pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0082791**
Facility Type	**Industrial**	APS ID	**25137**
Major / Minor	**Minor**	Authorization ID	**1460623**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Chester County Solid Waste Authority**	Facility Name	**Lanchester Landfill**
Applicant Address	7224 Division Highway	Facility Address	7224 Division Highway
	Narvon, PA 17555-9505		Narvon, PA 17555-9505
Applicant Contact	Robert Watts	Facility Contact	Robert Watts
Applicant Phone	(610) 273-3771	Facility Phone	(610) 273-3771
Client ID	82238	Site ID	249245
SIC Code	4953	Municipality	Caernarvon Township
SIC Description	Trans. & Utilities - Refuse Systems	County	Lancaster
Date Application Received	November 3, 2023	EPA Waived?	Yes
Date Application Accepted	November 15, 2023	If No, Reason	

Purpose of Application: NPDES Renewal.

Summary of Review

Chester County Solid Waste Authority (CCSWA) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit. The permit was issued on April 12, 2019, and became effective on May 1, 2019. The permit authorized discharge of treated industrial wastewater from the existing industrial waste treatment plant (IWTP) located in Caernarvon Township, Lancaster County into the Conestoga River. The existing permit expiration date was April 30, 2024, and the permit has been administratively extended since that time.

Per the previous fact sheet, this site is located on the northwestern edge of Chester County with a major portion extending into Lancaster County. The discharge location, Outfall 001, is in Lancaster County. A long discharge pipe extends northward towards Rt. 23 to reach a confluence between an UNT and Conestoga River. There are several wastewater outfalls at this site.

- Internal Monitoring Point (IMP) 100 – the effluent from the Leachate Treatment Plant (LTP) comprised of landfill leachate, landfill gas and plant gas condensate, gas condensate from the Granger Energy Plant Atmospheric Sump, sanitary wastewater, storm water collected from the landfill's open fact, the Mountain Top sump water, and floor drainage from on-site buildings (Treatment Building, Maintenance Building, Scale House Building).
- IMP 101 – discharge from an approximately 800,000 gallon lined groundwater holding pond comprised of the leachate storage tanks under-drain system, seeps at Churchtown Road and Railroad Cut, drainage from small load drop-off containers including some stormwater, and groundwater from monitoring well 7A at the edge of the property along Rt. 322 (which exhibited high concentrations of Benzene in previous years possibly due to an off-property spill, per the 2009 Protection Report associated with a previous NPDES renewal).
- IMP 102 – To report flow of treated effluent from the equalization (EQ) tank.
- Outfall 001 – discharges from IMP 100 and IMP 101. IMPs 100 and 101 both discharge intermittently through Outfall 001. While, past electronic discharge monitoring reports (eDMRs) indicate that these flows do not typically discharge at the same time, the flow diagram in the application indicates that they could, combining before Outfall 001.
- Outfall 002-008 – stormwater from seven erosion and sediment control ponds.

Approve	Deny	Signatures	Date
X		Benjamin R. Lockwood Benjamin R. Lockwood / Environmental Engineering Specialist	January 21, 2025
X		Maria D. Bebenek for Daniel W. Martin, P.E. / Environmental Engineer Manager	January 28, 2025

Summary of Review

The effluent from the LTP is directed to a holding tank which discharges intermittently. The facility has been reporting the LTP's effluent flow rate on the eDMRs as IMP 100 flow, allowing the flow rate to be compared to the LTP's design flow. Holding the effluent in an EQ tank also allows CCSWA to await sample results before releasing the effluent and sending pollutants at concentrations above permit limits to the receiving water. If a parameter's concentration is above a permit limit, the wastewater can be recycled to the head of the LTP.

The Lanchester Landfill occupies approximately 600 acres and accepts approximately 1100 tons per day of waste, on average. The facility has accepted municipal solid waste as well as construction/demolition waste, incinerator ash, non-infectious patient wastes from institutions, non-hazardous residual wastes, asbestos-containing waste, and sewage sludges (per 2008 NPDES permit application). The site contains a closed and capped hazardous waste landfill (known as Stabilized Landfill, with a RCRA Post-Closure Permit #PAD98055045) that generates a small amount of hazardous waste leachate collected in four HDPE-lined concrete sumps, which has been hauled and disposed off-site. The CCSWA is in the process of obtaining "de-listing" status from the PA Environmental Quality Board and EPA. According to DEP Waste Management staff, the facility is not allowed to re-direct the leachate from the hazardous waste landfill to the on-site LTP before the de-listing process is completed. If this leachate were to be directed to the existing LTP after the de-listing, it would not be considered hazardous waste landfill leachate, such as being subject to different federal ELGs than the currently treated leachate. The permittee's consultant previously indicated that there is no plan to re-direct this leachate to the LTP even if the de-listing occurs. If the event that this did occur in the future, the NPDES permit would require that they notify DEP Clean Water of "new waste streams, new pollutants that were not included in the previous permit application sampling results, or increased concentrations of pollutants", and DEP approval would be needed before CCSWA could proceed.

In the past, CCSWA trucked leachate off site to a Publicly Owned Treatment Works (POTW) and recirculated leachate back into the landfill using submersible pumps and lateral injection trenches. DEP Waste Management required CCSWA to install a treatment plant as a back-up (and for sewage from satellite buildings) per the 2009 Protection Report. The landfill operator constructed and operated a chemical precipitation and Sequencing Batch Reactor (SBR) type of treatment plant. When this treatment system could not meet Ammonia-Nitrogen discharge limits, it was abandoned in 2001. The current membrane filtration type treatment plant replaced this system. CCSWA's waste permit still allows them to recirculate leachate into the landfill if they choose. When the landfill area pump stations receive more leachate than can be recirculated, the excess flow is automatically directed to one of their raw leachate storage tanks, which can then be directed to the LTP. The same situation occurs in the event of a power failure affecting the recirculation pump station. In 2015, legislation was passed in Pennsylvania amending Section 303 of the Solid Waste Management Act for Transportation of Residual Waste and allowing on-going trucking of landfill leachate to disposal sites, with some conditions. CCSWA amended their Waste Management permit to allow them to do so, and has resumed trucking of leachate. As of the previous renewal, they have ceased recirculating leachate into the landfill, but retain their option to do so in the future. Because this facility can re-circulate untreated leachate into the landfill, truck untreated leachate, and/or store both raw leachate and treated leachate, their discharges to the Conestoga River are intermittent, their discharges can be less in volume/flow than their generation rate, and their LTP design flow rate can be less than their leachate generation rate.

Water Quality Management (WQM) permit amendment No. 3603202 A-1 was issued on September 19, 2018. The permit amendment allowed for improvements to the LTP. At the time, the current treatment system was not able to keep pace with the leachate generation. The existing treatment capacity was much lower than the design capacity, due to fouling of the membrane units. Improvements were made to treat an annual average of 9.4 million gallons. The existing ultrafiltration (UF) and reverse osmosis (RO) treatment units were removed, and were replaced with a new 27 gpm UF tubular UF unit and a 20 gpm RO unit.

WQM permit amendment No. 3603202 A-2 was issued on October 7, 2020. The permit amendment allowed for additional upgrades to the LTP. The grit chamber was replaced, new strainers were installed in place of the existing fabric filter, a new RO system was installed in place of the existing UF and RO system.

Changes in this renewal: TDS, Nitrate-Nitrite as N, TKN, and TN monitoring have been added to the permit. The monitoring requirements for Total Antimony, Total Arsenic, and Total Iron have been removed from the permit. Quarterly monitoring for Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Perfluorobutanesulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA) have been added.

Supplemental information is attached to the end of this fact sheet.

Public Participation

Summary of Review
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)	.07
Latitude	40º 7' 47"	Longitude	75º 58' 37"
Quad Name		Quad Code	
Wastewater Description:	Treated Leachate, gas condensate, sanitary wastewater, floor drains, groundwater seeps, containment area underdrains, MW-7A		
Receiving Waters	Conestoga River (WWF)	Stream Code	7548
NHD Com ID	57462169	RMI	53.9
Drainage Area	26.5 mi^2	Yield (cfs/mi^2)	0.13
Q_{7-10} Flow (cfs)	3.43	Q_{7-10} Basis	USGS PA StreamStats
Elevation (ft)	433	Slope (ft/ft)	
Watershed No.	7-J	Chapter 93 Class.	WWF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Habitat Alterations, Nutrients, Siltation, Pathogens, Pathogens		
Source(s) of Impairment	Habitat Modification – Other Than Hydromodification, Agriculture, Agriculture, Agriculture, Urban Runoff / Storm Sewers		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	Lancaster City Water Bureau		
PWS Waters	Conestoga River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	30

Changes Since Last Permit Issuance: USGS PA StreamStats provided a drainage area of 26.5 mi^2 and a Q_{7-10} of 3.43 cfs at the point of discharge.

Other Comments: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002, 005, 007, 008	Design Flow (MGD)	Variable (stormwater)
	40º 6' 41.2" (002) 40º 7' 10" (005) 40º 7' 1.6" (007)		75º 57' 26" (002) 75º 56' 34" (005) 75º 56' 55.4" (007)
Latitude	40º 7' 2" (008)	Longitude	75º 56' 41.8" (008)
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Unnamed Tributary to Conestoga River (WWF)	Stream Code	7807
NHD Com ID	57462355	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	7-J	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Habitat Alterations, Nutrients, Siltation, Pathogens, Pathogens		
Source(s) of Impairment	Habitat Modification – Other Than Hydromodification, Agriculture, Agriculture, Agriculture, Urban Runoff / Storm Sewers		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Lancaster City Water Bureau		
PWS Waters	Conestoga River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	30

Changes Since Last Permit Issuance: None

Other Comments: None

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003, 004, 006	Design Flow (MGD)	Variable (stormwater)
Latitude	40º 6' 30" (003) 40º 6' 23.1" (004) 40º 6' 34.3" (006)	Longitude	75º 56' 40" (003) 75º 56' 45.9" (004) 75º 56' 8.6" (006)
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Unnamed Tributary of West Branch Brandywine Creek (HQ-TSF)	Stream Code	0226
NHD Com ID	57462259	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	7-J	Chapter 93 Class.	HQ-TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Nutrients, Siltation, E. Coli		
Source(s) of Impairment	Agriculture		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake			
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Changes Since Last Permit Issuance: None

Other Comments: None

Treatment Facility Summary

Treatment Facility Name: Lanchester Landfill

WQM Permit No.	Issuance Date
3603202 A-1	September 19, 2018
3603202 A-2	October 7, 2020

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial	Tertiary	Reverse Osmosis	Hypochlorite	0.028

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.039		Not Overloaded	Concentration	Landfill

Changes Since Last Permit Issuance: Water Quality Management (WQM) permit amendment No. 3603202 A-1 was issued on September 19, 2018. The permit amendment allowed for improvements to the LTP. At the time, the current treatment system was not able to keep pace with the leachate generation. The existing treatment capacity was much lower than the design capacity, due to fouling of the membrane units. Improvements were made to treat an annual average of 9.4 million gallons. The existing ultrafiltration (UF) and reverse osmosis (RO) treatment units were removed, and were replaced with a new 27 gpm UF tubular UF unit and a 20 gpm RO unit.

WQM permit amendment No. 3603202 A-2 was issued on October 7, 2020. The permit amendment allowed for additional upgrades to the LTP. The grit chamber was replaced, new strainers were installed in place of the existing fabric filter, a new RO system was installed in place of the existing UF and RO system.

Other Comments: The treatment process consists of: Grit chamber, mix tank/equalization, coarse strainers with disposable fabric bags, pH adjustment RO feed tank, multimedia and cartridge filters, RO system, RO permeate mix tank and pH control, RO working and retentate storage tanks.

Compliance History	
Summary of DMRs:	A summary of the past 12-month DMR effluent data is presented on the next page of this fact sheet.
Summary of Inspections:	9/27/18: A routine inspection was conducted. No discharge was occurring from Outfall 100 at the time of inspection. Samples were not collected at Outfall 001 due to the depth of the final tank. No issues were noted. 7/16/20: An administrative inspection was conducted. The treatment plant was operating, and there were not outstanding issues or needs at the time.

Other Comments: There are currently no open violations for this Applicant for the Clean Water program.

Compliance History

DMR Data for Outfall 001 (from May 1, 2023 to April 30, 2024)

Parameter	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23
Flow (MGD) Average Monthly	0.0399	0.044	0.2682	0.043	0.0327	0.026	0.032		0.048	0.022	0.043	
Flow (MGD) Daily Maximum	0.0399	0.044	0.026	0.043	0.0329	0.026	0.032		0.048	0.022	0.043	
pH (S.U.) Instantaneous Minimum	6.57	7.10	7.49	7.53	7.14	7.19	7.37		6.44	7.24	7.31	
pH (S.U.) Instantaneous Maximum	8.09	8.22	7.91	7.99	8.18	8.04	8.09		8.41	8.4	8.57	
TRC (mg/L) Average Monthly	< 0.0831	< 0.0874	< 0.06	< 0.1	< 0.0822	< 0.0778	< 0.0877		< 0.085	< 0.1	< 0.0733	
TRC (mg/L) Instantaneous Maximum	0.1	0.10	0.1	< 0.1	0.1	< 0.1	< 0.1		0.10	< 0.1	< 0.1	
CBOD5 (mg/L) Daily Maximum	2.7	< 2.0	< 2.0	< 2.0	7.82	9.1	9.70		5.9	6.0	5.0	
TSS (mg/L) Daily Maximum	< 4.0	6.0	< 4.0	5.6	< 4.0	< 4.0	< 4.0		< 4.0	< 4.0	< 4.0	
Fecal Coliform (No./100 ml) Geometric Mean	< 1.0	< 1	< 1.75	5.5	< 1.0	< 1	< 1		< 1.0	< 1	< 1.0	
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 1.0	< 2.25	1.0	< 1	< 1.0	< 1	< 1		< 1.0	< 1	< 1.0	
Ammonia (mg/L) Daily Maximum	3.69	1.32	0.81	< 0.1	2.24	4.57	2.61		4.85	4.69	5.02	
Total Phosphorus (lbs/day) Average Monthly	< 0.0001	< 0.0003	< 0.0001	< 0.01	< 0.0002	< 0.0001	< 0.001		< 0.0001	0.0003	< 0.0001	
Total Phosphorus (lbs/day) Daily Maximum	0.00016	0.0130	< 0.0001	< 0.01	< 0.0002	< 0.0001	0.0012		< 0.0001	0.0003	< 0.0001	
Total Phosphorus (mg/L) Average Monthly	< 0.1	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.10	< 0.1	< 0.1	

Total Phosphorus (mg/L) Daily Maximum	0.16	0.13	< 0.16	< 0.1	< 0.1	< 0.1	0.12		< 0.10	0.14	0.15	
Total Antimony (mg/L) Daily Maximum	< 0.01	< 0.01	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.01	< 0.01	
Total Arsenic (mg/L) Daily Maximum	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01	< 0.1	< 0.01	
Dissolved Iron (mg/L) Average Monthly	< 0.1	< 0.10	< 0.1	< 0.1	< 0.1	< 0.082	< 0.055		< 0.1	< 0.1	< 0.1	
Dissolved Iron (mg/L) Daily Maximum	< 0.1	< 0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1	< 0.1	
Total Iron (mg/L) Average Monthly	< 0.17	< 0.0663	< 0.05	< 0.0585	< 0.05	< 0.05	< 0.05		< 0.05	< 0.05	< 0.05	
Total Iron (mg/L) Daily Maximum	0.418	0.115	< 0.05	0.067	0.068	0.05	< 0.05		< 0.05	< 0.05	< 0.05	

DMR Data for Outfall 002 (from May 1, 2023 to April 30, 2024)

Parameter	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23
pH (S.U.) Daily Maximum					7.65						E	
COD (mg/L) Daily Maximum					32.8						E	
TSS (mg/L) Daily Maximum					48.8						E	
Total Dissolved Solids (mg/L) Daily Maximum					557						E	
Oil and Grease (mg/L) Daily Maximum					< 5.2						E	
Nitrate-Nitrite (mg/L) Daily Maximum					0.5						E	
Total Nitrogen (mg/L) Daily Maximum					< 3.5						E	
Ammonia (mg/L) Daily Maximum					< 0.1						E	
Total Phosphorus (mg/L) Daily Maximum					0.13						E	
Total Aluminum (mg/L) Daily Maximum					4.18						E	
Total Cadmium (mg/L) Daily Maximum					< 0.0008						E	

Total Copper (mg/L) Daily Maximum					0.010						E	
Total Iron (mg/L) Daily Maximum					3.47						E	
Total Lead (mg/L) Daily Maximum					0.004						E	

DMR Data for Outfall 003 (from May 1, 2023 to April 30, 2024)

Parameter	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23
pH (S.U.) Daily Maximum					7.95						E	
COD (mg/L) Daily Maximum					45						E	
TSS (mg/L) Daily Maximum					8						E	
Total Dissolved Solids (mg/L) Daily Maximum					122						E	
Oil and Grease (mg/L) Daily Maximum					< 4.8						E	
Nitrate-Nitrite (mg/L) Daily Maximum					0.29						E	
Total Nitrogen (mg/L) Daily Maximum					1.46						E	
Ammonia (mg/L) Daily Maximum					0.2						E	
Total Phosphorus (mg/L) Daily Maximum					0.3						E	
Total Aluminum (mg/L) Daily Maximum					0.235						E	
Total Cadmium (mg/L) Daily Maximum					< 0.0008						E	
Total Copper (mg/L) Daily Maximum					0.009						E	
Total Iron (mg/L) Daily Maximum					0.252						E	
Total Lead (mg/L) Daily Maximum					< 0.002						E	

DMR Data for Outfall 004 (from May 1, 2023 to April 30, 2024)

Parameter	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23
pH (S.U.) Daily Maximum					7.94						7.6	
COD (mg/L) Daily Maximum					31.5						35	
TSS (mg/L) Daily Maximum					91.2						13.3	
Total Dissolved Solids (mg/L) Daily Maximum					273						438	
Oil and Grease (mg/L) Daily Maximum					< 5						< 5.1	
Nitrate-Nitrite (mg/L) Daily Maximum					0.48						0.83	
Total Nitrogen (mg/L) Daily Maximum					1.68						2.67	
Ammonia (mg/L) Daily Maximum					< 0.1						< 0.1	
Total Phosphorus (mg/L) Daily Maximum					0.38						0.24	
Total Aluminum (mg/L) Daily Maximum					8.04						0.565	
Total Cadmium (mg/L) Daily Maximum					< 0.0008						< 0.0004	
Total Copper (mg/L) Daily Maximum					0.022						0.035	
Total Iron (mg/L) Daily Maximum					6.26						0.613	
Total Lead (mg/L) Daily Maximum					0.01						0.002	

DMR Data for Outfall 005 (from May 1, 2023 to April 30, 2024)

Parameter	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23
pH (S.U.) Daily Maximum					8.03						E	
COD (mg/L) Daily Maximum					28.2						E	
TSS (mg/L) Daily Maximum					58						E	
Total Dissolved Solids (mg/L) Daily Maximum					290						E	
Oil and Grease (mg/L) Daily Maximum					< 5.3						E	
Nitrate-Nitrite (mg/L) Daily Maximum					1.03						E	
Total Nitrogen (mg/L) Daily Maximum					1.03						E	
Ammonia (mg/L) Daily Maximum					< 0.1						E	
Total Phosphorus (mg/L) Daily Maximum					0.15						E	
Total Aluminum (mg/L) Daily Maximum					0.198						E	
Total Cadmium (mg/L) Daily Maximum					< 0.0004						E	
Total Copper (mg/L) Daily Maximum					0.007						E	
Total Iron (mg/L) Daily Maximum					0.404						E	
Total Lead (mg/L) Daily Maximum					< 0.001						E	

DMR Data for Outfall 006 (from May 1, 2023 to April 30, 2024)

Parameter	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23
pH (S.U.) Daily Maximum					7.82						7.59	
COD (mg/L) Daily Maximum					24						42.2	
TSS (mg/L) Daily Maximum					< 4						43	

Total Dissolved Solids (mg/L) Daily Maximum					124						177	
Oil and Grease (mg/L) Daily Maximum					< 5						< 4.9	
Nitrate-Nitrite (mg/L) Daily Maximum					0.57						0.63	
Total Nitrogen (mg/L) Daily Maximum					< 0.7						3.05	
Ammonia (mg/L) Daily Maximum					< 0.1						< 0.1	
Total Phosphorus (mg/L) Daily Maximum					0.26						0.44	
Total Aluminum (mg/L) Daily Maximum					< 0.1						0.384	
Total Cadmium (mg/L) Daily Maximum					< 0.0004						< 0.0004	
Total Copper (mg/L) Daily Maximum					0.005						0.007	
Total Iron (mg/L) Daily Maximum					0.171						1.25	
Total Lead (mg/L) Daily Maximum					< 0.001						< 0.001	

DMR Data for Outfall 007 (from May 1, 2023 to April 30, 2024)

Parameter	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23
pH (S.U.) Daily Maximum					7.6						E	
COD (mg/L) Daily Maximum					45						E	
TSS (mg/L) Daily Maximum					10						E	
Total Dissolved Solids (mg/L) Daily Maximum					199						E	
Oil and Grease (mg/L) Daily Maximum					< 5						E	
Nitrate-Nitrite (mg/L) Daily Maximum					0.95						E	
Total Nitrogen (mg/L) Daily Maximum					2.11						E	

Ammonia (mg/L) Daily Maximum					< 0.1						E	
Total Phosphorus (mg/L) Daily Maximum					0.32						E	
Total Aluminum (mg/L) Daily Maximum					0.839						E	
Total Cadmium (mg/L) Daily Maximum					< 0.0004						E	
Total Copper (mg/L) Daily Maximum					0.015						E	
Total Iron (mg/L) Daily Maximum					0.822						E	
Total Lead (mg/L) Daily Maximum					< 0.001						E	

DMR Data for Outfall 008 (from May 1, 2023 to April 30, 2024)

Parameter	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23
pH (S.U.) Daily Maximum					7.99						E	
COD (mg/L) Daily Maximum					37.4						E	
TSS (mg/L) Daily Maximum					24						E	
Total Dissolved Solids (mg/L) Daily Maximum					218						E	
Oil and Grease (mg/L) Daily Maximum					< 5.3						E	
Nitrate-Nitrite (mg/L) Daily Maximum					1.84						E	
Total Nitrogen (mg/L) Daily Maximum					2.87						E	
Ammonia (mg/L) Daily Maximum					< 0.1						E	
Total Phosphorus (mg/L) Daily Maximum					0.37						E	
Total Aluminum (mg/L) Daily Maximum					0.932						E	

Total Cadmium (mg/L) Daily Maximum					< 0.0004						E	
Total Copper (mg/L) Daily Maximum					0.021						E	
Total Iron (mg/L) Daily Maximum					0.882						E	
Total Lead (mg/L) Daily Maximum					0.002						E	

DMR Data for Outfall 100 (from May 1, 2023 to April 30, 2024)

Parameter	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23
Flow (MGD) Internal Monitoring Point Average Monthly	0.0325	0.0266	0.02	0.0195	0.024	0.021	0.029	0.05	0.029	0.022	0.044	0.0053
Flow (MGD) Internal Monitoring Point Daily Maximum	0.0325	0.0266	0.02	0.0195	0.024	0.021	0.029	0.05	0.029	0.022	0.044	0.0053
pH (S.U.) Internal Monitoring Point Instantaneous Minimum	6.37	6.16	6.41	6.0	6.49	6.23	6.44	6.89	6.74	6.29	6.42	6.48
pH (S.U.) Internal Monitoring Point Instantaneous Maximum	8.35	8.76	8.55	9.0	8.32	7.97	8.21	8.35	7.77	8.3	8.91	8.64
BOD5 (lbs/day) Internal Monitoring Point Average Monthly	1.1181	< 0.8319	< 1.8181	< 0.4846	1.3361	< 1.0943	2.1465	< 1.5012	2.0981	1.2972	< 1.0073	0.5558
BOD5 (lbs/day) Internal Monitoring Point Daily Maximum	2.1142	1.1092	3.336	0.8294	2.0416	1.5587	2.9991	2.1584	3.4586	1.5963	2.86	1.2819
BOD5 (mg/L) Internal Monitoring Point Average Monthly	4.125	< 3.75	< 6.4	< 2.98	6.657	< 6.248	8.875	< 3.6	8.675	7.07	< 5.175	12.6

BOD5 (mg/L) Internal Monitoring Point Daily Maximum	7.8	5.0	19.6	5.1	10.2	8.9	12.4	5.2	14.3	8.7	8.80	29.0
TSS (lbs/day) Internal Monitoring Point Average Monthly	< 1.0842	< 0.8874	< 2.1684	< 0.6505	< 0.8006	< 0.7006	< 0.9674	< 1.668	< 0.9674	< 0.734	< 0.8257	< 0.1768
TSS (lbs/day) Internal Monitoring Point Daily Maximum	< 1.0842	< 0.8874	< 6.672	< 0.6505	< 0.8006	< 0.7006	< 0.9674	< 1.668	< 0.9674	< 0.734	1.4678	< 0.1768
TSS (mg/L) Internal Monitoring Point Average Monthly	< 4.0	< 4.0	< 4.0	< 4	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.5	< 4.0
TSS (mg/L) Internal Monitoring Point Daily Maximum	< 4.0	< 4.0	< 4.0	< 4	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	6.0	< 4.0
Ammonia (lbs/day) Internal Monitoring Point Average Monthly	0.8071	0.3045	0.6097	0.322	0.2682	0.6095	0.6095	< 1.9528	1.1833	0.857	0.888	0.1304
Ammonia (lbs/day) Internal Monitoring Point Daily Maximum	1.4176	0.3616	2.135	0.5139	0.3263	0.8582	0.6361	1.864	1.3278	0.989	1.6807	0.1737
Ammonia (mg/L) Internal Monitoring Point Average Monthly	2.977	1.3725	0.775	1.98	1.34	3.48	2.52	< 2.285	4.89	4.67	4.895	2.95
Ammonia (mg/L) Internal Monitoring Point Daily Maximum	5.23	1.63	1.28	3.16	1.63	4.9	2.63	4.47	5.49	5.39	8.0	3.93
Dissolved Iron (lbs/day) Internal Monitoring Point Average Monthly	< 0.0136	< 0.0166	< 0.0542	< 0.0163	< 0.02	< 0.0175	< 0.0242	< 0.0417	< 0.0242	< 0.0183	< 0.020	< 0.0044
Dissolved Iron (mg/L) Internal Monitoring Point Average Monthly	< 0.05	< 0.075	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.1	< 0.1	< 0.1

Dissolved Iron (mg/L) Internal Monitoring Point Daily Maximum	< 0.05	< 0.075	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	0.1	< 0.1	< 0.1
Total Zinc (lbs/day) Internal Monitoring Point Average Monthly	< 0.0271	< 0.0222	< 0.0542	< 0.0163	< 0.02	< 0.0175	< 0.0242	< 0.0417	< 0.0242	< 0.0183	< 0.0202	< 0.0044
Total Zinc (lbs/day) Internal Monitoring Point Daily Maximum	< 0.0271	< 0.0222	< 0.1668	< 0.0163	< 0.02	< 0.0175	< 0.0242	< 0.0417	< 0.0242	< 0.0183	< 0.0367	< 0.0044
Total Zinc (mg/L) Internal Monitoring Point Average Monthly	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Zinc (mg/L) Internal Monitoring Point Daily Maximum	< 0.10	< 0.10	< 0.010	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenol (lbs/day) Internal Monitoring Point Average Monthly	< 0.0008	< 0.0005	< 0.0016	< 0.0005	< 0.0006	< 0.0006	< 0.0006	< 0.0008	< 0.0009	< 0.0005	< 0.0006	< 0.0002
Phenol (lbs/day) Internal Monitoring Point Daily Maximum	< 0.0008	< 0.0007	< 0.0049	< 0.0005	< 0.0006	0.0008	0.0008	< 0.0013	0.0013	< 0.0005	< 0.0012	< 0.0003
Phenol (mg/L) Internal Monitoring Point Average Monthly	< 0.003	< 0.0025	< 0.003	< 0.003	< 0.003	< 0.0033	< 0.003	< 0.002	< 0.0036	< 0.003	< 0.003	< 0.0043
Phenol (mg/L) Internal Monitoring Point Daily Maximum	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	0.0044	0.00323	< 0.003	0.0053	< 0.026	< 0.00316	0.00785
a-Terpineol (lbs/day) Internal Monitoring Point Average Monthly	< 0.0003	< 0.0004	< 0.0005	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0008	< 0.0002	< 0.0002	< 0.0002	< 0.0002
a-Terpineol (lbs/day) Internal Monitoring Point Daily Maximum	< 0.0003	< 0.0007	< 0.0016	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0013	< 0.0002	< 0.0006	< 0.0004	< 0.0002

a-Terpineol (mg/L) Internal Monitoring Point Average Monthly	< 0.001	< 0.002	0.001	< 0.001	< 0.001	< 0.001	< 0.0032	< 0.002	< 0.001	< 0.003	< 0.001	< 0.001
a-Terpineol (mg/L) Internal Monitoring Point Daily Maximum	< 0.001	< 0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0098	< 0.003	< 0.00102	< 0.003	< 0.001	< 0.001
Benzoic Acid (lbs/day) Internal Monitoring Point Average Monthly	< 0.0008	< 0.0005	< 0.0016	< 0.0005	< 0.0006	< 0.0005	< 0.0006	< 0.0013	< 0.0007	< 0.0005	< 0.0006	< 0.0001
Benzoic Acid (lbs/day) Internal Monitoring Point Daily Maximum	< 0.0008	< 0.0007	< 0.0049	< 0.0005	< 0.0006	< 0.0005	< 0.0007	< 0.0013	< 0.0007	< 0.0006	< 0.0012	< 0.0001
Benzoic Acid (mg/L) Internal Monitoring Point Average Monthly	< 0.003	< 0.0025	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
Benzoic Acid (mg/L) Internal Monitoring Point Daily Maximum	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003165	< 0.003
p-Cresol (lbs/day) Internal Monitoring Point Average Monthly	< 0.0003	< 0.0002	< 0.0005	< 0.0002	< 0.0002	< 0.0002	< 0.0003	< 0.0012	0.001	< 0.0004	< 0.0005	0.0004
p-Cresol (lbs/day) Internal Monitoring Point Daily Maximum	< 0.0003	< 0.0002	< 0.0016	< 0.0002	< 0.0002	0.0002	0.0003	0.002	0.002	0.0006	0.0012	0.0008
p-Cresol (mg/L) Internal Monitoring Point Average Monthly	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0033	< 0.0029	0.004	< 0.0023	< 0.0023	0.009
p-Cresol (mg/L) Internal Monitoring Point Daily Maximum	< 0.001	< 0.001	< 0.001	< 0.001	0.0011	0.0013	0.0098	0.00485	0.0081	0.0035	0.00391	0.0185

DMR Data for Outfall 101 (from May 1, 2023 to April 30, 2024)

Parameter	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23
Flow (MGD) Internal Monitoring Point Average Monthly	0.026	0.035	0.02	0.0249			0.030					
Flow (MGD) Internal Monitoring Point Daily Maximum	0.026	0.035	0.02	0.0249			0.030					

DMR Data for Outfall 102 (from May 1, 2023 to April 30, 2024)

Parameter	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23
Flow (MGD) Internal Monitoring Point Average Monthly	0.056	0.052	0.025	0.038	0.0329	0.026	0.032		0.048	0.022	0.043	
Flow (MGD) Internal Monitoring Point Daily Maximum	0.056	0.052	0.025	0.038	0.0329	0.026	0.032		0.048	0.022	0.043	

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	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	Daily when Discharging	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	Daily when Discharging	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-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
Ammonia-Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Total Phosphorus	Report	Report	XXX	2.0	3.0	4	2/month	24-Hr Composite
Antimony, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Arsenic, Total	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Iron, Dissolved	XXX	XXX	XXX	3.5	Report	7	2/month	24-Hr Composite
Iron, Total	XXX	XXX	XXX	Report	Report	XXX	2/month	24-Hr Composite

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

After mix of IMPs 100, 101, and 102

Outfall 100

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD) Internal Monitoring Point	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.) Internal Monitoring Point	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Biochemical Oxygen Demand (BOD5) Internal Monitoring Point	Report	Report	XXX	30.0	60.0	75	1/week	24-Hr Composite
Total Suspended Solids Internal Monitoring Point	Report	Report	XXX	27.0	88.0	110	1/week	24-Hr Composite
Ammonia-Nitrogen Internal Monitoring Point	Report	Report	XXX	4.9	10	12.5	1/week	24-Hr Composite
Iron, Dissolved Internal Monitoring Point	Report	XXX	XXX	3.5	Report	7	1/week	24-Hr Composite
Zinc, Total Internal Monitoring Point	Report	Report	XXX	0.11	0.2	0.28	1/week	24-Hr Composite
Phenol Internal Monitoring Point	Report	Report	XXX	0.015	0.026	0.038	1/week	24-Hr Composite
a-Terpineol Internal Monitoring Point	Report	Report	XXX	0.016	0.033	0.041	1/week	24-Hr Composite
Benzoic Acid Internal Monitoring Point	Report	Report	XXX	0.071	0.12	0.18	1/week	24-Hr Composite
p-Cresol Internal Monitoring Point	Report	Report	XXX	0.014	0.025	0.035	1/week	24-Hr Composite

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

Outfall 101

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD) Internal Monitoring Point	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured

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

at the holding basin discharge

Outfall 102

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD) Internal Monitoring Point	Report	Report	XXX	XXX	XXX	XXX	Continuous	Metered

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

at Outfall 102, discharge from the holding tank after the treatment plant

Permit No. PA0082791

Outfall 002-008

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Chemical Oxygen Demand (COD)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Dissolved Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Nitrate-Nitrite as N	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Aluminum, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Cadmium, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Copper, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Lead, Total	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Outfalls 002-008

Permit No. PA0082791

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .07
Latitude 40º 7' 47" **Longitude** 75º 58' 37"
Wastewater Description: Leachate/sanitary wastewater from IMP 100/ IMP 102, groundwater from IMP 101

Technology-Based Limitations

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

Parameter	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)
Dissolved Iron	7	IMAX	-	95.2(4)
Total Phosphorus	2.0	Average Monthly	-	96.5(c)

State Regulations and ELGs were imposed at IMP 100; there it is only necessary to monitor at Outfall 001 for Ammonia, $CBOD_5$ and TSS. This is consistent with the existing NPDES permit; TBELs were imposed at IMP 100 for BOD_5, TSS, and Ammonia, and monitoring only was required at Outfall 001.

Dissolved Iron

The existing permit imposed the same limits for Dissolved Iron at Outfall 001 and IMP 100. DEP's General Permit PAG-05 for discharges to streams/rivers due to groundwater cleanups includes the statutory standard of 7 mg/l as an instantaneous maximum (IMAX) limit for Dissolved Iron. Additionally, these limits were imposed because procedures for assessing a TBEL include setting a limit at demonstrated achievability at a site or similar site, and the reported concentrations for this facility have demonstrated an ability to meet both an average monthly limit of 3.5 mg/l and an IMAX limit of 7 mg/l. These permit limits will remain in the permit for Outfall 001.

pH

PA Code §§ 95.2(1) requires effluent pH limits of 6.0 to 9.0 standard units (S.U.) at all times in effluent. The permit will continue to require pH limit of 6.0 to 9.0 S.U.

Total Phosphorus

Phosphorus limits were originally developed in accordance with DEP's Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams (391-2000-018) and the Chesapeake Bay TMDL. This determination was based on the Department's *Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams* (Guidance No. 391-2000-018). DEP previously assessed TP using this guidance, and the following logic was used: TP loading from this discharge was determined to be 0.1668 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 0.081 lb/day. This loading represents (0.0081 lb/day / 3,814 lb/day *100), or 0.0021% of the total phosphorus loading of all discharges in the Lower Susquehanna River Basin. According to the above reference phosphorus guidance, phosphorus removal is required if the percentage is > 0.25%. Since it is not, TP concentration limits due to the Chesapeake Bay strategy are not imposed.

Permit No. PA0082791

The PA regulation 96.5(c) require a TP concentration of 2.0 mg/l as a monthly average for point source discharges to waters impaired by nutrients, and that more stringent controls due to TMDLs may be imposed. A local TMDL for this section of the Conestoga River is planned according to the 2016 Integrated Water Quality Report. If this point source is given a Waste Load Allocation in the local TMDL that is less than the existing load allowed in the permit, a permit modification may be required. Until a local TMDL is developed, no additional load will be allowed. The existing TP permit limit of 2.0 mg/l monthly average will remain in the renewal permit, as well as the monitoring requirement for mass loads.

Total Dissolved Solids

DEP's SOP No. BCW-PMT-032 states that at a minimum, a monitoring requirement for TDS should be established for any discharge that exceeds 1,000 mg/l. The requirement to monitoring these pollutants must be considered under the criteria specified in Pa Code 95.10. The maximum concentration reported in the application sampling was 1,140 mg/l, therefore monitoring will be required for TDS in the renewal permit.

$CBOD_5$ / NH_3-N

DEP's SOP No. BCW-PMT-032 states that if an industrial discharge contains treated sewage or sanitary wastewater, limits should be established consistent with the SOP BCW-PMT-033. This SOP states that the WQM 7.0 Model should be run.

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 ($CBOD_5$), ammonia (NH_3-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, and the results are attached to the fact sheet. The model output indicated a $CBOD_5$ average monthly limit of 25 mg/l, an NH_3-N average monthly limit of 25 mg/l, and a D.O. minimum limit of 5.0 mg/l were protective of water quality. This is consistent with the existing permit requirements, where previous monitoring results at Outfall 001 have not indicated a need for limits for these parameters. A monitoring requirement for $CBOD_5$ and NH_3-N will remain in the permit, as discussed above. The flow data used to run the model was acquired from USGS PA StreamStats, and is included as an attachment.

Toxics

Effluent sample results for toxic pollutants reported on the renewal application were entered into DEP's Toxics Management Spreadsheet Version 1.3 to develop appropriate permit requirements for toxic pollutants of concern. The Toxics Management Spreadsheet combines the functions of PENTOXSD and DEP's Toxics Screening Analysis. Based on effluent sample results reported on the application, and supplemental sampling provided on November 26, 2024, the Toxics Management Spreadsheet did not recommend any additional parameters receive monitoring or limits.

This data was analyzed based on the guidelines found in DEP's Water Quality Toxics Management Strategy (Document No. 361-0100-003) and DEP's SOP No. BPNPSM-PMT-033. The results are attached to this fact sheet. The Toxics Management Spreadsheet uses the following logic:

a. Establish average monthly and IMAX limits in the draft permit where the maximum reported concentration exceeds 50% of the WQBEL.
b. For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
c. For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10%-50% of the WQBEL.

The existing monitoring requirements for Total Antimony, Total Arsenic, and Total Iron will be removed from the permit. Monitoring for these parameters was added in the previous renewal to determine if they were in the effluent at concentrations greater than or approaching the calculated WQBELs. Total Antimony and Total Arsenic have been consistently sampled as non-detect, and the sampling results for Total Iron are significantly lower than the calculated WQBEL The limit for Dissolved Iron will remain in the permit due to anti-backsliding requirements.

Chesapeake Bay Total Maximum Daily Load (TMDL)

Permit No. PA0082791

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. The Phase 2 Supplement was most recently revised on September 6, 2017. 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. Industrial discharges have been prioritized by Central Office based on their delivered TN and TP loadings to the Bay. Significant industrial wastewater dischargers are facilities that discharge more than 75 lbs/day of TN or 25 lbs/day of TP on an average annual basis and the rest are classified as non-significant dischargers. This facility is classified as a non-significant discharger. From the Phase 3 Supplement, for non-significant IW facilities, "monitoring and reporting of TN and TP will be required throughout the permit term in renewed or amended permits anytime the facility has the potential to introduce a net TN or TP increase to the load contained within the intake water used in processing. In general, facilities that discharge groundwater and cooling water with no addition of chemicals containing N or P do not require monitoring."

This facility does not contribute more than 75 lbs/day of TN or 25 lbs/day of TP, based on the application sampling data. However, the effluent still introduces a net TN or TP increase; therefore, monitoring for TN and TP should be included in the permit. The permit already contains a TP limit, so Nitrate-Nitrite as N, Total Kjeldahl Nitrogen (TKN), and TN monitoring will be added to the permit with a 1/month sampling requirement.

PFAS-Related Compounds

DEP's NPDES renewal application for Major Sewage Facilities now requires effluent testing for PFAS related compounds as part of Pollutant Group 1: Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Perfluorobutanesulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA). Per DEP's SOP BCW-PMT-033, If sampling that is completed as part of the permit renewal application reveals a detection for any of these compounds, a quarterly monitoring requirement for all compounds will be established in the permit. If sampling that is completed as part of the permit renewal application demonstrates non-detect values at or below the Target QLs for these compounds in a minimum of 3 samples, an annual monitoring requirement for all compounds will be established in the permit. There were detects for PFOA and PFOS in the application sampling; therefore, quarterly monitoring requirements will be established for all compounds in this renewal permit. Monitoring for PFOA, PFOS, HFPO-DA, and PFBS may be discontinued if the results in 4 consecutive monitoring periods indicate non-detect results at or below the Target QLs o 4.0 ng/l for PFOA, 3.7 ng/l for PFOS, 3.5 ng/l for PFBS, and 6.4 ng/l for HFPO-DA. The NPDES permit will include this monitoring language as a footnote in Part A of the 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. It is recommended that a TRC limit of 0.5 mg/l monthly average and 1.6 mg/l instantaneous maximum be applied this permit cycle, which is consistent with the existing permit requirement.

Chemical Additives

There were no chemical additives identified on the application as being introduced to the waste stream in the past 2 years, and the Applicant did not request approval for the use of any chemical additives.

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. The existing permit requirements are consistent with these limits.

Mass Loading Limitation

Permit No. PA0082791

All mass loading effluent limitations recommended in the draft permit are concentration-based, calculated using a formula: design flow (MGD) x concentration limit (mg/l) x conversion factor of 8.34.

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 Exceptional Value Waters are impacted by this discharge. Stormwater from areas of the site discharge to an HQ water at Outfall 003, 004, and 006; these are existing discharges to an existing facility.

303(d) Listed Streams

The discharge is located on a stream segment that is designated on the 303(d) list as impaired. There is an aquatic life impairment for habitat alterations due to habitat modification – other than hydromodification, nutrients due to agriculture, siltation due to agriculture, pathogens due to agriculture, and pathogens due to urban runoff/storm sewers.

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.

Permit No. PA0082791

Development of Effluent Limitations

Outfall No. 100 **Design Flow (MGD)** 0.05 (intermittent)
Latitude 40º 7' 45" **Longitude** 75º 58' 45"
Wastewater Description: Landfill leachate, landfill gas and plant gas condensate, gas condensate from the Granger Energy Plant Atmospheric Sump, sanitary wastewater, storm water collected from the landfill's open fact, the Mountain Top sump water, and floor drainage from on-site buildings (Treatment Building, Maintenance Building, Scale House Building).

Technology-Based Limitations

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

Parameter	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)
BOD_5	30	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	45	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)
Dissolved Iron	7	IMAX	-	95.2(4)
Total Phosphorus	2.0	Average Monthly	-	96.5(c)
Oil and Grease	15	Average Monthly	-	95.2(2)(ii)
	30	Daily Max	-	95.2(2)(ii)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
BOD_5	37	Average Monthly	40 CFR Part 445.23	-
	140	Maximum Daily	40 CFR Part 445.23	-
TSS	27	Average Monthly	40 CFR Part 445.23	-
	88	Maximum Daily	40 CFR Part 445.23	-
Ammonia-N	4.9	Average Monthly	40 CFR Part 445.23	-
	10	Maximum Daily	40 CFR Part 445.23	-
α-terpineol	0.016	Average Monthly	40 CFR Part 445.23	-
	0.033	Maximum Daily	40 CFR Part 445.23	-
Benzoic Acid	0.071	Average Monthly	40 CFR Part 445.23	-
	0.12	Maximum Daily	40 CFR Part 445.23	-
ρ-Cresol	0.014	Average Monthly	40 CFR Part 445.23	-
	0.025	Maximum Daily	40 CFR Part 445.23	-
Phenol	0.015	Average Monthly	40 CFR Part 445.23	-
	0.026	Maximum Daily	40 CFR Part 445.23	-
Zinc	0.11	Average Monthly	40 CFR Part 445.23	-
	0.20	Maximum Daily	40 CFR Part 445.23	-

Permit No. PA0082791

pH	6.0-9.0 S.U.	Min-Max	40 CFR Part 445.23	-

This facility is regulated by an Effluent Limitation Guideline (ELG) from the Code of Federal Regulations 40 CFR §432 Part 445 Landfills Point Source Category. This facility falls under Subpart B – RCRA Subtitle D Non-Hazardous Waste Landfill. The ELGs have not changed since the last permit issuance. The limits found in the table under 445.21 are considered both "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT), and are shown in the table above. As the ELGs are intended to be met by treatment for the industrial process wastewater without dilution from other wastestreams, the limits are applied at IMP 100 as opposed to Outfall 001. This is consistent with the previous permit renewal.

Sanitary wastewater is also introduced to the treatment plant; therefore secondary treatment is required. State regulations for sanitary and industrial wastewater apply; the relevant TBELs are shown in the table above.

pH

PA Code §§ 95.2(1) and the ELG requires effluent pH limits of 6.0 to 9.0 standard units (S.U.) at all times in effluent. The permit will continue to require a pH limit of 6.0 to 9.0 S.U.

Oil and Grease

DEP's SOP No. BPNPSM-PMT-032 states that if the maximum concentration of oil and grease in the discharge is 4 mg/l or greater, establish a monitor only requirement. Oil and Grease was non-detect in the application testing, so monitoring would not be required. This is consistent with past permits for this facility, which have not shown high concentrations for oil and grease. According to the previous fact sheet, monitoring was required for this parameter at one time, but then was dropped on the basis of the sampling data.

BOD_5

The PA State Regulation for BOD5 of 30 mg/l monthly average is more stringent than the ELG requirement; therefore the TBEL of 30 mg/l is included in the permit. This is consistent with the existing permit.

Fecal Coliform/TRC/Total Phosphorus

The TBELs provided in the table above for Fecal Coliform, TRC, and Total Phosphorus will be imposed at Outfall 001. This is consistent with the existing permit.

Dissolved Iron

PA Code 95.2 states "Industrial wastes must meet the following effluent standards: (4) Waste may not contain more than 7 milligrams per liter of dissolved iron." As this requirement is specific to industrial waste, the IMAX limit of 7 mg/l and average monthly limit of 3.5 mg/l are imposed at IMP 100. This is consistent with the existing permit.

Sampling Frequency & Sample Type

The monitoring requirements were established based on the Best Professional Judgment (BPJ), Table 6-3, and/or Table 6-4 of DEP's Technical Guidance No. 362-0400-001.

Water Quality-Based Limitations

WQBELs are generally applied at the point of discharge to the receiving water. See the discussion below regarding Outfall 001 for WQBEL development.

Permit No. PA0082791

Development of Effluent Limitations

Outfall No.	101	**Design Flow (MGD)**	0.07 (intermittent)
Latitude	40º 6' 30"	**Longitude**	75º 57' 10"

Wastewater Description: Leachate storage tanks under-drain system, seeps at Churchtown Road and Railroad Cut, drainage from small load drop-off containers including some stormwater, and groundwater from monitoring well 7A at the edge of the property along Rt. 322

Flow monitoring is a requirement for IMP 101. This is necessary to be able to determine how much of the discharge at Outfall 001 is from the treatment plant, and how much is untreated discharge from the groundwater collection pond. Continuous flow monitoring will be required in the permit, which is consistent with the existing requirement.

Previous permits for this facility included additional monitoring at IMP 101, which have all since been removed. The 2009 Protection Report stated “Low levels of NH_3, aluminum, and iron have been detected in the underdrains…Oil and Grease was dropped in 003 since it did not appear to be a problem. Again, with another five years of sampling it can be concluded that the groundwater has no concerns with Iron or Aluminum and little concern with NH_3-N. It is recommended that Dissolved Iron be dropped and Aluminum, NH_3-N, pH, and Total Iron be reduced to quarterly monitoring with continuous flow monitoring.”

The 2018 Fact Sheet for the previous permit renewal stated “The reviewed eDMRs from January 2016 through July 2018 show concentrations at IMP 101 low enough to warrant discontinued effluent monitoring of Aluminum, Ammonia, Total Iron, and pH at this location.”

Development of Effluent Limitations

Outfall No. 002-008 **Design Flow (MGD)** Variable (stormwater)
Wastewater Description: Stormwater

Stormwater Limitations

The application lists seven (7) stormwater outfalls for this facility. Outfall 002 receives runoff from active landfill Area E and is partially capped with 5.6 acres of impervious capping area, and drains 2,927,232 ft^2. Outfall 003 receives runoff from capped industrial waste landfill and active compost site, and drains 1,581,228 ft^2. Outfall 004 receives runoff from capped and active landfill areas and on-site solar field, and drains 2,195,424 ft^2. Outfall 005 receives runoff from capped landfill areas, maintenance building, and fuel island, and drains 688,248 ft^2. Outfall 006 receives runoff from capped landfill areas including approximately 24.2 acres of impervious capping system, and drains 2,299,968 ft^2. Outfall 007 receives runoff from capped landfill areas, and drains 740,520 ft^2. Outfall 008 receives runoff from mostly capped and other uncapped landfill areas, and drains 953,964 ft^2. The stormwater that contacts the open face of the landfill is collected with the leachate and treated. These seven outfalls are stormwater only, and are not subject to ELGs for landfills.

Three of the stormwater outfalls (003,004,006) discharge to a High-Quality (HQ) receiving stream. Per the previous fact sheet, the headwater of the West Branch Brandywine Creek were noticed in the PA Bulletin on September 25, 1976, and the 1979 rule-making formally changed the designation to HQ. Existing discharges can continue to discharge to an HQ water but any new discharges to an HQ would have to evaluate non-discharge alternatives and only discharge if it would not degrade the receiving water, in accordance with State anti-degradation regulations Pa Code 93.4.

The existing permit requires semi-annual monitoring of pH, COD, TSS, TDS, Oil and Grease, Nitrate-Nitrite as N, Total Nitrogen, Ammonia-Nitrogen, Total Phosphorus, Total Aluminum, Total Cadmium, Total Copper, Total Iron, and Total Lead. These monitoring requirements were derived from a previous NPDES PAG-03 General Permit. This facility falls under SIC Code 4953. According to DEP's current NPDES PAG-03 General Permit, this facility is subject to Appendix C – Landfills and Land Application Sites monitoring requirements. This appendix requires semi-annual monitoring for the parameters listed in the table below. Additionally, monitoring will be required for Total Dissolved Solids, Oil and Grease, Nitrate-Nitrite as N, Total Aluminum, Total Cadmium, Total Copper, Total Iron, and Total Lead, as required by the existing permit.

Stormwater will be monitored and managed using best management practices. The permittee shall monitor and report analytical results for the parameters listed below on Discharge Monitoring Reports (DMRs) for Outfall 002, 003, 004, 005, 006, 007, and 008. The benchmark values listed on the table below are not effluent limitations, and exceedances do not constitute permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, the permittee shall submit a corrective action plan within 90 days of the end of the monitoring period triggering the plan.

Parameter	Minimum Measurement Frequency	Sample Type (mg/l)	Benchmark Values
Total Nitrogen	1 / 6months	Calculation	XXX
Total Phosphorus	1 / 6months	Grab	XXX
pH	1 / 6months	Grab	9.0
TSS	1 / 6months	Grab	100
COD	1 / 6months	Grab	120
Ammonia-N	1 / 6months	Grab	XXX
Total Iron	1 / 6 months	Grab	XXX

Permit No. PA0082791

Development of Effluent Limitations

Outfall No.	102	**Design Flow (MGD)**	0.07 (intermittent)
Latitude	40º 6' 30.00"	**Longitude**	75º 57' 10"

Wastewater Description: Flow from EQ/storage tank following the treatment plant

During the previous NPDES renewal, a new internal monitoring location, IMP 102, was added to report the flow from the EQ/storage tank that follows the treatment plant. No additional parameters will be added to this monitoring point.

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	Daily 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	Daily when Discharging	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	Daily when Discharging	Grab
CBOD5	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite
TDS	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-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
Ammonia	XXX	XXX	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Total Phosphorus	Report	Report Daily Max	XXX	2.0	3.0	4	2/month	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
TKN	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Dissolved Iron	XXX	XXX	XXX	3.5	Report	7	2/month	24-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	Daily Maximum	Instant. Maximum		
PFOA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFOS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFBS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
HFPO-DA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

Compliance Sampling Location: After mix of IMPs 100, 101, and 102

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 002-008, 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	Daily Maximum	Instant. Maximum		
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
TDS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Nitrate-Nitrite as N	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
COD	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Ammonia-N	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Iron	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Aluminum	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Cadmium	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Copper	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Lead	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location: At discharge

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 100, 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	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD) Internal Monitoring Point	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.) Internal Monitoring Point	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
BOD5 Internal Monitoring Point	Report	Report	XXX	30.0	60.0	75	1/week	24-Hr Composite
TSS Internal Monitoring Point	Report	Report	XXX	27.0	88.0	110	1/week	24-Hr Composite
Ammonia Internal Monitoring Point	Report	Report	XXX	4.9	10	12.5	1/week	24-Hr Composite
Dissolved Iron Internal Monitoring Point	Report	XXX	XXX	3.5	Report	7	1/week	24-Hr Composite
Total Zinc Internal Monitoring Point	Report	Report	XXX	0.11	0.2	0.28	1/week	24-Hr Composite
Phenol Internal Monitoring Point	Report	Report	XXX	0.015	0.026	0.038	1/week	24-Hr Composite
a-Terpineol Internal Monitoring Point	Report	Report	XXX	0.016	0.033	0.041	1/week	24-Hr Composite
Benzoic Acid Internal Monitoring Point	Report	Report	XXX	0.071	0.12	0.18	1/week	24-Hr Composite
p-Cresol Internal Monitoring Point	Report	Report	XXX	0.014	0.025	0.035	1/week	24-Hr Composite

Compliance Sampling Location: At discharge from treatment plant before mixing with other wastestreams

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 101, 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) Internal Monitoring Point	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured

Compliance Sampling Location: at discharge from groundwater holding pond before mixing with other waste streams

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 102, 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) Internal Monitoring Point	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered

Compliance Sampling Location: Outfall 102, discharge from the holding tank after the treatment plant

Other Comments: None

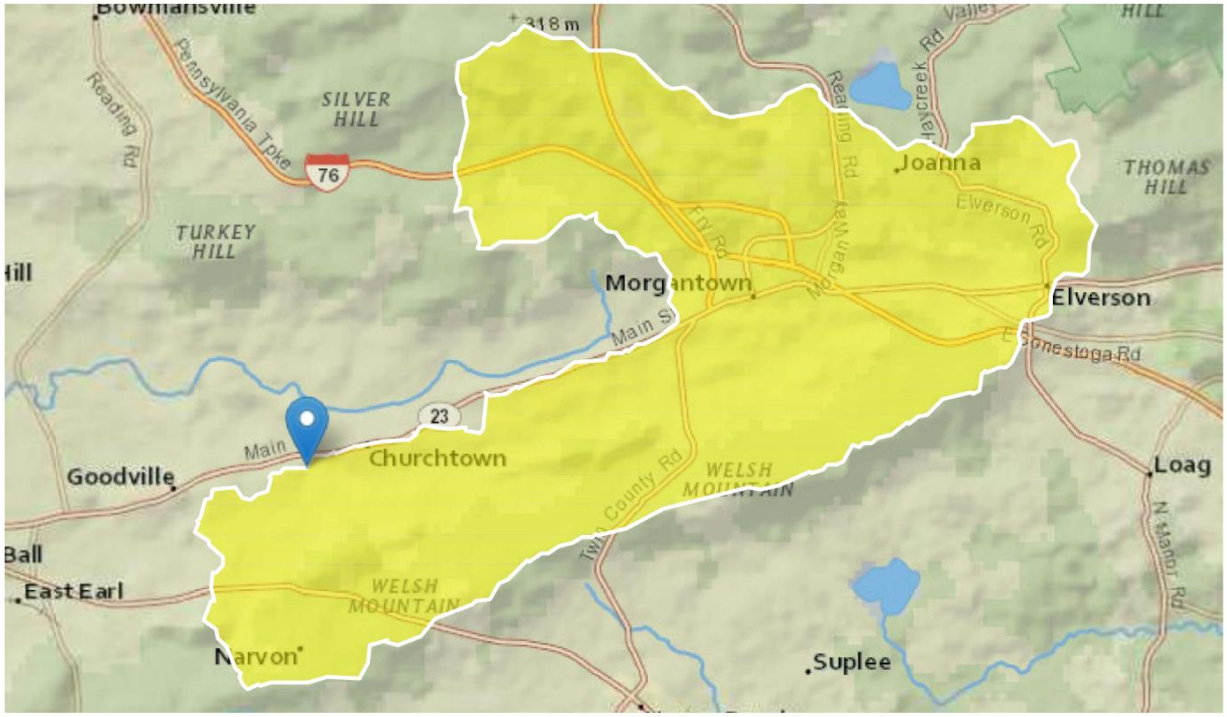
Permit No. PA0082791

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, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☒	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.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☒	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 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, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 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, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	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.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: SOP No. BCW-PMT-032, SOP No. BPNPSM-PMT-001
☐	Other:

Permit No. PA0082791

Chester County Solid Waste Authority PA0082791 Outfall 001

Region ID: PA
Workspace ID: PA20250109180701903000
Clicked Point (Latitude, Longitude): 40.12982, -75.97683
Time: 2025-01-09 13:07:26 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	4.4481	degrees
DRNAREA	Area that drains to a point on a stream	26.5	square miles
ROCKDEP	Depth to rock	5	feet
URBAN	Percentage of basin with urban development	3.9352	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	4.4481	degrees	1.7	6.4
DRNAREA	Drainage Area	26.5	square miles	4.78	1150
ROCKDEP	Depth to Rock	5	feet	4.13	5.21
URBAN	Percent Urban	3.9352	percent	0	89

Low-Flow Statistics Flow Report [Low Flow Region 1]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	6.72	ft^3/s	46	46
30 Day 2 Year Low Flow	8.45	ft^3/s	38	38
7 Day 10 Year Low Flow	3.43	ft^3/s	51	51
30 Day 10 Year Low Flow	4.36	ft^3/s	46	46
90 Day 10 Year Low Flow	6.52	ft^3/s	41	41

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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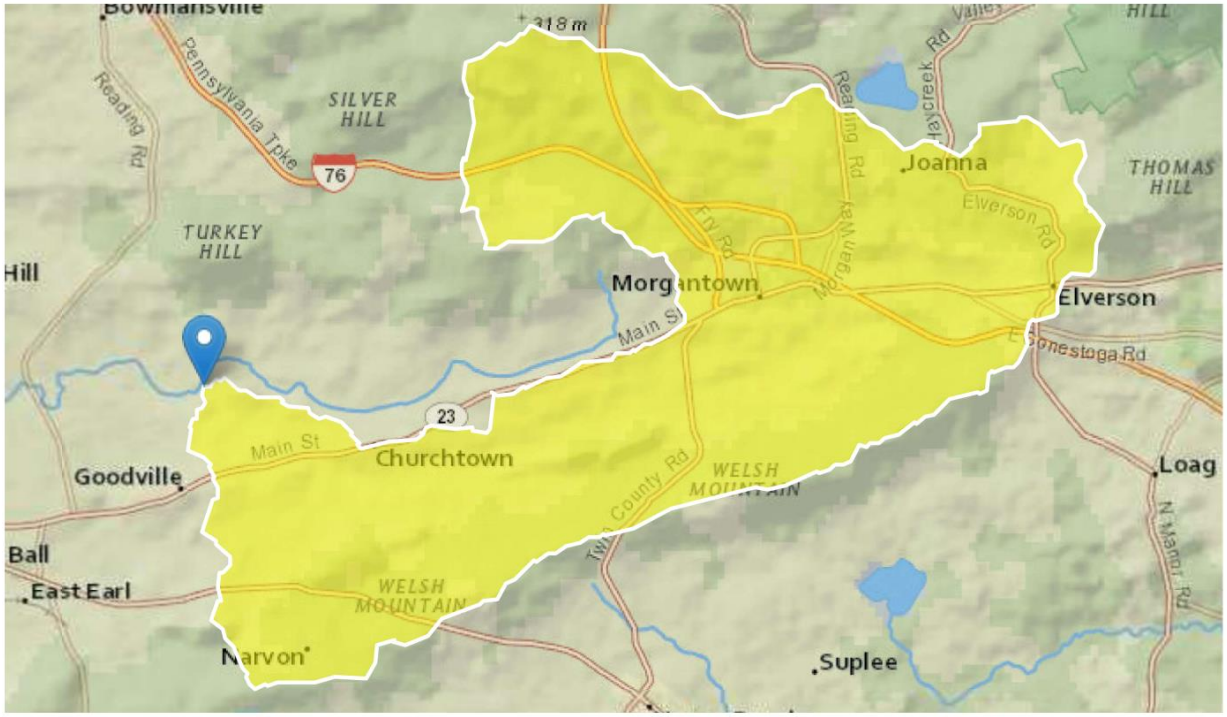
Application Version: 4.25.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Permit No. PA0082791

Chester County Solid Waste Authority PA0082791 RMI = 51.9

Region ID: PA
Workspace ID: PA20250109183026109000
Clicked Point (Latitude, Longitude): 40.14186, -75.99782
Time: 2025-01-09 13:30:49 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	4.3906	degrees
DRNAREA	Area that drains to a point on a stream	27.7	square miles
ROCKDEP	Depth to rock	5.1	feet
URBAN	Percentage of basin with urban development	3.8207	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	4.3906	degrees	1.7	6.4
DRNAREA	Drainage Area	27.7	square miles	4.78	1150
ROCKDEP	Depth to Rock	5.1	feet	4.13	5.21
URBAN	Percent Urban	3.8207	percent	0	89

Low-Flow Statistics Flow Report [Low Flow Region 1]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	7.51	ft^3/s	46	46
30 Day 2 Year Low Flow	9.36	ft^3/s	38	38
7 Day 10 Year Low Flow	3.89	ft^3/s	51	51
30 Day 10 Year Low Flow	4.89	ft^3/s	46	46
90 Day 10 Year Low Flow	7.25	ft^3/s	41	41

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: 4.25.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Permit No. PA0082791

TRC_CALC

	B	C	D	E	F	G
2	**TRC EVALUATION**					
3	Input appropriate values in B4:B8 and E4:E7					
4	3.43	= Q stream (cfs)		0.5	= CV Daily	
5	0.07	= 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 = 10.123		1.3.2.iii	WLA cfc = 9.862
12	PENTOXSD TRG	5.1a	LTAMULT afc = 0.373		5.1c	LTAMULT cfc = 0.581
13	PENTOXSD TRG	5.1b	LTA_afc= 3.772		5.1d	LTA_cfc = 5.733
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*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...** **...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...** **...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*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)**

Permit No. PA0082791

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Lanchester Landfill** NPDES Permit No.: **PA0082791** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Leachate from landfill, sanitary wastewater**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.07	100	7						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		1120									
	Chloride (PWS)	mg/L		6.01									
	Bromide	mg/L	<	0.2									
	Sulfate (PWS)	mg/L		8.22									
	Fluoride (PWS)	mg/L	<	0.2									
Group 2	Total Aluminum	µg/L	<	9									
	Total Antimony	µg/L	<	0.4									
	Total Arsenic	µg/L	<	1									
	Total Barium	µg/L	<	1									
	Total Beryllium	µg/L	<	0.4									
	Total Boron	µg/L		3760									
	Total Cadmium	µg/L	<	0.1									
	Total Chromium (III)	µg/L	<	1									
	Hexavalent Chromium	µg/L	<	0.1									
	Total Cobalt	µg/L	<	1									
	Total Copper	µg/L	<	2									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	5									
	Dissolved Iron	µg/L	<	10									
	Total Iron	µg/L	<	14									
	Total Lead	µg/L	<	1									
	Total Manganese	µg/L	<	2									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		2									
	Total Phenols (Phenolics) (PWS)	µg/L	<	0.005									
	Total Selenium	µg/L	<	2									
	Total Silver	µg/L	<	0.2									
	Total Thallium	µg/L	<	0.4									
	Total Zinc	mg/L	<	0.004									
	Total Molybdenum	µg/L	<	1									
	Acrolein	µg/L	<	1									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	0.5									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L	<	0.5									

Permit No. PA0082791

Group 3	Carbon Tetrachloride	µg/L	<	0.5									
	Chlorobenzene	µg/L	<	0.5									
	Chlorodibromomethane	µg/L	<	0.5									
	Chloroethane	µg/L	<	1									
	2-Chloroethyl Vinyl Ether	µg/L	<	0.5									
	Chloroform	µg/L	<	0.5									
	Dichlorobromomethane	µg/L	<	0.5									
	1,1-Dichloroethane	µg/L	<	0.5									
	1,2-Dichloroethane	µg/L	<	0.5									
	1,1-Dichloroethylene	µg/L	<	0.5									
	1,2-Dichloropropane	µg/L	<	0.5									
	1,3-Dichloropropylene	µg/L	<	0.5									
	1,4-Dioxane	µg/L	<	0.102									
	Ethylbenzene	µg/L	<	0.5									
	Methyl Bromide	µg/L	<										
	Methyl Chloride	µg/L	<	0.5									
	Methylene Chloride	µg/L	<	0.5									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5									
	Tetrachloroethylene	µg/L	<	0.5									
	Toluene	µg/L	<	0.5									
	1,2-trans-Dichloroethylene	µg/L	<	0.5									
	1,1,1-Trichloroethane	µg/L	<	0.5									
	1,1,2-Trichloroethane	µg/L	<	0.5									
	Trichloroethylene	µg/L	<	0.5									
	Vinyl Chloride	µg/L	<	0.5									
Group 4	2-Chlorophenol	µg/L	<	0.176									
	2,4-Dichlorophenol	µg/L	<	0.218									
	2,4-Dimethylphenol	µg/L	<	0.368									
	4,6-Dinitro-o-Cresol	µg/L	<	1.14									
	2,4-Dinitrophenol	µg/L	<	1.84									
	2-Nitrophenol	µg/L	<	0.224									
	4-Nitrophenol	µg/L	<	1.39									
	p-Chloro-m-Cresol	µg/L		0.578									
	Pentachlorophenol	µg/L	<	0.489									
	Phenol	µg/L	<	0.196									
	2,4,6-Trichlorophenol	µg/L	<	0.222									
Group 5	Acenaphthene	µg/L	<	0.344									
	Acenaphthylene	µg/L	<	0.342									
	Anthracene	µg/L	<	0.32									
	Benzidine	µg/L	<	0.598									
	Benzo(a)Anthracene	µg/L	<	0.265									
	Benzo(a)Pyrene	µg/L	<	0.244									
	3,4-Benzofluoranthene	µg/L	<	0.315									
	Benzo(ghi)Perylene	µg/L	<	0.403									
	Benzo(k)Fluoranthene	µg/L	<	0.328									
	Bis(2-Chloroethoxy)Methane	µg/L	<	0.23									
	Bis(2-Chloroethyl)Ether	µg/L	<	0.264									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.264									
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	1.55									
	4-Bromophenyl Phenyl Ether	µg/L	<	0.372									
	Butyl Benzyl Phthalate	µg/L	<	1.02									
	2-Chloronaphthalene	µg/L	<	0.345									
	4-Chlorophenyl Phenyl Ether	µg/L	<	0.334									
	Chrysene	µg/L	<	0.5									
	Dibenzo(a,h)Anthrancene	µg/L	<	0.405									
	1,2-Dichlorobenzene	µg/L	<	0.191									
	1,3-Dichlorobenzene	µg/L	<	0.418									
	1,4-Dichlorobenzene	µg/L	<	0.457									
	3,3-Dichlorobenzidine	µg/L	<	0.73									
	Diethyl Phthalate	µg/L	<	0.833									
	Dimethyl Phthalate	µg/L	<	0.501									
	Di-n-Butyl Phthalate	µg/L	<	2.65									
	2,4-Dinitrotoluene	µg/L	<	0.455									

Permit No. PA0082791

	2,6-Dinitrotoluene	µg/L	<	0.439									
	Di-n-Octyl Phthalate	µg/L	<	0.36									
	1,2-Diphenylhydrazine	µg/L	<	0.516									
	Fluoranthene	µg/L	<	0.614									
	Fluorene	µg/L	<	0.304									
	Hexachlorobenzene	µg/L	<	0.409									
	Hexachlorobutadiene	µg/L	<	0.26									
	Hexachlorocyclopentadiene	µg/L	<	0.395									
	Hexachloroethane	µg/L	<	0.464									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.384									
	Isophorone	µg/L	<	0.251									
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<	0.238									
	n-Nitrosodimethylamine	µg/L	<	0.255									
	n-Nitrosodi-n-Propylamine	µg/L	<	0.413									
	n-Nitrosodiphenylamine	µg/L	<	0.362									
	Phenanthrene	µg/L	<	0.396									
	Pyrene	µg/L	<	0.555									
	1,2,4-Trichlorobenzene	µg/L	<	0.267									
Group 6	Aldrin	µg/L	<	0.005									
	alpha-BHC	µg/L	<	0.005									
	beta-BHC	µg/L	<	0.005									
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<	0.02									
	Chlordane	µg/L	<	0.52									
	4,4-DDT	µg/L	<	0.02									
	4,4-DDE	µg/L	<	0.005									
	4,4-DDD	µg/L	<	0.02									
	Dieldrin	µg/L	<	0.02									
	alpha-Endosulfan	µg/L	<	0.02									
	beta-Endosulfan	µg/L	<	0.005									
	Endosulfan Sulfate	µg/L	<	0.02									
	Endrin	µg/L	<	0.005									
	Endrin Aldehyde	µg/L	<	0.02									
	Heptachlor	µg/L	<	0.005									
	Heptachlor Epoxide	µg/L	<	0.02									
	PCB-1016	µg/L	<	0.1									
	PCB-1221	µg/L	<	0.1									
	PCB-1232	µg/L	<	0.1									
	PCB-1242	µg/L	<	0.1									
	PCB-1248	µg/L	<	0.1									
	PCB-1254	µg/L	<	0.1									
	PCB-1260	µg/L	<	0.1									
	PCBs, Total	µg/L	<	0.52									
	Toxaphene	µg/L	<	0.5									
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Lanchester Landfill , NPDES Permit No. PA0082791, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Conestoga River**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	007548	53.9	433	26.5			Yes
End of Reach 1	007548	51.9	397	27.7			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	53.9	0.1	3.43									100	7		
End of Reach 1	51.9	0.1	3.89									100	7		

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	53.9														
End of Reach 1	51.9														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Lanchester Landfill , NPDES Permit No. PA0082791, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.668 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	16,629	
Total Antimony	0	0		0	1,100	1,100	24,389	
Total Arsenic	0	0		0	340	340	7,538	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	465,610	
Total Boron	0	0		0	8,100	8,100	179,593	
Total Cadmium	0	0		0	2.014	2.13	47.3	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	569.763	1,803	39,977	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	361	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	2,106	
Total Copper	0	0		0	13.439	14.0	310	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	64.581	81.6	1,810	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	36.5	Chem Translator of 0.85 applied
Total Nickel	0	0		0	468.236	469	10,402	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	3.217	3.78	83.9	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	1,441	
Total Zinc	0	0		0	117.180	120	2,657	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	66.5	

Acrylonitrile	0	0		0	650	650	14,412	
Benzene	0	0		0	640	640	14,190	
Bromoform	0	0		0	1,800	1,800	39,909	
Carbon Tetrachloride	0	0		0	2,800	2,800	62,081	
Chlorobenzene	0	0		0	1,200	1,200	26,606	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	399,094	
Chloroform	0	0		0	1,900	1,900	42,127	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	332,579	
1,1-Dichloroethylene	0	0		0	7,500	7,500	166,289	
1,2-Dichloropropane	0	0		0	11,000	11,000	243,891	
1,3-Dichloropropylene	0	0		0	310	310	6,873	
Ethylbenzene	0	0		0	2,900	2,900	64,299	
Methyl Chloride	0	0		0	28,000	28,000	620,814	
Methylene Chloride	0	0		0	12,000	12,000	266,063	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	22,172	
Tetrachloroethylene	0	0		0	700	700	15,520	
Toluene	0	0		0	1,700	1,700	37,692	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	150,769	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	66,516	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	75,385	
Trichloroethylene	0	0		0	2,300	2,300	50,995	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	12,416	
2,4-Dichlorophenol	0	0		0	1,700	1,700	37,692	
2,4-Dimethylphenol	0	0		0	660	660	14,633	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	1,774	
2,4-Dinitrophenol	0	0		0	660	660	14,633	
2-Nitrophenol	0	0		0	8,000	8,000	177,375	
4-Nitrophenol	0	0		0	2,300	2,300	50,995	
p-Chloro-m-Cresol	0	0		0	160	160	3,548	
Pentachlorophenol	0	0		0	8.723	8.72	193	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	10,199	
Acenaphthene	0	0		0	83	83.0	1,840	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	6,652	
Benzo(a)Anthracene	0	0		0	0.5	0.5	11.1	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	665,157	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	99,774	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	5,986	
Butyl Benzyl Phthalate	0	0		0	140	140	3,104	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	

Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	18,181	
1,3-Dichlorobenzene	0	0		0	350	350	7,760	
1,4-Dichlorobenzene	0	0		0	730	730	16,185	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	88,688	
Dimethyl Phthalate	0	0		0	2,500	2,500	55,430	
Di-n-Butyl Phthalate	0	0		0	110	110	2,439	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	35,475	
2,6-Dinitrotoluene	0	0		0	990	990	21,950	
1,2-Diphenylhydrazine	0	0		0	15	15.0	333	
Fluoranthene	0	0		0	200	200	4,434	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	222	
Hexachlorocyclopentadiene	0	0		0	5	5.0	111	
Hexachloroethane	0	0		0	60	60.0	1,330	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	221,719	
Nitrobenzene	0	0		0	4,000	4,000	88,688	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	376,923	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	6,652	
Phenanthrene	0	0		0	5	5.0	111	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	2,882	
Aldrin	0	0		0	3	3.0	66.5	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	2.4	2.4	53.2	
4,4-DDT	0	0		0	1.1	1.1	24.4	
4,4-DDE	0	0		0	1.1	1.1	24.4	
4,4-DDD	0	0		0	1.1	1.1	24.4	
Dieldrin	0	0		0	0.24	0.24	5.32	
alpha-Endosulfan	0	0		0	0.22	0.22	4.88	
beta-Endosulfan	0	0		0	0.22	0.22	4.88	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.086	0.086	1.91	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.52	0.52	11.5	
Heptachlor Epoxide	0	0		0	0.5	0.5	11.1	
PCBs, Total	0	0		0	N/A	N/A	N/A	
Toxaphene	0	0		0	0.73	0.73	16.2	

☑ ***CFC*** CCT (min): 33.572 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc	Stream	Trib Conc	Fate	WQC	WQ Obj	WLA (ug/L)	Comments

Pollutants	Conc (µg/L)	CV	(µg/L)	Coef	(µg/L)	(µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	7,188	
Total Arsenic	0	0		0	150	150	4,901	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	133,964	
Total Boron	0	0		0	1,600	1,600	52,279	
Total Cadmium	0	0		0	0.246	0.27	8.84	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.115	86.2	2,816	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	340	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	621	
Total Copper	0	0		0	8.956	9.33	305	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	49,011	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.517	3.18	104	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	29.6	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.007	52.2	1,704	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	163	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	425	
Total Zinc	0	0		0	118.139	120	3,915	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	98.0	
Acrylonitrile	0	0		0	130	130	4,248	
Benzene	0	0		0	130	130	4,248	
Bromoform	0	0		0	370	370	12,089	
Carbon Tetrachloride	0	0		0	560	560	18,298	
Chlorobenzene	0	0		0	240	240	7,842	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	114,360	
Chloroform	0	0		0	390	390	12,743	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	101,290	
1,1-Dichloroethylene	0	0		0	1,500	1,500	49,011	
1,2-Dichloropropane	0	0		0	2,200	2,200	71,883	
1,3-Dichloropropylene	0	0		0	61	61.0	1,993	
Ethylbenzene	0	0		0	580	580	18,951	
Methyl Chloride	0	0		0	5,500	5,500	179,708	
Methylene Chloride	0	0		0	2,400	2,400	78,418	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	6,862	
Tetrachloroethylene	0	0		0	140	140	4,574	

Toluene	0	0		0	330	330	10,782	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	45,744	
1,1,1-Trichloroethane	0	0		0	610	610	19,931	
1,1,2-Trichloroethane	0	0		0	680	680	22,218	
Trichloroethylene	0	0		0	450	450	14,703	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	3,594	
2,4-Dichlorophenol	0	0		0	340	340	11,109	
2,4-Dimethylphenol	0	0		0	130	130	4,248	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	523	
2,4-Dinitrophenol	0	0		0	130	130	4,248	
2-Nitrophenol	0	0		0	1,600	1,600	52,279	
4-Nitrophenol	0	0		0	470	470	15,357	
p-Chloro-m-Cresol	0	0		0	500	500	16,337	
Pentachlorophenol	0	0		0	6.693	6.69	219	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	2,973	
Acenaphthene	0	0		0	17	17.0	555	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	1,928	
Benzo(a)Anthracene	0	0		0	0.1	0.1	3.27	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	196,045	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	29,734	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	1,764	
Butyl Benzyl Phthalate	0	0		0	35	35.0	1,144	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	5,228	
1,3-Dichlorobenzene	0	0		0	69	69.0	2,255	
1,4-Dichlorobenzene	0	0		0	150	150	4,901	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	26,139	
Dimethyl Phthalate	0	0		0	500	500	16,337	
Di-n-Butyl Phthalate	0	0		0	21	21.0	686	
2,4-Dinitrotoluene	0	0		0	320	320	10,456	
2,6-Dinitrotoluene	0	0		0	200	200	6,535	
1,2-Diphenylhydrazine	0	0		0	3	3.0	98.0	
Fluoranthene	0	0		0	40	40.0	1,307	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	

Hexachlorobutadiene	0	0		0	2	2.0	65.3	
Hexachlorocyclopentadiene	0	0		0	1	1.0	32.7	
Hexachloroethane	0	0		0	12	12.0	392	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	68,616	
Nitrobenzene	0	0		0	810	810	26,466	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	111,092	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	1,928	
Phenanthrene	0	0		0	1	1.0	32.7	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	850	
Aldrin	0	0		0	0.1	0.1	3.27	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0043	0.004	0.14	
4,4-DDT	0	0		0	0.001	0.001	0.033	
4,4-DDE	0	0		0	0.001	0.001	0.033	
4,4-DDD	0	0		0	0.001	0.001	0.033	
Dieldrin	0	0		0	0.056	0.056	1.83	
alpha-Endosulfan	0	0		0	0.056	0.056	1.83	
beta-Endosulfan	0	0		0	0.056	0.056	1.83	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.036	0.036	1.18	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.0038	0.004	0.12	
Heptachlor Epoxide	0	0		0	0.0038	0.004	0.12	
PCBs, Total	0	0		0	0.014	0.014	0.46	
Toxaphene	0	0		0	0.0002	0.0002	0.007	

☑ ***THH*** CCT (min): 33.572 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	183	
Total Arsenic	0	0		0	10	10.0	327	
Total Barium	0	0		0	2,400	2,400	78,418	
Total Boron	0	0		0	3,100	3,100	101,290	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	

Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	9,802	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	32,674	
Total Mercury	0	0		0	0.050	0.05	1.63	
Total Nickel	0	0		0	610	610	19,931	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	7.84	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	98.0	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	3,267	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	186	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	1,078	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	2,222	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	1,862	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	3,267	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	326,742	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	980	
2,4-Dichlorophenol	0	0		0	10	10.0	327	
2,4-Dimethylphenol	0	0		0	100	100.0	3,267	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	65.3	
2,4-Dinitrophenol	0	0		0	10	10.0	327	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	

4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	130,697	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	2,287	
Anthracene	0	0		0	300	300	9,802	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	6,535	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	3.27	
2-Chloronaphthalene	0	0		0	800	800	26,139	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	32,674	
1,3-Dichlorobenzene	0	0		0	7	7.0	229	
1,4-Dichlorobenzene	0	0		0	300	300	9,802	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	19,605	
Dimethyl Phthalate	0	0		0	2,000	2,000	65,348	
Di-n-Butyl Phthalate	0	0		0	20	20.0	653	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	653	
Fluorene	0	0		0	50	50.0	1,634	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	131	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	1,111	
Nitrobenzene	0	0		0	10	10.0	327	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	653	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	2.29	

Aldrin	0	0		0	N/A	N/A	N/A	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	N/A	N/A	N/A	
4,4-DDT	0	0		0	N/A	N/A	N/A	
4,4-DDE	0	0		0	N/A	N/A	N/A	
4,4-DDD	0	0		0	N/A	N/A	N/A	
Dieldrin	0	0		0	N/A	N/A	N/A	
alpha-Endosulfan	0	0		0	20	20.0	653	
beta-Endosulfan	0	0		0	20	20.0	653	
Endosulfan Sulfate	0	0		0	20	20.0	653	
Endrin	0	0		0	0.03	0.03	0.98	
Endrin Aldehyde	0	0		0	1	1.0	32.7	
Heptachlor	0	0		0	N/A	N/A	N/A	
Heptachlor Epoxide	0	0		0	N/A	N/A	N/A	
PCBs, Total	0	0		0	N/A	N/A	N/A	
Toxaphene	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 10.613 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	

Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	12.1	
Benzene	0	0		0	0.58	0.58	117	
Bromoform	0	0		0	7	7.0	1,417	
Carbon Tetrachloride	0	0		0	0.4	0.4	81.0	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	162	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	0.95	0.95	192	
1,2-Dichloroethane	0	0		0	9.9	9.9	2,005	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	182	
1,3-Dichloropropylene	0	0		0	0.27	0.27	54.7	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	4,050	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	40.5	
Tetrachloroethylene	0	0		0	10	10.0	2,025	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	111	
Trichloroethylene	0	0		0	0.6	0.6	121	
Vinyl Chloride	0	0		0	0.02	0.02	4.05	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	6.07	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	304	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.02	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.2	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.02	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.2	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	2.02	

Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	6.07	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	64.8	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.12	0.12	24.3	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.02	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	10.1	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	10.1	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	10.1	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	6.07	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.016	
Hexachlorobutadiene	0	0		0	0.01	0.01	2.02	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	20.2	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.2	
Isophorone	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.14	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	1.01	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	668	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	
Aldrin	0	0		0	0.0000008	8.00E-07	0.0002	
alpha-BHC	0	0		0	0.0004	0.0004	0.081	
beta-BHC	0	0		0	0.008	0.008	1.62	
Chlordane	0	0		0	0.0003	0.0003	0.061	
4,4-DDT	0	0		0	0.00003	0.00003	0.006	
4,4-DDE	0	0		0	0.00002	0.00002	0.004	
4,4-DDD	0	0		0	0.0001	0.0001	0.02	
Dieldrin	0	0		0	0.000001	0.000001	0.0002	
alpha-Endosulfan	0	0		0	N/A	N/A	N/A	
beta-Endosulfan	0	0		0	N/A	N/A	N/A	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	N/A	N/A	N/A	

Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.000006	0.000006	0.001	
Heptachlor Epoxide	0	0		0	0.00003	0.00003	0.006	
PCBs, Total	0	0		0	0.000064	0.00006	0.013	
Toxaphene	0	0		0	0.0007	0.0007	0.14	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Fluoride (PWS)	N/A	N/A	Discharge Conc < TQL
Total Aluminum	N/A	N/A	Discharge Conc < TQL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	78,418	µg/L	Discharge Conc < TQL
Total Beryllium	N/A	N/A	No WQS
Total Boron	52,279	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	8.84	µg/L	Discharge Conc < TQL
Total Chromium (III)	2,816	µg/L	Discharge Conc < TQL
Hexavalent Chromium	232	µg/L	Discharge Conc < TQL
Total Cobalt	621	µg/L	Discharge Conc < TQL
Total Copper	199	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	9,802	µg/L	Discharge Conc < TQL
Total Iron	49,011	µg/L	Discharge Conc < TQL
Total Lead	104	µg/L	Discharge Conc < TQL
Total Manganese	32,674	µg/L	Discharge Conc < TQL
Total Mercury	1.63	µg/L	Discharge Conc < TQL
Total Nickel	1,704	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL

Total Selenium	163	µg/L	Discharge Conc < TQL
Total Silver	53.8	µg/L	Discharge Conc < TQL
Total Thallium	7.84	µg/L	Discharge Conc < TQL
Total Zinc	1.7	mg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	42.6	µg/L	Discharge Conc < TQL
Acrylonitrile	12.1	µg/L	Discharge Conc < TQL
Benzene	117	µg/L	Discharge Conc < TQL
Bromoform	1,417	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	81.0	µg/L	Discharge Conc < TQL
Chlorobenzene	3,267	µg/L	Discharge Conc < TQL
Chlorodibromomethane	162	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	114,360	µg/L	Discharge Conc < TQL
Chloroform	186	µg/L	Discharge Conc < TQL
Dichlorobromomethane	192	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	2,005	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	1,078	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	182	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	54.7	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	2,222	µg/L	Discharge Conc < TQL
Methyl Chloride	179,708	µg/L	Discharge Conc < TQL
Methylene Chloride	4,050	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	40.5	µg/L	Discharge Conc < TQL
Tetrachloroethylene	2,025	µg/L	Discharge Conc < TQL
Toluene	1,862	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	3,267	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	19,931	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	111	µg/L	Discharge Conc < TQL
Trichloroethylene	121	µg/L	Discharge Conc < TQL
Vinyl Chloride	4.05	µg/L	Discharge Conc < TQL
2-Chlorophenol	980	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	327	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	3,267	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	65.3	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	327	µg/L	Discharge Conc < TQL
2-Nitrophenol	52,279	µg/L	Discharge Conc < TQL
4-Nitrophenol	15,357	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	2,274	µg/L	Discharge Conc ≤ 25% WQBEL
Pentachlorophenol	6.07	µg/L	Discharge Conc < TQL
Phenol	130,697	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	304	µg/L	Discharge Conc < TQL
Acenaphthene	555	µg/L	Discharge Conc < TQL

Acenaphthylene	N/A	N/A	No WQS
Anthracene	9,802	µg/L	Discharge Conc < TQL
Benzidine	0.02	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.2	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.02	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.2	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	2.02	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	6.07	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	6,535	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	64.8	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	1,764	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	3.27	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	26,139	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	24.3	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.02	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	5,228	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	229	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	4,901	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	10.1	µg/L	Discharge Conc < TQL
Diethyl Phthalate	19,605	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	16,337	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	653	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	10.1	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	10.1	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	6.07	µg/L	Discharge Conc < TQL
Fluoranthene	653	µg/L	Discharge Conc < TQL
Fluorene	1,634	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.016	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	2.02	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	32.7	µg/L	Discharge Conc < TQL
Hexachloroethane	20.2	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.2	µg/L	Discharge Conc < TQL
Isophorone	1,111	µg/L	Discharge Conc < TQL
Nitrobenzene	327	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.14	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	1.01	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	668	µg/L	Discharge Conc < TQL
Phenanthrene	32.7	µg/L	Discharge Conc < TQL
Pyrene	653	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	2.29	µg/L	Discharge Conc < TQL
Aldrin	0.0002	µg/L	Discharge Conc < TQL

alpha-BHC	0.081	µg/L	Discharge Conc < TQL
beta-BHC	1.62	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.061	µg/L	Discharge Conc < TQL
4,4-DDT	0.006	µg/L	Discharge Conc < TQL
4,4-DDE	0.004	µg/L	Discharge Conc < TQL
4,4-DDD	0.02	µg/L	Discharge Conc < TQL
Dieldrin	0.0002	µg/L	Discharge Conc < TQL
alpha-Endosulfan	1.83	µg/L	Discharge Conc < TQL
beta-Endosulfan	1.83	µg/L	Discharge Conc < TQL
Endosulfan Sulfate	653	µg/L	Discharge Conc < TQL
Endrin	0.98	µg/L	Discharge Conc < TQL
Endrin Aldehyde	32.7	µg/L	Discharge Conc < TQL
Heptachlor	0.001	µg/L	Discharge Conc < TQL
Heptachlor Epoxide	0.006	µg/L	Discharge Conc < TQL
PCB-1016	N/A	N/A	No WQS
PCB-1221	N/A	N/A	No WQS
PCB-1232	N/A	N/A	No WQS
PCB-1242	N/A	N/A	No WQS
PCB-1248	N/A	N/A	No WQS
PCB-1254	N/A	N/A	No WQS
PCB-1260	N/A	N/A	No WQS
PCBs, Total	0.013	µg/L	Discharge Conc < TQL
Toxaphene	0.007	µg/L	Discharge Conc < TQL

Permit No. PA0082791

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
07J	7548	CONESTOGA RIVER (formerly CREE	**53.900**	433.00	26.50	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	0.100	0.00	3.43	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
CCSWA	PA0082791	0.0700	0.0700	0.0700	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

Permit No. PA0082791

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
07J	7548	CONESTOGA RIVER (formerly CREE	**51.900**	397.00	27.70	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	0.100	0.00	3.89	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

Permit No. PA0082791

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07J	7548	CONESTOGA RIVER (formerly 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 (ºC)	Analysis pH
Q7-10 Flow												
53.900	3.43	0.00	3.43	.1083	0.00341	.635	27.75	43.7	0.20	0.609	20.15	7.00
Q1-10 Flow												
53.900	2.20	0.00	2.20	.1083	0.00341	NA	NA	NA	0.16	0.774	20.24	7.00
Q30-10 Flow												
53.900	4.66	0.00	4.66	.1083	0.00341	NA	NA	NA	0.24	0.515	20.11	7.00

Permit No. PA0082791

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		

Permit No. PA0082791

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07J	7548	CONESTOGA RIVER (formerly 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
53.900	CCSWA	16.44	50	16.44	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
53.900	CCSWA	1.87	25	1.87	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
53.90	CCSWA	25	25	25	25	5	5	0	0

Permit No. PA0082791

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07J	7548	CONESTOGA RIVER (formerly CREEK)

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
53.900	0.070	20.153	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
27.748	0.635	43.702	0.201
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.70	0.304	0.77	0.708
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.144	6.529	Tsivoglou	5
Reach Travel Time (days)			
0.609			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.061	2.65	0.73	8.22
0.122	2.60	0.70	8.22
0.183	2.56	0.67	8.22
0.243	2.51	0.64	8.22
0.304	2.46	0.62	8.22
0.365	2.42	0.59	8.22
0.426	2.37	0.57	8.22
0.487	2.33	0.54	8.22
0.548	2.29	0.52	8.22
0.609	2.24	0.50	8.22

Permit No. PA0082791

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07J	7548	CONESTOGA RIVER (formerly 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)
53.900	CCSWA	PA0082791	0.070	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			5