

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

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0081353
 APS ID 537067
 Authorization ID 1482139

Applicant and Facility Information

Applicant Name	<u>Crowe Transportation</u>	Facility Name	<u>Crowe Transportation</u>
Applicant Address	<u>2388 N Market Street</u> <u>Elizabethtown, PA 17022</u>	Facility Address	<u>2388 N Market Street</u> <u>Elizabethtown, PA 17022</u>
Applicant Contact	<u>Brian Crowe</u>	Facility Contact	<u>Marlin Martin</u>
Applicant Phone	<u>(717) 367-8535</u>	Facility Phone	<u>(717) 367-8535</u>
Client ID	<u>236567</u>	Site ID	<u>249044</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>West Donegal Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Lancaster</u>
Date Application Received	<u>April 25, 2024</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>May 8, 2024</u>	If No, Reason	<u></u>
Purpose of Application	<u>NPDES Renewal.</u>		

Summary of Review

Crowe Transportation has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit. The existing permit was issued October 28, 2019, and became effective on November 1, 2019, authorizing discharge of treated sewage from the facility into UNT 9244 to Conewago Creek. The existing permit expiration date was October 31, 2024, and the permit has been administratively extended since that time.

Per the previous fact sheet, the effluent discharges to the UNT on the south side of the Penn Central railroad tracks. The stream flows underneath the tracks for 1,100 feet to Conewago Creek. The aquatic life observed indicated a perennial stream. The existing WWTP consisted of four septic tanks in series followed by sand filters, chlorinator, and a chlorine contact tank. Iron sulfate was added to the septic tanks to remove phosphorus. The facility was used by Agway as a distribution center until 2004 when it was sold to a trucking firm (Crowe Transportation) to be used as a warehouse. Materials used by Agway such as fencing, treated lumber, and farm items are no longer stored outside.

Changes in this renewal: E. Coli monitoring has been added.

Sludge use and disposal description and location(s): Sludge holding tank with offsite disposal.

Supplemental information for this facility is provided at the end of this fact sheet.

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*,

Approve	Deny	Signatures	Date
X		Benjamin R. Lockwood Benjamin R. Lockwood / Environmental Engineering Specialist	January 30, 2025
X		Maria D. Bebenek for Daniel W. Martin, P.E. / Environmental Engineer Manager	February 4, 2025

Summary of Review

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.	<u>001</u>	Design Flow (MGD)	<u>.007</u>
Latitude	<u>40° 9' 43"</u>	Longitude	<u>76° 38' 48"</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Unnamed Tributary to Conewago Creek (TSF)</u>	Stream Code	<u>9244</u>
NHD Com ID	<u>56405541</u>	RMI	<u>0.25</u>
Drainage Area	<u>0.5 mi²</u>	Yield (cfs/mi ²)	<u>0.128</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.064</u>	Q ₇₋₁₀ Basis	<u>USGS Gage #01573560</u>
Elevation (ft)	<u>396</u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>7-G</u>	Chapter 93 Class.	<u>TSF</u>
Existing Use	<u>N/A</u>	Existing Use Qualifier	<u>N/A</u>
Exceptions to Use	<u>N/A</u>	Exceptions to Criteria	<u>N/A</u>
Assessment Status	<u>Attaining Use(s)</u>		
Cause(s) of Impairment	<u>N/A</u>		
Source(s) of Impairment	<u>N/A</u>		
TMDL Status	<u>Final</u>	Name	<u>Conewago Creek Watershed</u>
Nearest Downstream Public Water Supply Intake	<u>Columbia Water Company</u>		
PWS Waters	<u>Susquehanna River</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u></u>	Distance from Outfall (mi)	<u>25</u>

Changes Since Last Permit Issuance: Stream flows were determined by establishing a correlation to the yield of USGS gage station #01573560 on Swatara Creek. The Q₇₋₁₀ and drainage area at the gage are 62 ft³/s and 483 mi², respectively. The Q₇₋₁₀ runoff rate at the gage station was calculated as follows:

- $Q_{7-10} = (62 \text{ ft}^3/\text{s}) / 483 \text{ mi}^2 = 0.128 \text{ ft}^3/\text{s}/\text{mi}^2$

The drainage area at the discharge point = 0.5 mi².

The Q₇₋₁₀ at the discharge point = 0.5 mi² x 0.128 cfs/mi² = 0.064 ft³/s.

Other Comments: None

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	002, 003, 004	Design Flow (MGD)	Variable (Stormwater)
	40° 8' 49" (002)		76° 38' 36" (002)
	40° 8' 44" (003)		76° 38' 33" (003)
Latitude	40° 9' 33" (004)	Longitude	76° 38' 48" (004)
Quad Name		Quad Code	
Wastewater Description: Stormwater			
Receiving Waters	Unnamed Tributary to Conewago Creek (TSF)	Stream Code	9244
NHD Com ID	56405157	RMI	0.25
Drainage Area	0.5 mi ²	Yield (cfs/mi ²)	0.128
Q ₇₋₁₀ Flow (cfs)	0.064	Q ₇₋₁₀ Basis	USGS Gage #01573560
Elevation (ft)	396	Slope (ft/ft)	
Watershed No.	7-G	Chapter 93 Class.	TSF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Attaining Uses		
Cause(s) of Impairment	N/A		
Source(s) of Impairment	N/A		
TMDL Status	Final	Name	Conewago Creek Watershed
Nearest Downstream Public Water Supply Intake	Columbia Water Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	25

Changes Since Last Permit Issuance: None

Other Comments: None

Treatment Facility Summary				
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Septic Tank Sand Filter	Hypochlorite	0.007
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.007		Not Overloaded	N/A	N/A

Changes Since Last Permit Issuance: None

Other Comments: The treatment process consists of: Septic Tanks, Dosing Tanks, Sand Filter Beds, Chlorinator, Chlorine Contact Tank, Outfall 001 to UNT to Conewago Creek

Compliance History	
Summary of DMRs:	A summary of past DMR effluent data is presented on the next page of this fact sheet.
Summary of Inspections:	<p>1/28/20: A routine inspection was conducted. The sand filter beds were covered in vegetation and had ponding water, and the lateral dosing did not appear to be evenly distributing across the beds. The effluent appeared clear, and field results were within permitted limits. The stormwater outfalls were observed. The outfall west of the fire suppression lagoons had evidence of erosion.</p> <p>5/28/20: An administrative inspection was conducted. The facility was operating normally, all treatment units were operable, and there were no outstanding needs at the time of inspection.</p>

Other Comments: There are currently no open violations associated with the Applicant.

Existing Effluent Limitations and Monitoring Requirements

Outfall 001

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.3	XXX	1.0	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	2/month	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	21	XXX	42	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	7.0	XXX	14	2/month	8-Hr Composite
TKN	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Nitrate-Nitrite as N	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report Total Mo	43 Total Annual	XXX	2.0	XXX	4.0	2/month	8-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):
at Outfall 001

Outfall 002, 003, 004

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Daily Maximum	Maximum	Instant. Maximum		
Total Suspended Solids	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 002, 003, 004

Compliance History

DMR Data for Outfall 001 (from December 1, 2023 to November 30, 2024)

Parameter	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23
Flow (MGD) Average Monthly	0.00276	0.00294	0.00301 5	0.00266	0.00234	0.00313	0.00707	0.0103	0.00601	0.01179	0.0073	0.00724
Flow (MGD) Daily Maximum	0.00276	0.00294	0.00301 5	0.00266	0.00234	0.00313	0.00707	0.0103	0.00601	0.01179	0.0073	0.00724
pH (S.U.) Instantaneous Minimum	7.0	7.0	7.0	7.1	7.0	6.9	7.0	7.1	6.9	7.0	7.1	7.0
pH (S.U.) Instantaneous Maximum	7.3	7.4	7.4	7.9	7.4	7.2	7.3	7.3	7.3	7.3	7.3	7.3
TRC (mg/L) Average Monthly	0.11	0.1	0.11	0.11	0.1	0.11	0.1	0.14	0.07	0.09	0.09	0.1
TRC (mg/L) Instantaneous Maximum	0.15	0.13	0.14	0.16	0.13	0.17	0.13	0.18	0.18	0.14	0.11	0.15
CBOD5 (mg/L) Average Monthly	< 5.8	< 2	< 2	< 2	< 2	< 2.4	< 2.1	< 3	< 1.1	< 2	7.3	< 2.1
TSS (mg/L) Average Monthly	< 4	< 4	4	< 4.6	12.5	< 4	< 5	< 4	< 4	< 4	5.6	< 4
Fecal Coliform (No./100 ml) Geometric Mean	1	< 1	2	< 30	12	272	9	< 4	5	< 3	666	28
Fecal Coliform (No./100 ml) Instantaneous Maximum	1	< 2	3	900	69	500	80	16	23	11	1500	800
Nitrate-Nitrite (mg/L) Average Monthly	< 26.4	< 8.34	< 17.1	7.89	< 10	< 9	< 8.1	< 4.8	< 3.78	< 7.4	4.06	< 9.65
Total Nitrogen (mg/L) Average Monthly	< 27.1	< 9.04	< 17.8	8.67	< 10.8	< 9.7	< 8.8	< 5.5	< 4.48	< 8.34	< 5.16	< 10.35
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.1	< 0.1	< 0.17
TKN (mg/L) Average Monthly	< 0.7	< 0.7	0.7	< 0.78	< 0.87	< 0.7	< 0.7	0.7	< 0.7	0.94	1.1	< 0.7
Total Phosphorus (mg/L) Average Monthly	1.14	1.12	0.95	0.9	1.23	0.83	0.74	0.69	< 0.7	0.72	0.68	1.07

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Total Phosphorus (lbs) Total Monthly	0.8	0.9	0.7	0.6	0.7	0.6	1.0	2	1.0	2	1.0	2
Total Phosphorus (lbs) Total Annual			14									

DMR Data for Outfall 002 (from December 1, 2023 to November 30, 2024)

Parameter	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23
TSS (mg/L) Daily Maximum						14						21.5
Oil and Grease (mg/L) Daily Maximum						< 5						< 4.9

DMR Data for Outfall 003 (from December 1, 2023 to November 30, 2024)

Parameter	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23
TSS (mg/L) Daily Maximum						4						10
Oil and Grease (mg/L) Daily Maximum						< 5						< 5.3

DMR Data for Outfall 004 (from December 1, 2023 to November 30, 2024)

Parameter	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23
TSS (mg/L) Daily Maximum						< 4						< 4.0
Oil and Grease (mg/L) Daily Maximum						< 4.9						< 5.3

Development of Effluent Limitations

Outfall No. <u>001</u>	Design Flow (MGD) <u>.007</u>
Latitude <u>40° 9' 43"</u>	Longitude <u>76° 38' 48"</u>
Wastewater Description: <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 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)

Water Quality-Based Limitations

CBOD₅, NH₃-N

Pursuant to 40 CFR § 122.44(d)(1)(i), more stringent requirements should be considered when pollutants are discharged at the levels which have the reasonable potential to cause or contribute to excursions above water quality standards.

WQM 7.0 ver. 1.1b is a water quality model designed to assist DEP in determining appropriate water quality based effluent limits (WQBELs) for carbonaceous biochemical oxygen demand (CBOD₅), ammonia (NH₃-N) and dissolved oxygen (D.O.). DEP's Technical Guidance No. 391-2000-007 provides the technical methods contained in WQM 7.0 for determining wasteload allocations and for determining recommended NPDES effluent limits for point source discharges. The model was utilized for this permit renewal. The model output indicated a CBOD₅ average monthly limit of 25 mg/l, an NH₃-N average monthly limit of 16.46 mg/l, and a D.O. minimum limit of 5.0 mg/l were protective of water quality. The flow data used to run the model was acquired from USGS PA StreamStats and is included as an attachment. The CBOD₅ limit of 25 mg/l is the same as the existing permit limit, which will remain in the renewal. The existing NH₃-N limit of 7.0 mg/l is more stringent, and will remain in the permit.

There are no industrial/commercial users contributing industrial wastewater to the system and Crowe Transportation does not currently have an EPA-approved pretreatment program. Accordingly, evaluating reasonable potential of toxic pollutants is not necessary as effluent levels of toxic pollutants are expected to be insignificant.

Additional Considerations

Chesapeake Bay Total Maximum Daily Load (TMDL)

DEP developed a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). This strategy can be located in the *Pennsylvania Chesapeake Watershed Implementation Plan (WIP)*, dated January 11, 2011. Subsequently, an update to the WIP was published as the Phase 2 WIP. As part of the Phase 2 WIP, a *Phase 2 Watershed Implementation Plan Wastewater Supplement (Phase 2*

Supplement) was developed, providing an update on TMDL implementation for point sources and DEP's current implementation strategy for wastewater. A new update to the WIP was published as the Phase 3 WIP in August 2019. As part of the Phase 3 WIP, a *Phase 3 Watershed Implementation Plan Wastewater Supplement* (Phase 3 Supplement) was developed, and was most recently revised on December 17, 2019, and is the basis for the development of any Chesapeake Bay related permit parameters. Sewage dischargers have been prioritized based on their design flow to the Bay. The highest priority (Phases 1, 2, and 3) dischargers will receive annual Cap Loads based on their design flow on August 29, 2005 and concentrations of 6 mg/l TN and 0.8 mg/l TP. These limits may be achieved through a combination of treatment technology, credits, or offsets. For Phase 4 and 5 facilities, Cap Loads are not currently being implemented for renewed or amended permits for facilities that do not increase design flow.

This facility is considered a Phase 5 non-significant facility with a design flow less than 0.2 MGD but greater than 0.002 MGD. According to the Phase 3 WIP, TN and TP monitoring is recommended for this facility, which is consistent with the existing permit. TN monitoring and a TP limit are already included in the existing permit and will remain in the permit.

Conewago Creek TMDL

A TMDL for Conewago Creek was finalized on March 2, 2001, and was revised on June 27, 2006. This facility was included in the revision of the TMDL. Crowe Transportation had a phosphorus allocation based on the design flow and an effluent limit of 2.0 mg/l. The average monthly TP effluent limit of 2.0 mg/l and total annual limit of 43 lbs/year were included in the existing permit, and will remain in the renewal.

Fecal Coliform

PA Code § 92a.47.(a)(4) requires a monthly average limit of 200/100 mL as a geometric mean and an instantaneous maximum limit not greater than 1,000/100 mL from May through September for fecal coliform. PA Code § 92a.47.(a)(5) requires a monthly average limit of 2,000/100 mL as a geometric mean and an instantaneous maximum limit not greater than 10,000/100 mL from October through April for fecal coliform. This is consistent with the existing permit limits.

E. Coli

PA Code § 92a.61 requires IMAX reporting of E. Coli. Per DEP's SOP No. BCW-PMT-033, sewage dischargers with a design flow of 0.002 – 0.05 mgd will include E. Coli monitoring with a frequency of 1/year. This parameter has been added to the renewal permit.

Total Residual Chlorine

The attached computer printout utilizes the equations and calculations as presented in the Department's May 1, 2003 Implementation Guidance for Total Residual Chlorine (TRC) (ID No. 391-2000-015) for developing chlorine limitations. The Guidance references Chapter 92, Section 92.2d (3) which establishes a standard BAT limit of 0.5 mg/l unless a facility-specific BAT has been developed. The attached printout indicates that a water quality limit of 0.5 mg/l would be needed to prevent toxicity concerns. The existing TRC permit limit of 0.3 mg/l is more stringent, and will remain in the permit.

Sampling Frequency & Sample Type

The monitoring requirements were established based on BPJ and/or Table 6-3 of DEP's Technical Guidance No. 362-0400-001.

Anti-Degradation

The effluent limits for this discharge have been developed to ensure that existing instream 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.

303(d) Listed Streams

The discharge is located on a stream segment that is designated as attaining uses.

Class A Wild Trout Fisheries

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

Anti-Backsliding

Pursuant to 40 CFR § 122.44(l)(1), all proposed permit requirements addressed in this fact sheet are at least as stringent as the requirements implemented in the existing NPDES permit unless any exceptions are addressed by DEP in this fact sheet.

Development of Effluent Limitations

Outfall No.	002, 003, 004	Design Flow (MGD)	Variable (stormwater)
	40° 8' 49" (002)		76° 38' 36" (002)
	40° 8' 44" (003)		76° 38' 33" (003)
Latitude	40° 9' 33" (004)	Longitude	76° 38' 48" (004)
Wastewater Description:	Stormwater		

Stormwater

The existing permit has 3 stormwater outfalls: 002, 003, and 004. Monitoring requirements for the stormwater outfalls in the existing permit were derived from Appendix J of the Stormwater PAG03 permit. The most current monitoring requirements in Appendix J of the PAG03 permit are indicated below. Additionally, a waste oil transfer facility operated by Heritage – Crystal Clean LLC is located within the permitted area that collects industrial stormwater. Appendix L of the Stormwater PAG03 permit would apply for this type of industrial activity. The monitoring requirements for Appendix L are the same as Appendix J. These parameters will replace the existing monitoring requirements in the permit.

The permittee must monitor and report analytical results for the parameters listed on the Discharge Monitoring Reports (DMRs) for Outfall 002, 003, and 004. The values below are benchmark values, not effluent limitations, and exceedances do not constitute permit violations. If the stormwater discharge is found to consistently exceed them, an individual NPDES permit could be amended at the Department’s initiative. In this case, a draft permit amendment would be issued and a comment period allowed.

Parameter	Monitoring Requirements		Benchmark Values
	Minimum Measurement Frequency	Sample Type	
Total Suspended Solids (TSS) (mg/L)	1 / 6 months	Grab	100
Oil and Grease (mg/L)	1 / 6 months	Grab	30

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" (386-0400-001), 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	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
TRC	XXX	XXX	XXX	0.3	XXX	1.0	1/day	Grab
CBOD5	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) 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
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	21	XXX	42	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	7.0	XXX	14	2/month	8-Hr Composite
TKN	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite

Outfall 001 , Continued (from 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	Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Phosphorus (lbs)	Report Total Mo	43 Total Annual	XXX	XXX	XXX	XXX	1/month	Calculation

Compliance Sampling Location: Outfall 001

Other Comments: None

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" (386-0400-001), SOPs and/or BPJ.

Outfall 002, 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	Minimum	Daily Maximum	Maximum	Instant. Maximum		
TSS	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab

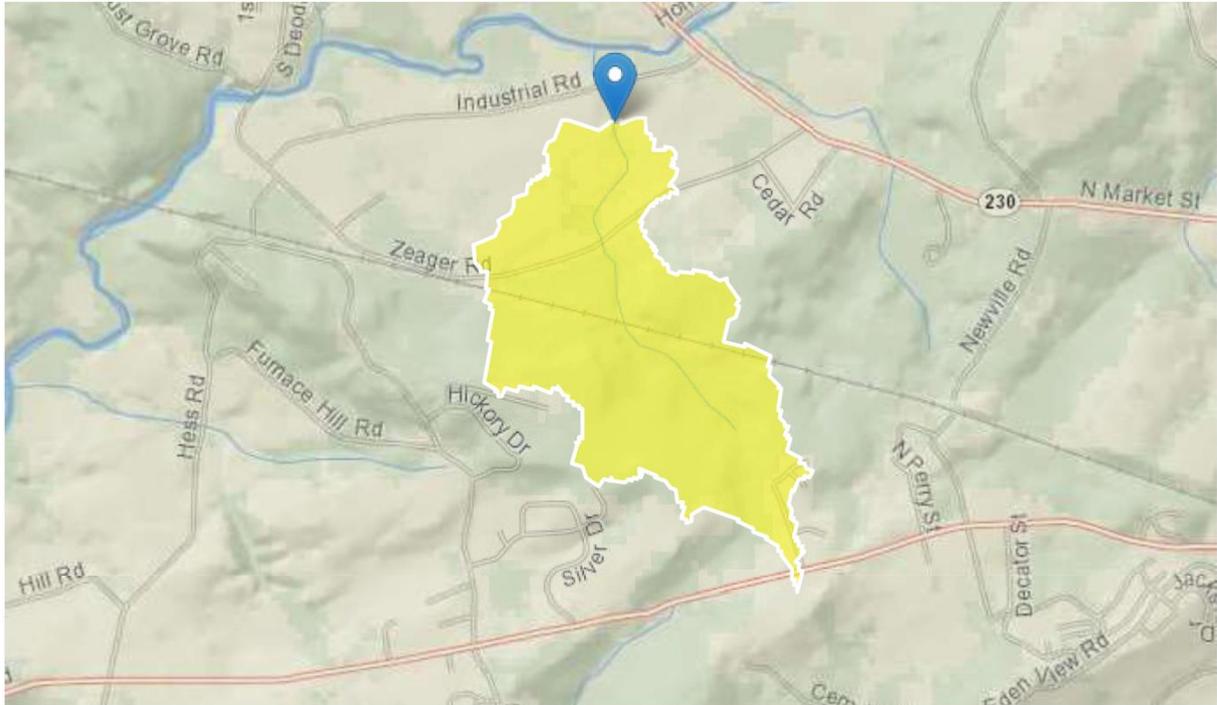
Compliance Sampling Location: 002, 003, 004

Other Comments: None

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 checked="" type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 9/08.
<input 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, 386-2000-008, 4/97.
<input checked="" type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 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, 386-2000-016, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 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, 386-2000-020, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 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, 386-2000-010, 3/1999.
<input type="checkbox"/>	Design Stream Flows, 386-2000-003, 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, 386-2000-006, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input checked="" type="checkbox"/>	SOP: BCW-PMT-033
<input type="checkbox"/>	Other: [redacted]

StreamStats Report

Region ID: PA
 Workspace ID: PA20250127154517147000
 Clicked Point (Latitude, Longitude): 40.16212, -76.64672
 Time: 2025-01-27 10:45:41 -0500



[+ Collapse All](#)

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	0.5	square miles
PRECIP	Mean Annual Precipitation	39	inches
ROCKDEP	Depth to rock	4	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.98	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
CARBON	Percent Carbonate	0	percent	0	99
DRNAREA	Drainage Area	0.5	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
ROCKDEP	Depth to Rock	4	feet	3.32	5.65
STRDEN	Stream Density	1.98	miles per square mile	0.51	3.1

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	0.0227	ft ³ /s
30 Day 2 Year Low Flow	0.0349	ft ³ /s
7 Day 10 Year Low Flow	0.00732	ft ³ /s
30 Day 10 Year Low Flow	0.0115	ft ³ /s
90 Day 10 Year Low Flow	0.0226	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/>)

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Application Version: 4.26.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

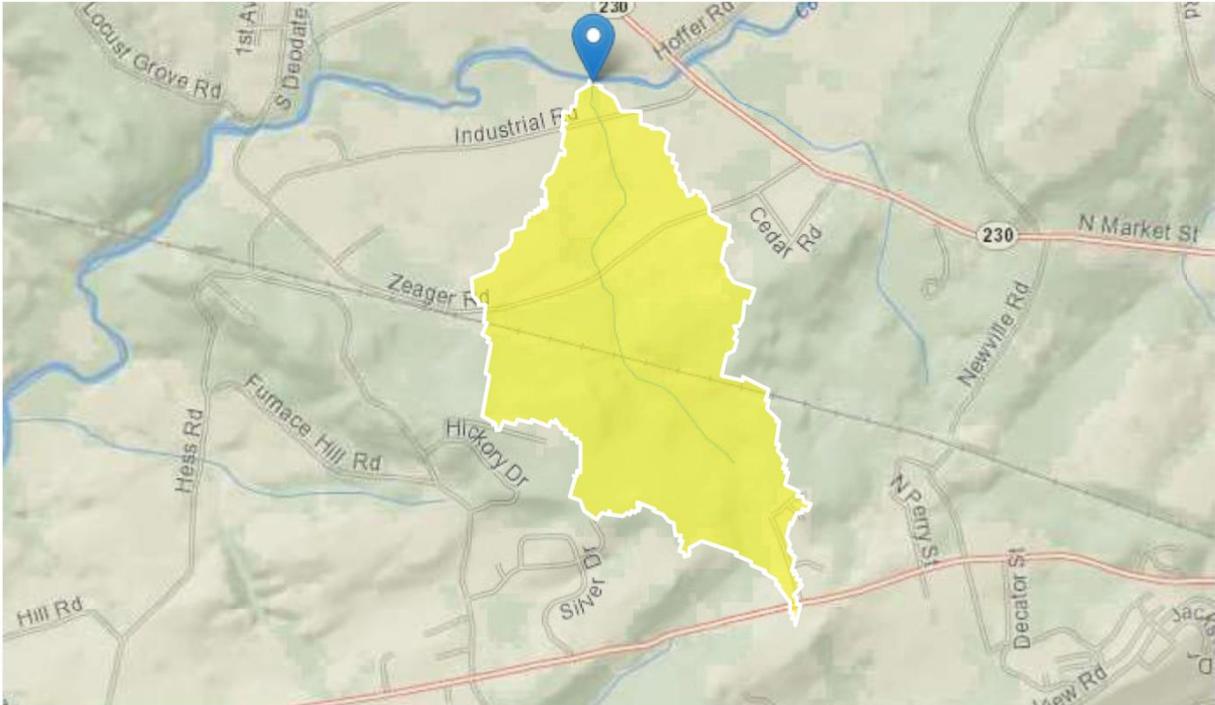
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Region ID: PA

Workspace ID: PA20250127161217832000

Clicked Point (Latitude, Longitude): 40.16490, -76.64766

Time: 2025-01-27 11:12:41 -0500



[+ Collapse All](#)

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	0.6	square miles
PRECIP	Mean Annual Precipitation	39	inches
ROCKDEP	Depth to rock	4	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	2	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
CARBON	Percent Carbonate	0	percent	0	99
DRNAREA	Drainage Area	0.6	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
ROCKDEP	Depth to Rock	4	feet	3.32	5.65
STRDEN	Stream Density	2	miles per square mile	0.51	3.1

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	0.0275	ft ³ /s
30 Day 2 Year Low Flow	0.0421	ft ³ /s
7 Day 10 Year Low Flow	0.00896	ft ³ /s
30 Day 10 Year Low Flow	0.0141	ft ³ /s
90 Day 10 Year Low Flow	0.0274	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/>)

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Application Version: 4.26.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

TRC_CALC

1A	B	C	D	E	F	G
2	TRC EVALUATION					
3	Input appropriate values in B4:B8 and E4:E7					
4	0.064	= Q stream (cfs)		0.5	= CV Daily	
5	0.007	= Q discharge (MGD)		0.5	= CV Hourly	
6	30	= no. samples		1	= AFC_Partial Mix Factor	
7	0.3	= Chlorine Demand of Stream		1	= CFC_Partial Mix Factor	
8	0	= Chlorine Demand of Discharge		15	= AFC_Criteria Compliance Time (min)	
9	0.5	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)	
	0	= % Factor of Safety (FOS)			= Decay Coefficient (K)	
10	Source	Reference	AFC Calculations		Reference	CFC Calculations
11	TRC	1.3.2.iii	WLA_afc = 1.904		1.3.2.iii	WLA_cfc = 1.849
12	PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373		5.1c	LTAMULT_cfc = 0.581
13	PENTOXSD TRG	5.1b	LTA_afc = 0.710		5.1d	LTA_cfc = 1.075
14						
15	Source	Effluent Limit Calculations				
16	PENTOXSD TRG	5.1f	AML_MULT = 1.231			
17	PENTOXSD TRG	5.1g	AVG_MON_LIMIT (mg/l) = 0.500		BAT/BPJ	
18			INST_MAX_LIMIT (mg/l) = 1.635			
	WLA_afc	$(.019/e^{-k \cdot AFC_tc}) + [(AFC_Yc \cdot Qs \cdot 0.019 / Qd \cdot e^{-k \cdot AFC_tc}) \dots + Xd + (AFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$				
	LTAMULT_afc	$EXP((0.5 \cdot LN(cvh^2 + 1)) - 2.326 \cdot LN(cvh^2 + 1)^{0.5})$				
	LTA_afc	wla_afc * LTAMULT_afc				
	WLA_cfc	$(.011/e^{-k \cdot CFC_tc}) + [(CFC_Yc \cdot Qs \cdot 0.011 / Qd \cdot e^{-k \cdot CFC_tc}) \dots + Xd + (CFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$				
	LTAMULT_cfc	$EXP((0.5 \cdot LN(cvd^2 / no_samples + 1)) - 2.326 \cdot LN(cvd^2 / no_samples + 1)^{0.5})$				
	LTA_cfc	wla_cfc * LTAMULT_cfc				
	AML_MULT	$EXP(2.326 \cdot LN((cvd^2 / no_samples + 1)^{0.5}) - 0.5 \cdot LN(cvd^2 / no_samples + 1))$				
	AVG_MON_LIMIT	MIN(BAT_BPJ, MIN(LTA_afc, LTA_cfc) * AML_MULT)				
	INST_MAX_LIMIT	1.5 * ((av_mon_limit / AML_MULT) / LTAMULT_afc)				

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
07G	9244 Trib	09244 to Conewago Creek	0.250	396.00	0.50	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	Tributary pH	Stream Temp	Stream pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.100	0.00	0.06	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
Crowe Transport	PA0081353	0.0070	0.0070	0.0070	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

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
07G	9244	Trib 09244 to Conewago Creek	0.000	370.00	0.60	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	Tributary pH	Stream Temp	Stream pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.100	0.00	0.08	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
		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	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>				<u>Stream Name</u>						
07G		9244				Trib 09244 to 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)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.250	0.06	0.00	0.06	.0108	0.01970	.336	3.46	10.3	0.06	0.238	20.72	7.00
Q1-10 Flow												
0.250	0.04	0.00	0.04	.0108	0.01970	NA	NA	NA	0.05	0.292	21.05	7.00
Q30-10 Flow												
0.250	0.09	0.00	0.09	.0108	0.01970	NA	NA	NA	0.07	0.205	20.55	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	EMPR	Use Inputted W/D 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	5		

WQM 7.0 Wasteload Allocations

SWP Basin **Stream Code** **Stream Name**
07G **9244** **Trib 09244 to 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
0.250	Crowe Transport	15.37	50	15.37	50	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
0.250	Crowe Transport	1.82	16.46	1.82	16.46	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
0.25	Crowe Transport	25	25	16.46	16.46	5	5	0	0

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
07G	9244	Trib 09244 to Conewago Creek		
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>	
0.250	0.007	20.724	7.000	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>	
3.464	0.336	10.298	0.064	
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>	<u>Reach Kn (1/days)</u>	
5.33	0.956	2.38	0.740	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>	
7.774	26.316	Owens	5	
<u>Reach Travel Time (days)</u>	Subreach Results			
0.238	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>
	0.024	5.20	2.34	8.08
	0.048	5.08	2.30	8.13
	0.071	4.97	2.26	8.13
	0.095	4.85	2.22	8.13
	0.119	4.74	2.18	8.13
	0.143	4.63	2.14	8.13
	0.167	4.52	2.11	8.13
	0.190	4.41	2.07	8.13
	0.214	4.31	2.03	8.13
	0.238	4.21	2.00	8.13

WQM 7.0 Effluent Limits

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>					
07G	9244	Trib 09244 to 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)
0.250	Crowe Transport	PA0081353	0.007	CBOD5	25		
				NH3-N	16.46	32.92	
				Dissolved Oxygen			5