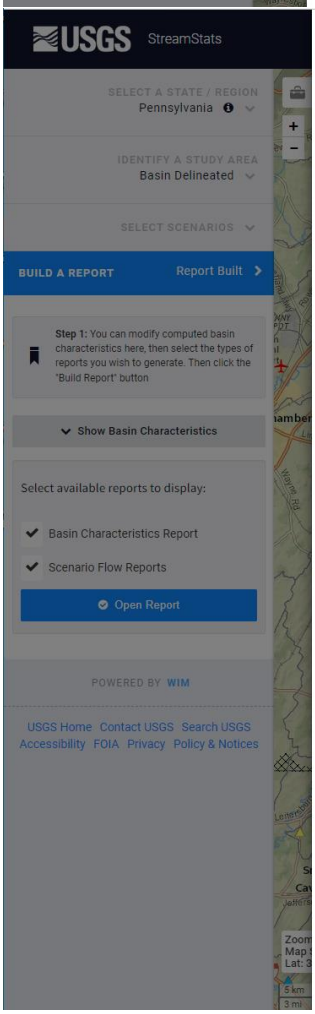
Low-Flow Statistics Flow Report [99.8 Percent (218 square miles) Low Flow Region 1]

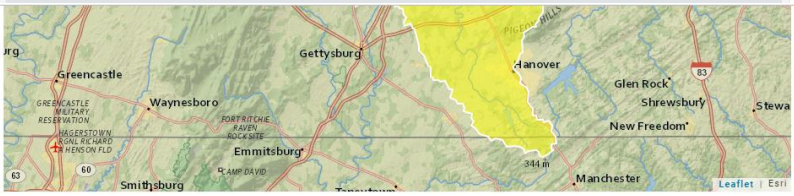
PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	30.4	ft^3/s	46	46
30 Day 2 Year Low Flow	41.5	ft^3/s	38	38
7 Day 10 Year Low Flow	14.6	ft^3/s	51	51
30 Day 10 Year Low Flow	20	ft^3/s	46	46
90 Day 10 Year Low Flow	34.2	ft^3/s	41	41

Low-Flow Statistics Citations







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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	3.4321	degrees
DRNAREA	Area that drains to a point on a stream	237	square miles
ROCKDEP	Depth to rock	4.7	feet
URBAN	Percentage of basin with urban development	3.3413	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [99.8 Percent (237 square miles) Low Flow Region 1]

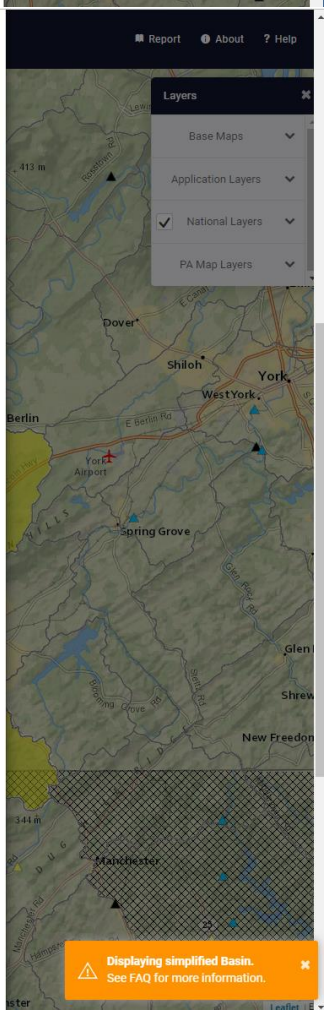
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	237	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	3.4321	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.7	feet	4.13	5.21
URBAN	Percent Urban	3.3413	percent	0	89

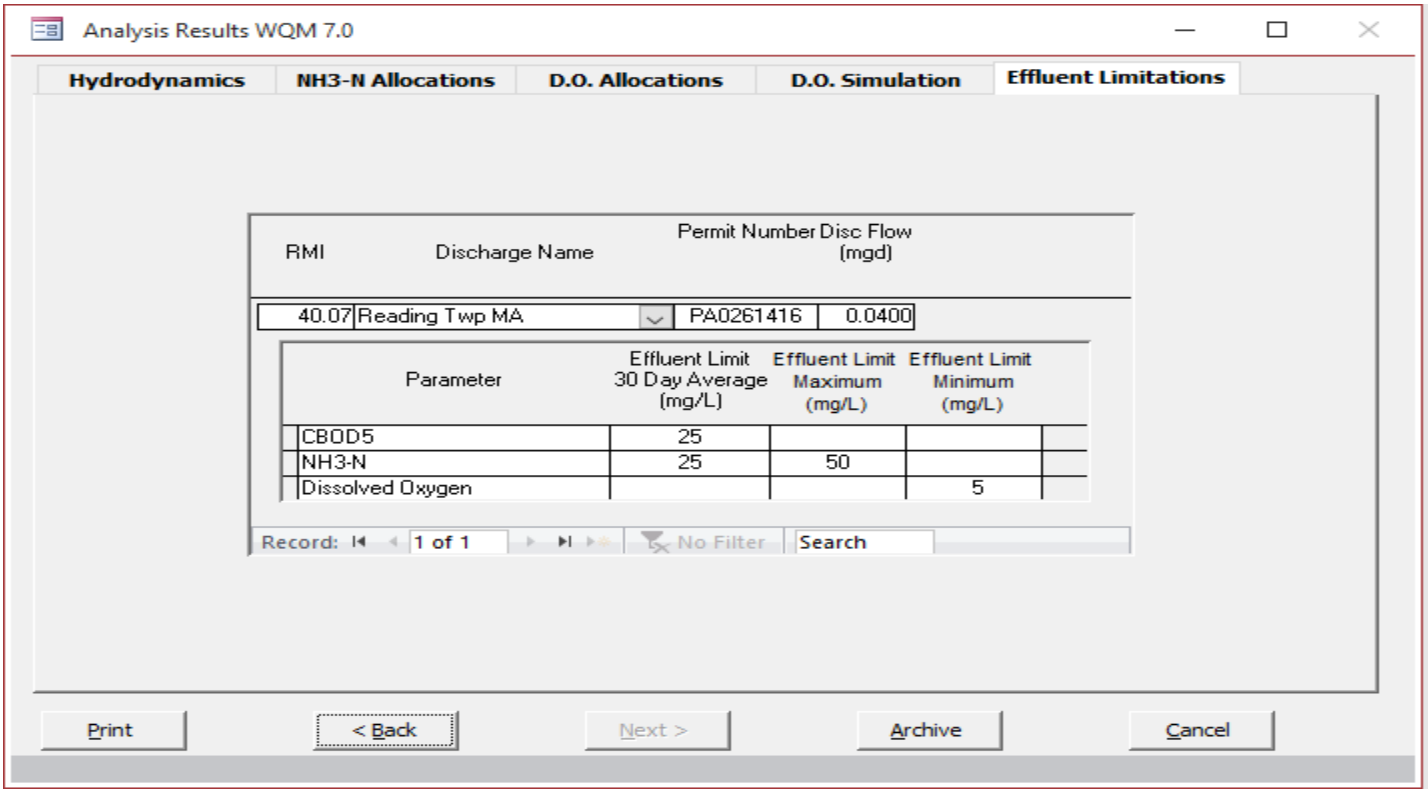
Low-Flow Statistics Flow Report [99.8 Percent (237 square miles) Low Flow Region 1]

PII: Prediction Interval-Lower, Plu: 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	33.4	ft^3/s	46	46
30 Day 2 Year Low Flow	45.4	ft^3/s	38	38
7 Day 10 Year Low Flow	16.1	ft^3/s	51	51
30 Day 10 Year Low Flow	22	ft^3/s	46	46
90 Day 10 Year Low Flow	37.5	ft^3/s	41	41

Low-Flow Statistics Citations




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)
40.07
Reading Twp MA
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0.0400
Parameter
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Effluent Limit Maximum (mg/L)
Effluent Limit Minimum (mg/L)
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NH3-N
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Dissolved Oxygen
5
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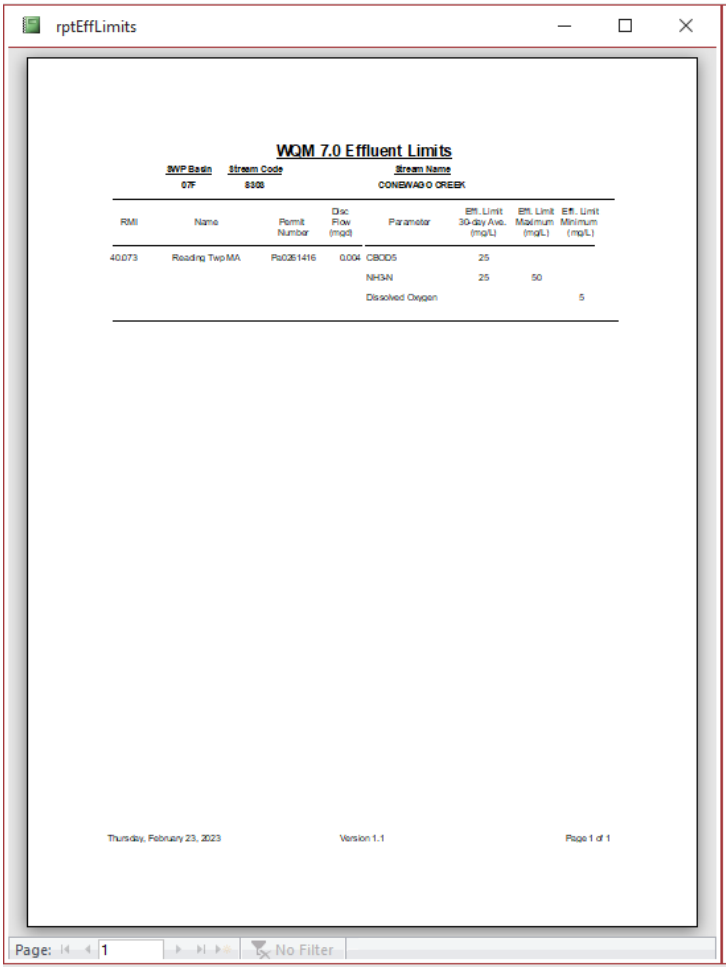
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WQM 7.0 Effluent Limits
SWP Basin
Stream Code
Stream Name
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8303
CONEWAGO CREEK
RMI
Name
Permit Number
Disc Flow (mgd)
Parameter
Effl. Limit 30-day Ave. (mg/L)
Effl. Limit Maximum (mg/L)
Effl. Limit Minimum (mg/L)
40.073
Reading Twp MA
Pa0261416
0.004
CBOD5
25
NH3N
25
50
Dissolved Oxygen
5
Thursday, February 23, 2023
Version 1.1
Page 1 of 1
Page: 1
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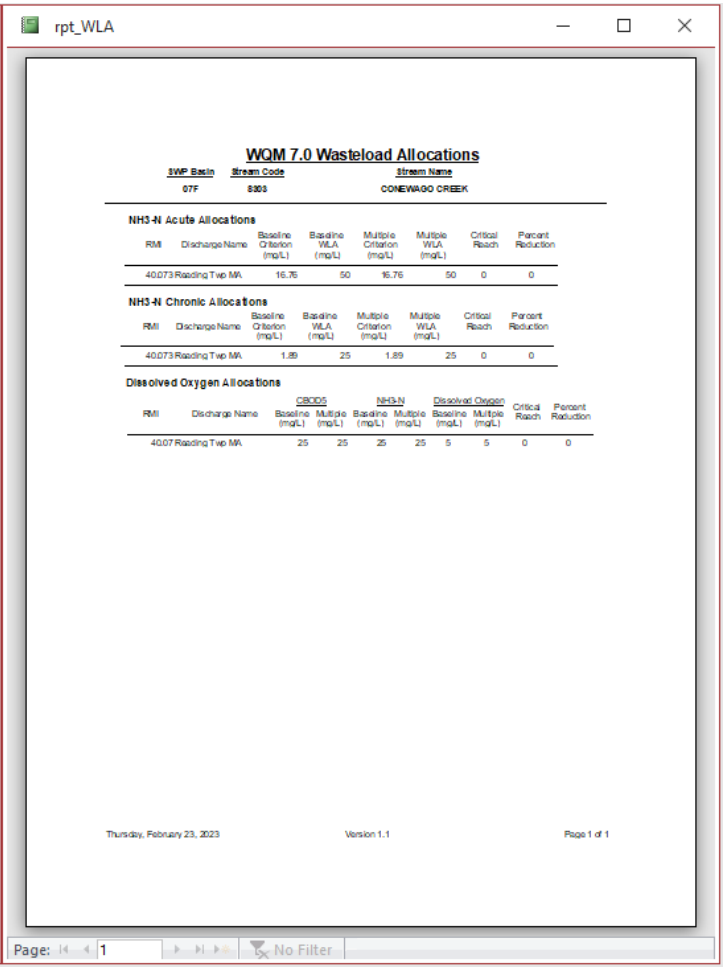

rpt_WLA
WQM 7.0 Wasteload Allocations
SWP Basin
Stream Code
Stream Name
07F
8303
CONEWAGO CREEK
NH3-N Acute Allocations
RMI
Discharge Name
Baseline Criterion (mg/L)
Baseline WLA (mg/L)
Multiple Criterion (mg/L)
Multiple WLA (mg/L)
Critical Reach
Percent Reduction
40.073
Reading Twp MA
16.76
50
16.76
50
0
0
NH3-N Chronic Allocations
1.89
25
1.89
25
Dissolved Oxygen Allocations
CBOD5
NH3-N
Dissolved Oxygen
25
5
Thursday, February 23, 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
07F	8303	CONEWAGO CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
40.073	0.004	20.002	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WD Ratio**	**Reach Velocity (fps)**
67.308	0.870	77.398	0.250
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.01	0.006	0.01	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.242	1.488	Tsivoglou	6
Reach Travel Time (days)			
0.515			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.051	2.01	0.01	8.24
0.103	2.01	0.01	8.24
0.154	2.01	0.01	8.24
0.206	2.01	0.01	8.24
0.257	2.01	0.01	8.24
0.309	2.01	0.01	8.24
0.360	2.01	0.01	8.24
0.412	2.01	0.01	8.24
0.463	2.00	0.01	8.24
0.515	2.00	0.01	8.24

Thursday, February 23, 2023 Version 1.1 Page 1 of 1

Page: 1 No Filter

rptModelSpecs

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted WD 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, February 23, 2023 Version 1.1 Page 1 of 1

Page: 1 No Filter

rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07F	8303	CONEWAGO CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
40.073	14.61	0.00	14.61	.0062	0.00087	.87	67.31	77.4	0.25	0.515	20.00	7.00
Q1-10 Flow												
40.073	9.35	0.00	9.35	.0062	0.00087	NA	NA	NA	0.19	0.661	20.00	7.00
Q30-10 Flow												
40.073	19.86	0.00	19.86	.0062	0.00087	NA	NA	NA	0.30	0.433	20.00	7.00

Thursday, February 23, 2023 Version 1.1 Page 1 of 1

Page: 1 No Filter

rptGeneral

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
07F	8303	CONEWAGO CREEK	40.073	394.70	218.00	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	0.067	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

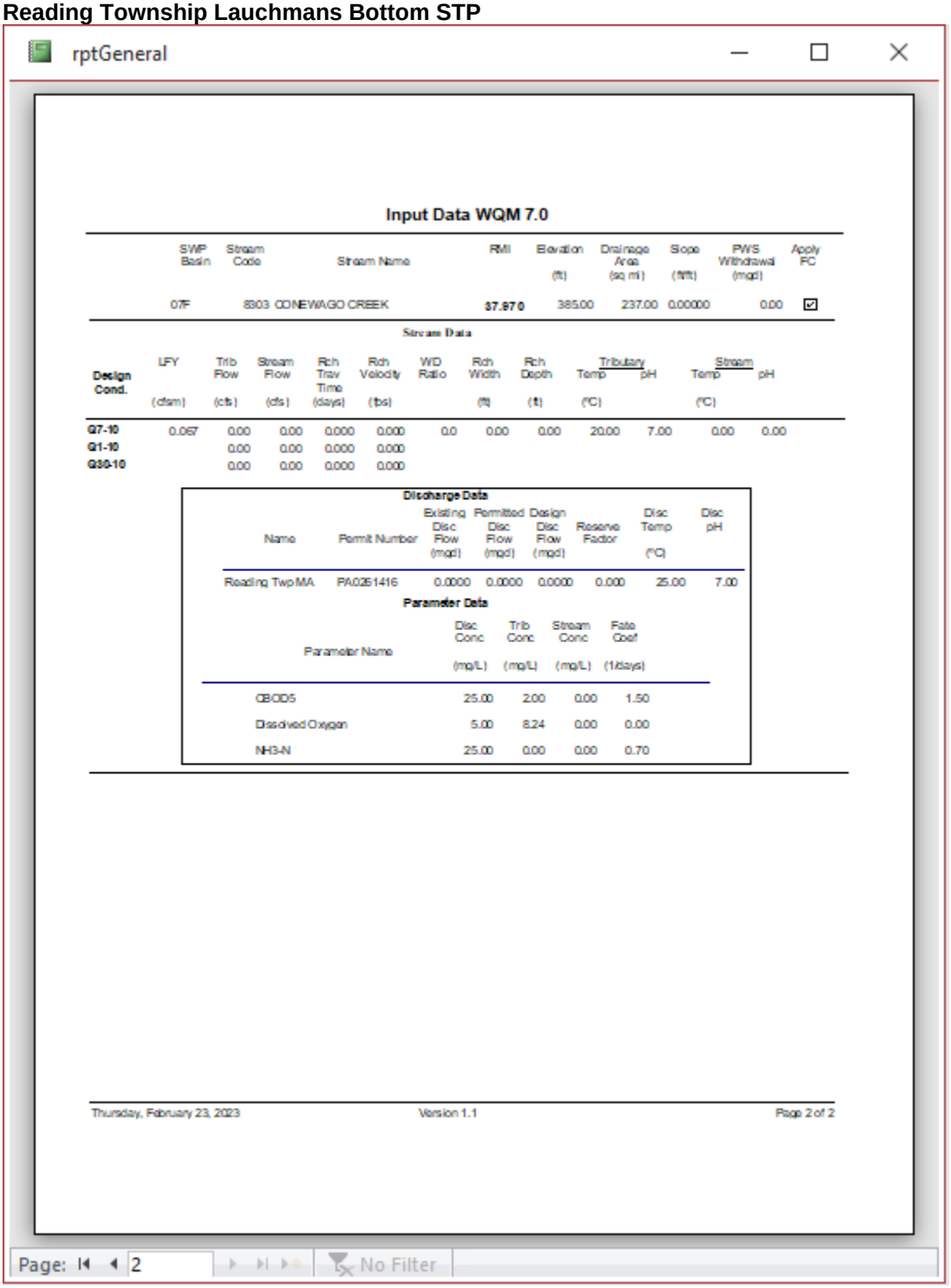
Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Reading Twp MA	Pa0261416	0.0040	0.0040	0.0040	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Thursday, February 23, 2023 Version 1.1 Page 1 of 2

Page: 1 No Filter



rptGeneral

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
07F	8303	CONEWAGO CREEK	37.970	385.00	237.00	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	0.057	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

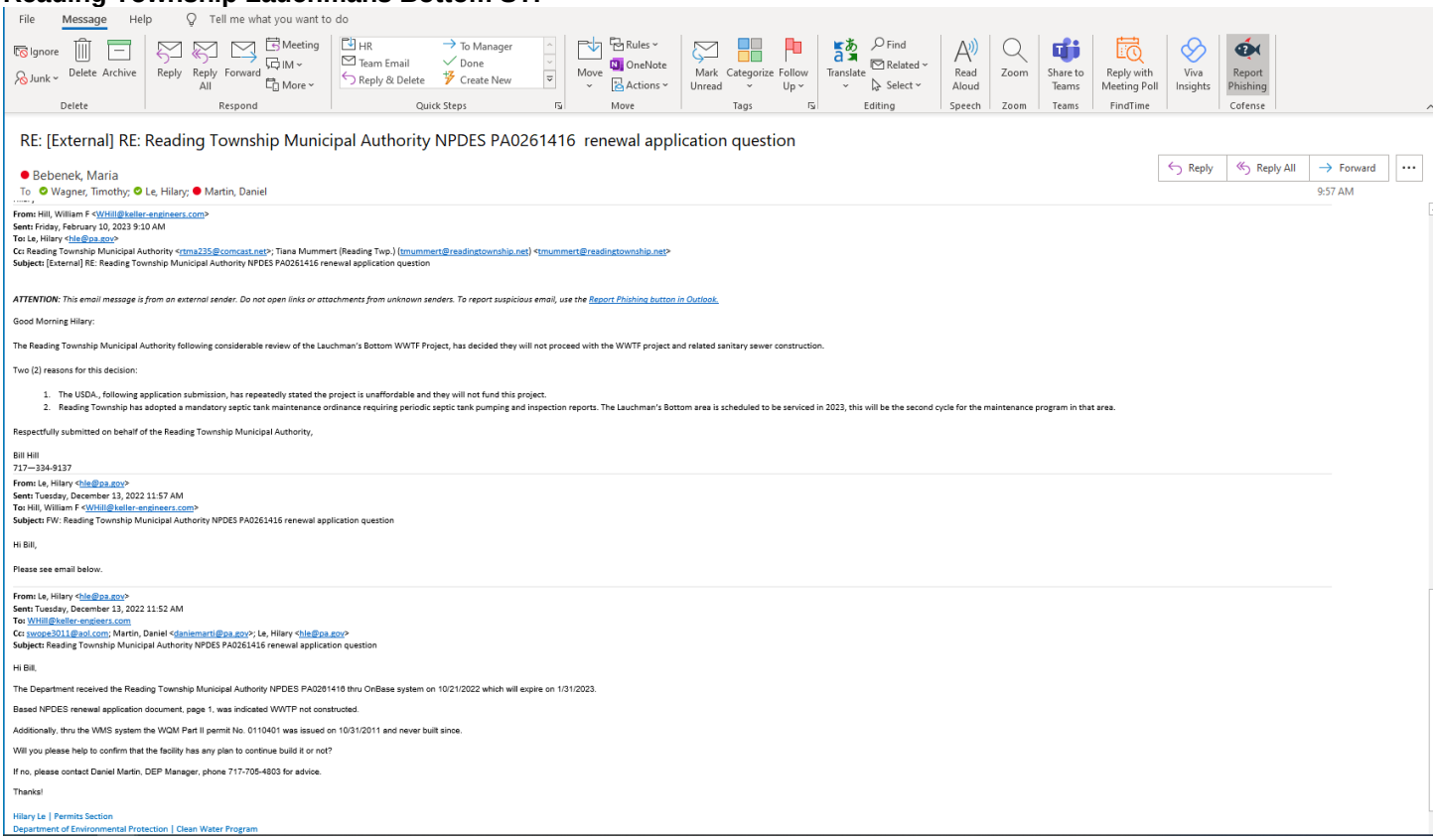
Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Reading Twp MA	PA0261416	0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Thursday, February 23, 2023 Version 1.1 Page 2 of 2

Page: 2 No Filter



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Delete Respond Quick Steps Move Tags Editing Speech Zoom Teams FindTime Cofense

RE: [External] RE: Reading Township Municipal Authority NPDES PA0261416 renewal application question

Reply Reply All Forward

Bebenek, Maria
To Wagner, Timothy; Le, Hilary; Martin, Daniel 9:57 AM

From: Hill, William F <WHill@keller-engineers.com>
Sent: Friday, February 10, 2023 9:10 AM
To: Le, Hilary <hle@pa.gov>
Cc: Reading Township Municipal Authority <rtma235@comcast.net>; Tiana Mummert (Reading Twp.) (tmummert@readingtownship.net) <tmummert@readingtownship.net>
Subject: [External] RE: Reading Township Municipal Authority NPDES PA0261416 renewal application question

ATTENTION: *This email message is from an external sender. Do not open links or attachments from unknown senders. To report suspicious email, use the Report Phishing button in Outlook.*

Good Morning Hilary:

The Reading Township Municipal Authority following considerable review of the Lauchman's Bottom WWTF Project, has decided they will not proceed with the WWTF project and related sanitary sewer construction.

Two (2) reasons for this decision:

1. The USDA., following application submission, has repeatedly stated the project is unaffordable and they will not fund this project.
2. Reading Township has adopted a mandatory septic tank maintenance ordinance requiring periodic septic tank pumping and inspection reports. The Lauchman's Bottom area is scheduled to be serviced in 2023, this will be the second cycle for the maintenance program in that area.

Respectfully submitted on behalf of the Reading Township Municipal Authority,

Bill Hill
717—334-9137

From: Le, Hilary <hle@pa.gov>
Sent: Tuesday, December 13, 2022 11:57 AM
To: Hill, William F <WHill@keller-engineers.com>
Subject: FW: Reading Township Municipal Authority NPDES PA0261416 renewal application question

Hi Bill,

Please see email below.

From: Le, Hilary <hle@pa.gov>
Sent: Tuesday, December 13, 2022 11:52 AM
To: WHill@keller-engineers.com
Cc: swope3011@aol.com; Martin, Daniel <danielmarti@pa.gov>; Le, Hilary <hle@pa.gov>
Subject: Reading Township Municipal Authority NPDES PA0261416 renewal application question

Hi Bill,

The Department received the Reading Township Municipal Authority NPDES PA0261416 thru OnBase system on 10/21/2022 which will expire on 1/31/2023.

Based NPDES renewal application document, page 1, was indicated WWTP not constructed.

Additionally, thru the WMS system the WQM Part II permit No. 0110401 was issued on 10/31/2011 and never built since.

Will you please help to confirm that the facility has any plan to continue build it or not?

If no, please contact Daniel Martin, DEP Manager, phone 717-705-4803 for advice.

Thanks!

Hilary Le | Permits Section
Department of Environmental Protection | Clean Water Program

Existing Effluent Limitations and Monitoring Requirements

The table below summarizes effluent limitations and monitoring requirements specified in the existing final NPDES permit that was in effect between December 1, 2011 to November 30, 2016.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Max Daily	XXX	XXX	XXX	XXX	Continuous	Measured
Influent (BOD and TSS)	Report	XXX	XXX	Report	XXX	XXX	2/month	24-hr comp
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Total Suspended Solids	56	84	XXX	30	45	60	2/week	24-hr comp
CBOD5	47	75	XXX	25	40	50	2/month	24-hr comp
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	XXX	2/month	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	XXX	2/month	Grab
Ammonia---N (5/1 to 9/30)	4	XXX	XXX	13	XXX	26	2/month	24-hr comp
Ammonia---N (10/1 to 4/30)	13	XXX	XXX	39	XXX	75	2/month	24-hr comp
Total Phosphorus	M&R	XXX	XXX	M&R	XXX	XXX	2/month	24-hr comp

Parameter	Effluent Limitations					Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)			Minimum Measurement Frequency	Required Sample Type
	Monthly	Annual	Minimum	Monthly Average	Maximum		
Ammonia---N	Report	Report	XXX	Report	XXX	2/month	24-hr comp
Kjeldahl---N	Report	XXX	XXX	Report	XXX	2/month	24-hr comp
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	2/month	24-hr comp
Total Nitrogen	Report	Report	XXX	Report	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	2/month	24-hr comp
Net Total Nitrogen	Report	0	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	0	XXX	XXX	XXX	1/month	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	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Intensity (mW/cm^2)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
$CBOD_5$	8.0	13.0	XXX	25.0	40.0	50.0	2/month	24-Hr Composite
BOD_5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/month	24-Hr Composite
TSS	10.0	15.0	XXX	30.0	45.0	60.0	2/month	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	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	4.0	XXX	XXX	13.0	XXX	26.0	2/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	13.0	XXX	XXX	39.0	XXX	78.0	2/month	24-Hr Composite
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite

Compliance Sampling Location:

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Net Total Nitrogen	Report	0	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	0	XXX	XXX	XXX	XXX	1/month	Calculation

Compliance Sampling Location:

Other Comments:

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☒	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☒	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☒	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☒	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☒	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other: