pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0083879**
Facility Type	**Industrial**	APS ID	**18212**
Major / Minor	**Minor**	Authorization ID	**1412354**

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

Applicant and Facility Information

Applicant Name	**Sandy Run Landfill LLC**	Facility Name	**Sandy Run Landfill**
Applicant Address	995 Landfill Road	Facility Address	995 Landfill Road
	Hopewell, PA 16650-8653		Hopewell, PA 16650-8653
Applicant Contact	Brian Stewart	Facility Contact	Scott White
Applicant Phone	(412) 576-2236	Facility Phone	(814) 494-5537
Client ID	211884	Site ID	451508
SIC Code	4953	Municipality	Broad Top Township
SIC Description	Trans. & Utilities - Refuse Systems	County	Bedford
Date Application Received	October 1, 2022	EPA Waived?	Yes
Date Application Accepted	October 4, 2022	If No, Reason	

Purpose of Application: This is an application for a NPDES renewal.

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	December 6, 2022
x		Daniel W. Martin, P.E. / Environmental Engineer Manager Maria D. Bebenek for Daniel W. Martin	January 23, 2023
x		Maria D. Bebenek, P.E. / Environmental Program Manager Maria D. Bebenek	January 23, 2023

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Sandy Run Landfill, LLC located at 995 Landfill Road, Hopewell, PA 16650 in Bedford County, municipality of Broad Top Township. The existing permit became effective on April 1, 2018 and expires(d) on March 31, 2023. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on October 1, 2022.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's receiving waters attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 0.0125 MGD treatment facility. The applicant does not anticipate any proposed upgrades to the treatment facility in the next five years. The NPDES application has been processed as an Industrial Wastewater Facility due to the type of wastewater and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Bedford County Commissioners and Broad Top Township and the notice was received by the parties on October 2022.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be Sandy Run. The sequence of receiving streams that Sandy Run discharges into are the Raystown Branch Juniata River, the Juniata River, and the Susquehanna River which eventually drains into the Chesapeake Bay. The subject site is subjected to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for warm water fishes (WWF) and migratory fishes (MF). No Class A Wild Trout fisheries are impacted by this discharge. The absence of high quality and/or exceptional value surface waters removes the need for an additional evaluation of anti-degradation requirements.

The Sandy Run is a Category 4a stream listed in the 2022 Integrated List of All Waters (formerly 303d Listed Streams). The surface water is an impaired stream for aquatic life due to pH from acid mine drainage. The receiving stream is also impaired due to metals from acid mine drainage. The receiving waters is subject to the Longs and Sandy Run total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- For Outfall 001, reduction in monitoring frequency for several toxics, effluent limits for boron and cobalt, and monitoring requirements for several toxics. Monitoring for TDS, chloride, bromide, and sulfate has been eliminated.
- For Outfall 002, monitoring for pH and several toxics

Sludge use and disposal description and location(s): Altoona Water Authority; Westerly Facility, Allegheny Township, Blair County

The proposed permit will expire five (5) years from the effective date.

Based on the review in this report, it is recommended that the permit be drafted. 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.

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file review, contact the SCRO File Review Coordinator at 717.705.4700.

1.0 Applicant

1.1 General Information

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

Facility Name:	Sandy Run Landfill, LLC
NPDES Permit #	PA0083879
Physical Address:	Sandy Run Landfill 995 Landfill Road Hopewell, PA 16650
Mailing Address:	Sandy Run Landfill 995 Landfill Road Hopewell, PA 16650
Contact:	Brian Stewart, PE Noble Environmental 111 Conner Lane Belle Vernon, PA 15012 bstewart@nobleenviro.com
Consultant:	Jill Hamill, PE Civil and Environmental Consultants, Inc. 4350 Northern Pike, Suite 141 Monroeville, PA 15146 (724) 325-5200 jhamill@cecinc.com

1.2 Permit History

Description of Facility

Sandy Run is an active municipal solid waste landfill located in Broad Top Township, Bedford County, PA. Sandy Run has nine (9) permitted discharge locations, identified as Outfall Nos. 001 through 009. The discharge at Outfall No. 001 is treated wastewater from the onsite leachate treatment facility. Outfall Nos. 002 and 003 are discharges from the wetlands treatment systems, which treat groundwater from unlined former disposal areas. Outfall Nos. 004 through 009 are permitted to discharge stormwater only.

Permit submittal included the following information.

- NPDES Application
- Flow Diagrams
- Effluent Sample Data

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is 995 Landfill Road, Hopewell, PA 16650. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

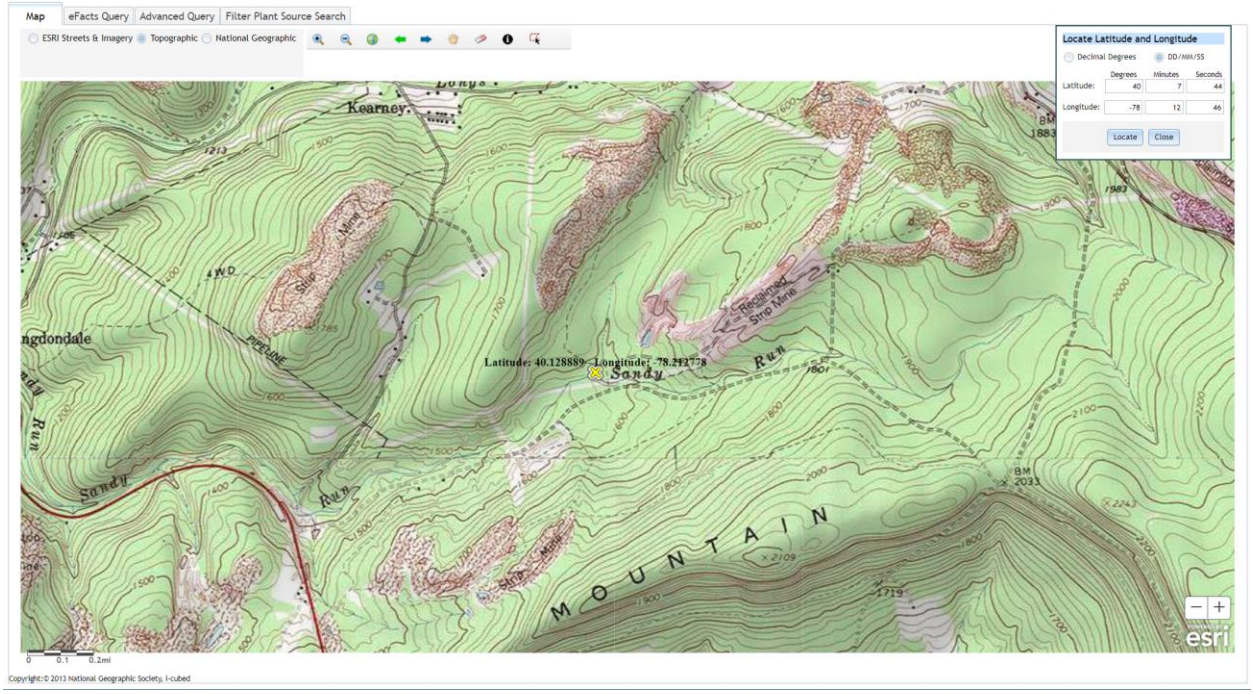
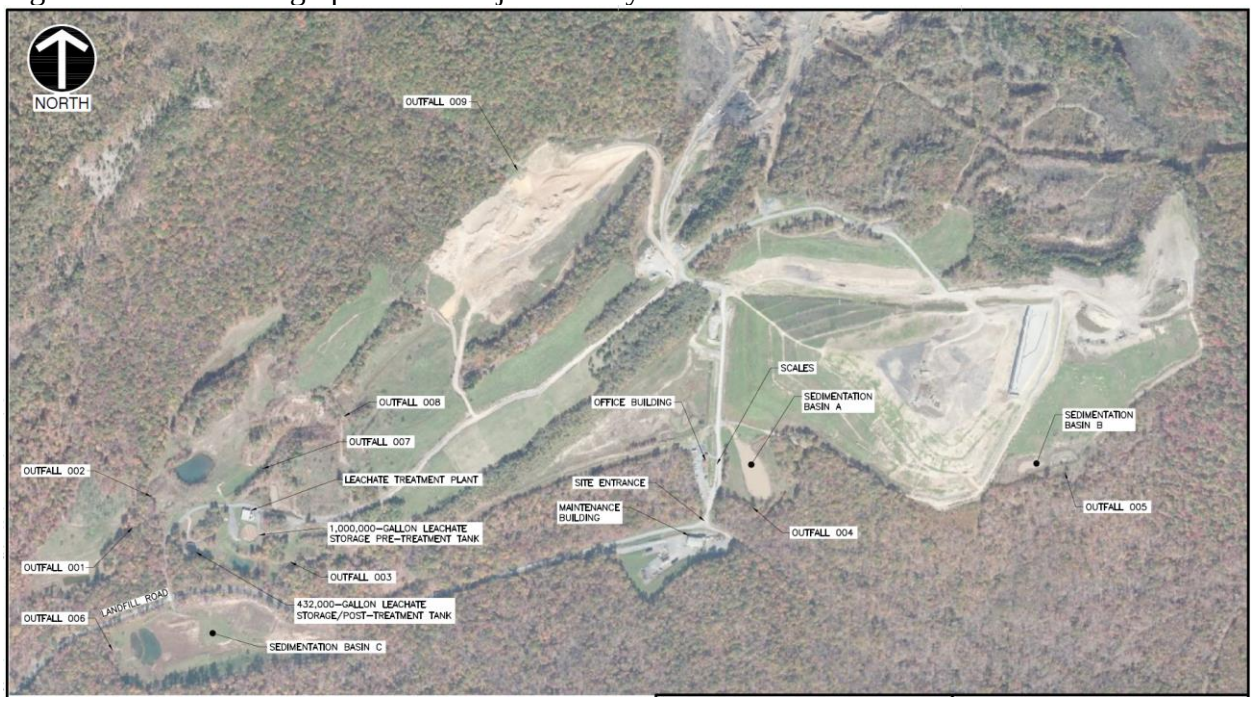


Figure 2: Aerial Photograph of the subject facility



2.2 Description of Wastewater Treatment Process

The subject facility is a 0.0125 MGD design flow facility.

Leachate is collected from the landfill flows to a storage tank. The liquids are then pumped into the treatment plant for coagulation, pH adjustment, and sedimentation. Liquids then pass through two aerobic biotowers, followed by a second round of coagulation, pH adjustment, and sedimentation. Treated leachate is discharged into a storage tank, and is then discharged to Outfall 001.

The facility is being evaluated for flow, pH, CBOD5, TSS, TDS, total nitrogen, ammonia-nitrogen, total phosphorus, aluminum, boron, cobalt, dissolved iron, iron (total), manganese, sulfate, zinc, phenol, alpha-terpineol, benzoic acid, chloride, bromide, and p-cresol. The existing permits limits for the facility is summarized in Section 2.4.

The treatment process is summarized in the table.

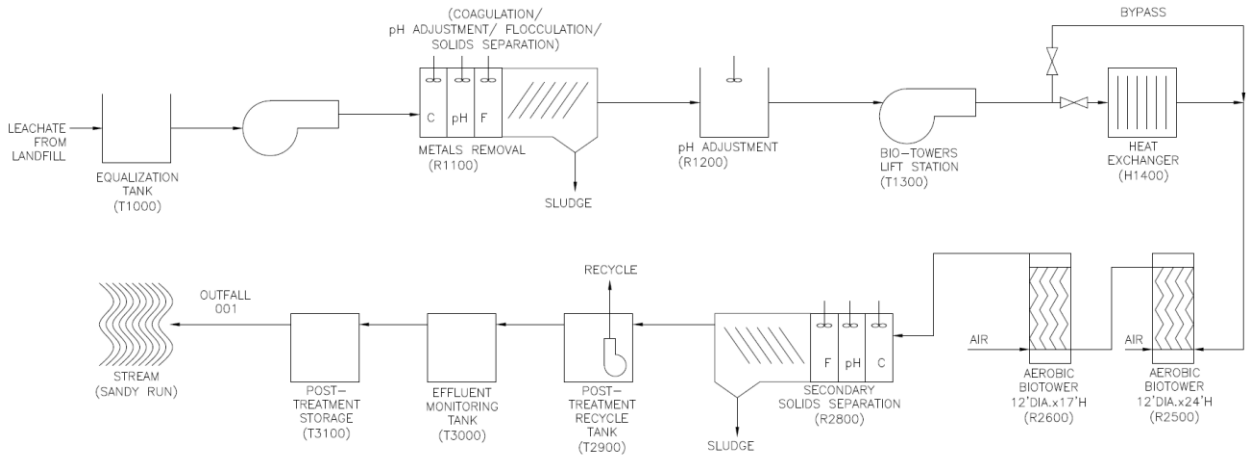
Treatment Facility Summary

Treatment Facility Name: Sandy Run Landfill

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial	Biological (Industrial Waste)	Anaerobic Treatment	No Disinfection	0.0125

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

A schematic of the treatment system is depicted.



2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No. 001 **Design Flow (MGD)** .0125
Latitude 40º 7' 50.00" **Longitude** -78º 12' 42.00"
Wastewater Description: IW Process Effluent with ELG

Outfall No. 002 **Design Flow (MGD)** 0
Latitude 40º 7' 45.00" **Longitude** -78º 12' 40.00"
Wastewater Description: Other Miscellaneous Discharges

Outfall No. 003 **Design Flow (MGD)** 0
Latitude 40º 7' 42.00" **Longitude** -78º 12' 27.00"
Wastewater Description: Other Miscellaneous Discharges

Outfall No. 004 **Design Flow (MGD)** 0
Latitude 40º 7' 47.00" **Longitude** -78º 11' 55.00"
Wastewater Description: Stormwater

Outfall No. 005 **Design Flow (MGD)** 0
Latitude 40º 7' 47.00" **Longitude** -78º 11' 21.00"
Wastewater Description: Stormwater

Outfall No. 006 **Design Flow (MGD)** 0
Latitude 40º 7' 39.00" **Longitude** -78º 12' 39.00"
Wastewater Description: Stormwater

Outfall No. 007 **Design Flow (MGD)** 0
Latitude 40º 7' 43.00" **Longitude** -78º 12' 32.00"
Wastewater Description: Stormwater

Outfall No. 008 **Design Flow (MGD)** 0
Latitude 40º 7' 52.00" **Longitude** -78º 12' 29.00"
Wastewater Description: Stormwater

Outfall No.	009	**Design Flow (MGD)**	0
Latitude	40º 8' 8.00"	**Longitude**	-78º 12' 13.00"
Wastewater Description:	Stormwater		

2.3.1 Operational Considerations- Chemical Additives

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- Hydrochloric acid for pH adjustment
- Sodium hydroxide for pH adjustment
- Delta Floc 1107 for flocculation
- Superfloc Polymer for flocculation

2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001 , **Latitude** 40° 7' 44.00" , **Longitude** 78° 12' 46.00" , **River Mile Index** 4.0 , **Stream Code** 14030

Receiving Waters: Sandy Run

Type of Effluent: IW Process Effluent with ELG

1. The permittee is authorized to discharge during the period from **April 1, 2018** through **March 31, 2023**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0 Max	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	Report	Report	XXX	32.0	135.0	170	2/month	24-Hr Composite
Total Suspended Solids	Report	Report	XXX	27.0	88.0	110	2/month	24-Hr Composite
Total Dissolved Solids	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Nitrogen [3]	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Ammonia-Nitrogen	Report	Report	XXX	4.9	10.0	12.5	2/month	24-Hr Composite
Total Phosphorus	Report	Report	XXX	2.0	4.0	5	2/month	24-Hr Composite
Aluminum, Total	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Boron, Total	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Cobalt, Total	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite

Outfall 001, Continued (from April 1, 2018 through March 31, 2023)

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		
Iron, Dissolved	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Iron, Total	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Manganese, Total	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Sulfate, Total	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Zinc, Total	Report	Report	XXX	0.11	0.20	0.25	2/month	24-Hr Composite
Phenol	Report	Report	XXX	0.015	0.026	0.032	2/month	24-Hr Composite
a-Terpineol	Report	Report	XXX	0.016	0.033	0.04	2/month	24-Hr Composite
Benzoic Acid	Report	Report	XXX	0.071	0.12	0.15	2/month	24-Hr Composite
Chloride	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Bromide	XXX	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
p-Cresol	Report	Report	XXX	0.014	0.025	0.031	2/month	24-Hr Composite

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

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. B. For Outfall 002 , **Latitude** 40° 7' 45.00" , **Longitude** 78° 12' 40.00" , **River Mile Index** 0.19 , **Stream Code** 14032

Receiving Waters: Unnamed tributary to Sandy Run

Type of Effluent: Wetlands treatment discharge of mine seep (MP-12) (4)

1. The permittee is authorized to discharge during the period from **April 1, 2018** through **March 31, 2023**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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

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

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. C. For Outfall 003 , **Latitude** 40° 7' 42.00" , **Longitude** 78° 12' 27.00" , **River Mile Index** 4.10 , **Stream Code** 14030

Receiving Waters: Sandy Run

Type of Effluent: Wetlands treatment discharge (4)

1. The permittee is authorized to discharge during the period from **April 1, 2018** through **March 31, 2023**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	When Discharging	Estimate

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at Outfall 003

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. D. For Outfall 004 , **Latitude** 40° 7' 47.00" , **Longitude** 78° 11' 55.00" , **River Mile Index** _____ , **Stream Code** _____

Receiving Waters: Sandy Run

Type of Effluent: Stormwater

1. The permittee is authorized to discharge during the period from **April 1, 2018** through **March 31, 2023**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	I-S
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
Nitrate-Nitrite as N	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, 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):

at Outfall 004

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. E. For Outfall 005 , **Latitude** 40° 7' 47.00" , **Longitude** 78° 11' 21.00" , **River Mile Index** _____ , **Stream Code** _____

Receiving Waters: Sandy Run

Type of Effluent: Stormwater

1. The permittee is authorized to discharge during the period from **April 1, 2018** through **March 31, 2023**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	I-S
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
Nitrate-Nitrite as N	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, 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):

at Outfall 005

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. F. For Outfall 006 , **Latitude** 40° 7' 39.00" , **Longitude** 78° 12' 39.00" , **River Mile Index** _____ , **Stream Code** _____

Receiving Waters: Sandy Run

Type of Effluent: Stormwater

1. The permittee is authorized to discharge during the period from **April 1, 2018** through **March 31, 2023**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	I-S
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
Nitrate-Nitrite as N	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, 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):

at Outfall 006

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. G. For Outfall 007 , **Latitude** 40° 7' 43.00" , **Longitude** 78° 12' 32.00" , **River Mile Index** _____ , **Stream Code** _____

Receiving Waters: Unnamed Tributary to Sandy Run

Type of Effluent: Stormwater

1. The permittee is authorized to discharge during the period from **April 1, 2018** through **March 31, 2023**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	I-S
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
Nitrate-Nitrite as N	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, 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):

at Outfall 007

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. H. For Outfall 008 , **Latitude** 40° 7' 52.00" , **Longitude** 78° 12' 29.00" , **River Mile Index** _____ , **Stream Code** _____

Receiving Waters: Unnamed Tributary to Sandy Run

Type of Effluent: Stormwater

1. The permittee is authorized to discharge during the period from **April 1, 2018** through **March 31, 2023**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	I-S
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
Nitrate-Nitrite as N	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, 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):

at Outfall 008

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. I. For Outfall 009 , **Latitude** 40° 8' 8.00" , **Longitude** 78° 12' 13.00" , **River Mile Index** _____ , **Stream Code** _____

Receiving Waters: Unnamed Tributary to Sandy Run

Type of Effluent: Stormwater

1. The permittee is authorized to discharge during the period from **April 1, 2018** through **March 31, 2023**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	I-S
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
Nitrate-Nitrite as N	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Iron, 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):

at Outfall 009

3.0 Facility NPDES Compliance History

3.1 Summary of Inspections

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspection.

01/09/2020:

- Stormwater test results for the first half of 2018 showed benchmark exceedances of TSS from outfalls 004 and 009
- The Stormwater outfalls numbers changed with issuance of the new NPDES permit. This numbering change needs to be reflected on eDMR reports and supplementals
- Operator reports that plant flows have increased since landfill opened a new cell. The effluent holding tank is sometimes used to equalize flow to the plant

01/16/2020:

- Media was replaced in the anaerobic bio-tower in 2019. Media in the aerobic tower was replaced two years ago.
- A review of the October 2019 DMR and supplemental forms showed discrepancies between pH results reported on the effluent supplemental report and the pH results on the operators bench sheet. This was also noted in last year's inspection report
- The operator is measuring effluent pH with a portable meter daily and recording results in a bound notebook. The operator was also getting pH result from the in-line effluent meter and recording results on a bench sheet. It appears that the person entering the pH results on the supplemental form is using results from both pH logs. The facility needs to choose one meter to use for reporting pH results and use that meter consistently
- Stormwater test results for the first and second half of 2018 shows benchmark exceedances for TSS from outfalls 004 and 009. When the same benchmark is exceeded for two monitoring periods in a row the facility is required to submit a corrective action plan to reduce the concentrations of a parameter in the stormwater discharge. A corrective action plan for this facility was not locatable.

04/29/2020:

- Discussions with the facility yielded that daily pH readings come from a single source instead of multiple meters

02/02/2022:

- The effluent holding tank is sometimes used to equalize flow to the plant during periods of heavy rain. If there is excessive flow, leachate may be hauled off site for disposal at the Altoona STP.
- The operator is currently noting the test time for daily effluent testing, but not the sample grab time. Plant records should indicate grab and sample times unless meter probe placed directly in effluent stream.

3.2 Summary of DMR Data

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility. The maximum average flow data for the DMR reviewed was 0.018 MGD in May 2022. The facility exceeded the design flow for more than 3 consecutive months from April 2022 to July 2022. The design capacity of the treatment system is 0.0125 MGD.

The off-site laboratory used for the analysis of the parameters was Geochemical Testing located at 2005 N. Center Avenue, Somerset, PA 15501.

DMR Data for Outfall 001 (from September 1, 2021 to August 31, 2022)

Parameter	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21
Flow (MGD) Average Monthly	0.008222	0.014361	0.016862	0.018098	0.014676	0.009670	0.007093	0.006668	0.008159	0.012864	0.014245	0.011005
Flow (MGD) Daily Maximum	0.01399	0.02204	0.01925	0.02299	0.02245	0.01446	0.01018	0.00822	0.01062	0.01682	0.02102	0.02846
pH (S.U.) Instantaneous Minimum	7.14	8.01	7.9	8.10	8.01	8.17	8.09	8.00	8.0	8.08	7.95	7.95
pH (S.U.) Instantaneous Maximum	8.32	8.24	8.2	8.65	8.50	8.52	8.55	8.33	8.3	8.39	8.66	8.60
CBOD5 (lbs/day) Average Monthly	< 0.0843	< 0.1762	< 0.2027	0.1074	< 0.0946	0.1746	< 0.0371	< 0.0464	0.0583	0.1006	0.1841	0.0696
CBOD5 (lbs/day) Daily Maximum	< 0.105	< 0.18	< 0.21	0.119	0.189	0.185	< 0.038	< 0.048	0.068	0.105	0.222	0.07
CBOD5 (mg/L) Average Monthly	< 1.5	< 1.5	< 1.5	0.9	< 1.0	2.0	< 0.8	< 0.8	0.9	1.0	2.0	1.5
CBOD5 (mg/L) Daily Maximum	< 1.5	< 1.5	< 1.5	1.00	2.0	2.0	< 0.8	< 0.8	1.0	1.0	2.0	2.0
TSS (lbs/day) Average Monthly	0.43	1.18	0.55	0.66	1.4	1.31	0.83	1.01	0.67	2.01	1.37	0.56
TSS (lbs/day) Daily Maximum	0.70	1.32	0.84	0.71	2.23	1.48	0.91	1.02	0.79	2.11	2.0	0.77
TSS (mg/L) Average Monthly	7.0	10.0	4.0	5.5	13.0	15.0	18.0	17.5	10.5	20.0	14.0	10.5
TSS (mg/L) Daily Maximum	10.0	11.0	6.0	6.0	20.0	16.0	20.0	18.0	13.0	20.0	18.0	11.0
Total Dissolved Solids (lbs/day) Average Monthly	413.5	569.7	581.6	519.9	417.1	343.2	235.1	244.6	237.5	417.1	407.7	127.0
Total Dissolved Solids (mg/L) Average Monthly	5910	4740	4470	4320	4410	4190	4980	4370	3890	3960	3670	3660
Total Nitrogen (mg/L) Average Monthly	392	385	352	289	335	364	401	396.5	< 20.42	< 322	272.7	196.5
Ammonia (lbs/day) Average Monthly	0.0069	0.0194	0.0238	0.0497	0.0248	0.0218	0.0438	0.1195	0.036	0.0351	0.1041	0.0966
Ammonia (lbs/day) Daily Maximum	0.007	0.0216	0.0294	0.0674	0.0278	0.0306	0.051	0.1455	0.0488	0.0548	0.1133	0.1325
Ammonia (mg/L) Average Monthly	0.13	0.165	0.175	0.415	0.24	0.245	0.87	2.045	0.55	0.34	1.16	2.345

Ammonia (mg/L) Daily Maximum	0.16	0.18	0.21	0.56	0.25	0.33	1.08	2.42	0.72	0.52	1.3	3.82
Total Phosphorus (lbs/day) Average Monthly	0.0076	0.0166	0.0164	0.0114	0.0107	0.0069	0.0043	0.0056	0.0044	0.0082	0.0112	0.0142
Total Phosphorus (lbs/day) Daily Maximum	0.0101	0.0175	0.0165	0.0140	0.0108	0.0080	0.0044	0.0060	0.0049	0.0098	0.0166	0.0198
Total Phosphorus (mg/L) Average Monthly	0.133	0.142	0.122	0.095	0.105	0.078	0.083	0.096	0.069	0.081	0.114	0.265
Total Phosphorus (mg/L) Daily Maximum	0.144	0.146	0.127	0.116	0.112	0.086	0.086	0.100	0.072	0.093	0.149	0.284
Total Aluminum (mg/L) Average Monthly	0.44	0.35	0.34	0.49	0.43	0.40	0.33	0.47	0.34	0.39	0.45	0.40
Total Boron (mg/L) Average Monthly	8.29	7.46	6.54	7.25	7.11	5.75	6.87	6.82	5.80	5.47	4.80	3.83
Total Cobalt (mg/L) Average Monthly	0.038	0.044	0.030	0.038	0.036	0.029	0.034	0.031	0.024	0.031	0.030	0.018
Dissolved Iron (mg/L) Average Monthly	0.07	0.07	0.09	0.049	0.06	0.04	0.06	0.06	0.05	0.13	0.08	< 0.05
Total Iron (mg/L) Average Monthly	0.07	0.08	0.1	0.06	0.07	0.04	0.07	0.06	0.06	0.13	0.09	0.07
Total Manganese (mg/L) Average Monthly	0.04	0.23	0.09	0.08	0.06	0.06	0.15	0.11	0.07	0.07	0.01	0.01
Sulfate (mg/L) Average Monthly	183	159	98	117	303	232	237	143	81	70	81	118
Total Zinc (lbs/day) Average Monthly	0.00151	0.00306	0.00275	0.00281	0.00302	0.0017	0.00066	0.00123	0.00065	0.00172	0.00182	0.00059
Total Zinc (lbs/day) Daily Maximum	0.00175	0.00324	0.00312	0.00301	0.00312	0.00176	0.00067	0.00144	0.00081	0.00211	0.00211	0.00062
Total Zinc (mg/L) Average Monthly	0.0275	0.026	0.0205	0.0235	0.0295	0.0195	0.013	0.021	0.01	0.017	0.02	0.013
Total Zinc (mg/L) Daily Maximum	0.03	0.027	0.024	0.025	0.031	0.02	0.014	0.024	0.012	0.02	0.021	0.018
Phenol (lbs/day) Average Monthly	0.00011	0.00023	0.00027	0.00024	0.00021	0.00017	< 0.00026	< 0.00029	< 0.00032	< 0.00047	< 0.00044	< 0.00025
Phenol (lbs/day) Daily Maximum	0.00014	< 0.00024	0.00028	< 0.00024	< 0.00022	< 0.00019	< 0.00028	< 0.0003	< 0.00034	< 0.0005	< 0.00052	< 0.00033
Phenol (mg/L) Average Monthly	0.002	0.002	0.002	0.002	0.002	0.002	< 0.005	< 0.005	< 0.005	< 0.0049	< 0.0049	< 0.0047

Phenol (mg/L) Daily Maximum	0.002	0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0047
a-Terpineol (lbs/day) Average Monthly	0.00011	0.00023	0.00027	0.00024	0.00021	0.00017	< 0.00026	< 0.00029	< 0.00032	< 0.00047	< 0.00044	< 0.00025
a-Terpineol (lbs/day) Daily Maximum	0.00014	0.00024	0.00028	< 0.00024	0.00022	0.00019	< 0.00028	< 0.0003	< 0.00034	< 0.0005	< 0.00052	< 0.00033
a-Terpineol (mg/L) Average Monthly	0.002	0.002	0.002	0.002	0.002	0.002	< 0.005	< 0.005	< 0.005	< 0.0049	< 0.0049	< 0.0047
a-Terpineol (mg/L) Daily Maximum	0.002	0.002	0.002	< 0.002	< 0.002	< 0.002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0047
Benzoic Acid (lbs/day) Average Monthly	0.00056	0.00116	0.00134	0.00118	0.00102	0.00086	< 0.00051	< 0.00058	< 0.00064	< 0.00098	< 0.00089	< 0.00066
Benzoic Acid (lbs/day) Daily Maximum	0.0007	0.00119	0.0014	0.00119	0.0011	0.00092	< 0.00055	< 0.0006	< 0.00068	0.00105	< 0.00104	< 0.00066
Benzoic Acid (mg/L) Average Monthly	0.010	0.0099	0.010	< 0.0099	< 0.0099	0.0099	< 0.0099	< 0.010	< 0.010	< 0.010	< 0.0097	< 0.0142
Benzoic Acid (mg/L) Daily Maximum	0.010	0.0099	0.010	< 0.0099	0.0099	0.0099	< 0.0099	< 0.01	< 0.010	0.01	< 0.01	< 0.019
Chloride (mg/L) Average Monthly	1400	1600	913	620	1520	1100	1400	1370	1120	1020	956	823
Bromide (mg/L) Average Monthly	4.6	4.9	3	1.9	4.9	3.2	4.9	4.8	4.4	3.4	3.0	< 2.5
p-Cresol (lbs/day) Average Monthly	0.00028	0.00059	0.00068	< 0.0006	0.00051	0.00044	< 0.00026	< 0.00029	< 0.00032	< 0.00047	< 0.00044	< 0.00025
p-Cresol (lbs/day) Daily Maximum	0.00035	0.0006	0.0007	< 0.0006	0.00056	0.00046	< 0.00028	< 0.0003	< 0.00034	< 0.0005	< 0.00052	< 0.00033
p-Cresol (mg/L) Average Monthly	0.005	0.005	0.005	< 0.005	0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.0049	< 0.0049	< 0.0047
p-Cresol (mg/L) Daily Maximum	0.005	0.005	0.005	< 0.005	0.005	0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0047

DMR Data for Outfall 002 (from September 1, 2021 to August 31, 2022)

Parameter	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21
Flow (MGD) Average Monthly	0.02088	0.01440	0.04464	0.07920	0.07416	0.07776	0.06480	0.01728	0.01944	0.04392	0.03168	0.04680
Flow (MGD) Daily Maximum	0.02592	0.02304	0.05760	0.10800	0.07776	0.08784	0.07200	0.02016	0.02304	0.0576	0.03888	0.0720

DMR Data for Outfall 004 (from September 1, 2021 to August 31, 2022)

Parameter	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21
pH (S.U.) Daily Maximum			7.55						7.62			
COD (mg/L) Daily Maximum			13						16			
TSS (mg/L) Daily Maximum			16						2			
Nitrate-Nitrite (mg/L) Daily Maximum			0.99						0.20			
Ammonia (mg/L) Daily Maximum			0.15						< 0.10			
TKN (mg/L) Daily Maximum			< 1.0						< 1.0			
Total Phosphorus (mg/L) Daily Maximum			0.039						0.014			
Total Iron (mg/L) Daily Maximum			1.18						0.33			

DMR Data for Outfall 005 (from September 1, 2021 to August 31, 2022)

Parameter	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21
pH (S.U.) Daily Maximum			7.10						7.62			
COD (mg/L) Daily Maximum			13						21			
TSS (mg/L) Daily Maximum			26						6			
Nitrate-Nitrite (mg/L) Daily Maximum			< 0.05						< 0.05			
Ammonia (mg/L) Daily Maximum			< 0.10						< 0.10			
TKN (mg/L) Daily Maximum			< 1.0						< 1			
Total Phosphorus (mg/L) Daily Maximum			0.034						0.018			
Total Iron (mg/L) Daily Maximum			1.26						0.75			

DMR Data for Outfall 006 (from September 1, 2021 to August 31, 2022)

Parameter	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21
pH (S.U.) Daily Maximum			6.94						7.12			
COD (mg/L) Daily Maximum			< 10						15			
TSS (mg/L) Daily Maximum			< 2						3			
Nitrate-Nitrite (mg/L) Daily Maximum			0.44						< 0.05			
Ammonia (mg/L) Daily Maximum			< 0.10						< 0.10			
TKN (mg/L) Daily Maximum			< 1.0						1.3			
Total Phosphorus (mg/L) Daily Maximum			< 0.010						< 0.010			
Total Iron (mg/L) Daily Maximum			0.28						0.39			

DMR Data for Outfall 007 (from September 1, 2021 to August 31, 2022)

Parameter	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21
pH (S.U.) Daily Maximum			3.74						6.80			
COD (mg/L) Daily Maximum			< 10						< 10			
TSS (mg/L) Daily Maximum			2						< 2			
Nitrate-Nitrite (mg/L) Daily Maximum			0.21						0.20			
Ammonia (mg/L) Daily Maximum			0.53						0.86			
TKN (mg/L) Daily Maximum			< 1.0						< 1.0			
Total Phosphorus (mg/L) Daily Maximum			< 0.010						< 0.01			
Total Iron (mg/L) Daily Maximum			2.43						0.47			

DMR Data for Outfall 008 (from September 1, 2021 to August 31, 2022)

Parameter	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21
pH (S.U.) Daily Maximum			6.71						7.24			
COD (mg/L) Daily Maximum			21						33			
TSS (mg/L) Daily Maximum			12						17			
Nitrate-Nitrite (mg/L) Daily Maximum			< 0.05						< 0.05			
Ammonia (mg/L) Daily Maximum			< 0.10						< 0.1			
TKN (mg/L) Daily Maximum			< 1.0						< 1.0			
Total Phosphorus (mg/L) Daily Maximum			0.079						0.036			
Total Iron (mg/L) Daily Maximum			3.46						0.97			

DMR Data for Outfall 009 (from September 1, 2021 to August 31, 2022)

Parameter	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21
pH (S.U.) Daily Maximum			6.72						6.14			
COD (mg/L) Daily Maximum			< 10						15			
TSS (mg/L) Daily Maximum			34						9			
Nitrate-Nitrite (mg/L) Daily Maximum			0.09						0.20			
Ammonia (mg/L) Daily Maximum			< 0.10						< 0.1			
TKN (mg/L) Daily Maximum			< 1.0						< 1.0			
Total Phosphorus (mg/L) Daily Maximum			0.025						0.063			
Total Iron (mg/L) Daily Maximum			2.65						3.84			

Stormwater Sampling Results (Maximum Concentration from sampling)														
Pollutant	**Benchmark**		**004**		**005**		**006**		**007**		**008**		**009**	
			mg/l											
Oil and Grease[1]	≤	5	<	1		1.4		1	<	1	<	5	<	1
BOD5[1]	≤	10	<	1.5	<	1.5	<	2.2	<	1.5	<	2	<	3
COD[1]		≤ 30		18		30		15	<	10		49		15
COD[2]		120												
TSS[1]	≤	30		23		108		3		19		60		388
TSS[2]		100												
Total Nitrogen[1]	≤	2	<	0.69	<	0.82	<	0.76	<	0.77	<	2.95	<	1.08
Total Phosphorus[1]	≤	1		0.04		0.03		0.01		0.06		0.08		0.23
pH (min/max)[1]		6.0 / 9.0		6.63 / 9.49		6.80 / 7.62		6.37 / 7.51		3.74 / 7.73		5.84 / 7.42		6.14 / 7.71
CBOD5			<	1.5	<	1.5	<	1.5	<	1.5	<	1.7	<	3
TDS				78		78		50		284		202		168
Nitrate-Nitrite				0.99		0.08		0.44		1.01		1.95		0.3
Ammonia-Nitrogen		-----		0.2	<	0.1	<	0.1		0.86	<	0.1		0.18
TKN			<	1	<	1		1.3	<	1	<	1	<	1
Total Iron[1]	≤	7		1.36		1.26		0.41		4.1		3.89		10.5
Dissolved Iron			<	0.02		1.11		0.13	<	0.02		0.12	<	0.02
Aluminum			<	0.4		0.13	<	0.1	<	0.1		2.5		2.8
Boron			<	0.03	<	0.02	<	0.02	<	0.04	<	0.05	<	0.02
Cobalt			<	0.0002	<	0.002	<	0.002		0.04		0.006	<	0.003
Manganese				0.11		0.452		0.29		2.51		0.29		0.24
Sulfate				18.3		41.9		11.5		170		9		12.8
Zinc			<	0.01		0.006	<	0.01		0.05		0.03		0.67
Phenol			<	2	<	4	<	2	<	2	<	20	<	2
Alpha- Terpineol			<	2	<	5	<	2	<	2	<	25	<	2
Benzoic Acid			<	9.9	<	20	<	10	<	9.9	<	100	<	9.9
Chloride				4.1		1		6.4		12		1.2		1.4
Bromide			<	0.1	<	0.1	<	0.1	<	0.1	<	0.2	<	0.1
p-Cresol			<	5	<	9.9	<	5	<	5	<	50	<	5
Notes														
1 - No Exposure benchmark														
2- PAG-03 Appendix C benchmark														

Stormwater exceedances have been marked in yellow. The parameters COD, TSS, total nitrogen and pH had exceedances with no exposure limits.

3.3 Non-Compliance

3.3.1 Non-Compliance- NPDES Effluent

A summary of the non-compliance to the permit limits for the existing permit cycle is as follows.

From the DMR data beginning in April 1, 2018 to October 5, 2022, the following were the observed effluent non-compliances.

NON_COMPLIANCE_DATE	NON_COMPL_TYPE_DESC	NON_COMPL_CATEGORY_DESC	PARAMETER	SAMPLE_VALUE	VIOLATION_CONDITION	PERMIT_VALUE	UNIT_OF_MEASURE	STAT_BASE_CODE
11/22/2020	Violation of permit condition	Effluent	Total Suspended Solids	35.8	>	27.0	mg/L	Average Monthly
12/21/2020	Violation of permit condition	Effluent	Total Suspended Solids	120.0	>	88.0	mg/L	Daily Maximum
12/21/2020	Violation of permit condition	Effluent	Total Suspended Solids	53.6	>	27.0	mg/L	Average Monthly
4/14/2021	Sample collection less frequent than required	Other Violations	Ammonia-Nitrogen					
4/14/2021	Sample collection less frequent than required	Other Violations	a-Terpineol					
4/14/2021	Sample collection less frequent than required	Other Violations	Benzoic Acid					
4/14/2021	Sample collection less frequent than required	Other Violations	Carbonaceous Biochemical Oxygen Demand (CBOD5)					
4/14/2021	Sample collection less frequent than required	Other Violations	p-Cresol					
4/14/2021	Sample collection less frequent than required	Other Violations	Phenol					
4/14/2021	Sample collection less frequent than required	Other Violations	Total Phosphorus					
4/14/2021	Sample collection less frequent than required	Other Violations	Total Suspended Solids					
4/14/2021	Sample collection less frequent than required	Other Violations	Zinc, Total					

3.3.2 Non-Compliance- Enforcement Actions

A summary of the non-compliance enforcement actions for the current permit cycle is as follows:

Beginning in April 1, 2018 to December 5, 2022, there were no observed enforcement actions.

3.4 Summary of Biosolids Disposal

A summary of the biosolids disposed of from the facility is as follows.

2021
Sewage Sludge / Biosolids Production Information

Hauled Off-Site			
2021	Gallons	% Solids	Dry Tons
January			
February			
March			
April			
May	6000	2	0.5
June	12000	1.25	0.626
July			
August	6000	1.25	0.313
September			
October			
November			
December			

Notes:
Biosolids/Sewage Sludge disposed at Altoona Water Authority; Westerly Facility, Allegheny Township, Blair County

3.5 Open Violations

No open violations existed as of December 2022.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be Sandy Run. The sequence of receiving streams that Sandy Run discharges into are the Raystown Branch Juniata River, the Juniata River, and the Susquehanna River which eventually drains into the Chesapeake Bay.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is Saxton Municipal Water Authority (PWS ID # 4050021) located approximately 13 miles downstream of the subject facility on the Juniata River. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

4.3 Class A Wild Trout Streams

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that no Class A Wild Trout Fishery will be impacted by this discharge.

4.4 2022 Integrated List of All Waters (303d Listed Streams)

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

The receiving waters is listed in the 2022 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 4a waterbody. The surface waters is an impaired stream for aquatic life due to pH from acid mine drainage. The receiving stream is also impaired due to metals from acid mine drainage. The designated use has been classified as protected waters for warm water fishes (WWF) and migratory fishes (MF).

4.5 Low Flow Stream Conditions

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 -year time period. The facility discharge is based upon a known design capacity of the subject facility.

The closest WQN station to the subject facility is the Raystown Branch Juniata station (WQN223) at Saxton, PA. This WQN station is located approximately 14 miles downstream of the subject facility.

The closest gauge station to the subject facility is the Raystown Branch Juniata station at Saxton, PA (USGS station number 1562000). This gauge station is located approximately 14 miles downstream of the subject facility.

For WQM modeling, pH and stream water temperature data from the water quality network station was used. pH was estimated to be 8.0 and the stream water temperature was estimated to be 23.3 C.

The hardness of the stream was estimated by collecting a sample upstream of the facility. The sampling result was 72.8 mg/l $CaCO_3$.

The low flow yield and the Q710 for the subject facility was estimated as shown below.

Calculations (Outfall 001)			
The low flow yield of the gauge station is:			
Low Flow Yield (LFY) = Q710 / DA			
LFY =	(67.1 ft^3/sec / 756 mi^2)		
LFY =	0.0888	$ft^3/sec/mi^2$	
The low flow at the subject site is based upon the DA of		1.77	mi^2
Q710 = (LFY@gauge station)(DA@Subject Site)			
Q710 = (0.0888 $ft^3/sec/mi^2$)(1.77 mi^2)			
Q710 =	0.157	ft^3/sec	

Gauge Station Data			
USGS Station Number	1562000		
Station Name	Raystown Branch Juniata River at Saxton, PA		
Q710	67.1	ft^3/sec	
Drainage Area (DA)	756	mi^2	
Calculations (Outfall 002)			
The low flow yield of the gauge station is:			
Low Flow Yield (LFY) = Q710 / DA			
LFY =	(67.1 ft^3/sec / 756 mi^2)		
LFY =	0.0888	$ft^3/sec/mi^2$	
The low flow at the subject site is based upon the DA of		1.6	mi^2
Q710 = (LFY@gauge station)(DA@Subject Site)			
Q710 = (0.0888 $ft^3/sec/mi^2$)(1.6 mi^2)			
Q710 =	0.142	ft^3/sec	

4.6.1 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.0125
Latitude	40º 7' 42.60"	Longitude	-78º 12' 41.98"
Quad Name		Quad Code	
Wastewater Description:	IW Process Effluent with ELG		

Receiving Waters	Sandy Run (WWF, MF)	Stream Code	14030
NHD Com ID	65844115	RMI	4.01
Drainage Area	1.77	Yield (cfs/mi^2)	0.0888
Q_{7-10} Flow (cfs)	0.157	Q_{7-10} Basis	StreamStats/Streamgauge
Elevation (ft)	1573	Slope (ft/ft)	
Watershed No.	11-D	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93 class.	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	METALS, PH		
Source(s) of Impairment	ACID MINE DRAINAGE		
TMDL Status	Final	Name	Longs Run

Background/Ambient Data		Data Source
pH (SU)	8.00	WQN 223; Median July to Sept
Temperature (°C)	23.3	WQN 223; Median July to Sept
Hardness (mg/L)	72.8	NPDES application
Other:		

Nearest Downstream Public Water Supply Intake		Saxton Municipal Water Authority	
PWS Waters	Juniata River	Flow at Intake (cfs)	
PWS RMI	42	Distance from Outfall (mi)	13

4.6.2 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0
Latitude	40º 7' 53.00"	Longitude	-78º 16' 4.00"
Quad Name		Quad Code	
Wastewater Description:	Other Miscellaneous Discharges		

Receiving Waters	Sandy Run	Stream Code	14030
NHD Com ID	65844247	RMI	4.11
Drainage Area	1.6	Yield (cfs/mi^2)	0.0888
Q_{7-10} Flow (cfs)	0.142	Q_{7-10} Basis	StreamStats/Streamgauge
Elevation (ft)	1615	Slope (ft/ft)	
Watershed No.	11-D	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93 class	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	METALS, PH		
Source(s) of Impairment	ACID MINE DRAINAGE		
TMDL Status	Final	Name	Longs Run

4.6.3 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	0
Latitude	40º 7' 51.80"	Longitude	-78º 12' 27.13"
Quad Name		Quad Code	
Wastewater Description:	Other Miscellaneous Discharges		
Receiving Waters	Unnamed Tributary to Sandy Run (WWF)	Stream Code	14030
NHD Com ID	65844047	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-D	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93 class	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Longs Run

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

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

4.6.4 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	004	Design Flow (MGD)	0
Latitude	40º 7' 47.23"	Longitude	-78º 11' 55.00"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Sandy Run (WWF)	Stream Code	14030
NHD Com ID	65844111	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-D	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93 class	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	METALS, PH		
Source(s) of Impairment	ACID MINE DRAINAGE		
TMDL Status	Final	Name	Longs Run

4.6.5 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	005	Design Flow (MGD)	0
Latitude	40º 7' 53.44"	Longitude	-78º 11' 2.54"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Sandy Run (WWF)	Stream Code	14030
NHD Com ID	65844111	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-D	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93 class	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	METALS, PH		
Source(s) of Impairment	ACID MINE DRAINAGE		
TMDL Status	Final	Name	Longs Run

4.6.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	006	Design Flow (MGD)	0
Latitude	40º 7' 42.97"	Longitude	-78º 12' 40.22"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Sandy Run (WWF)	Stream Code	14030
NHD Com ID	65844115	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-D	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93 class	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	METALS, PH		
Source(s) of Impairment	ACID MINE DRAINAGE		
TMDL Status	Final	Name	Longs Run

4.6.7 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	007	Design Flow (MGD)	0
Latitude	40º 7' 46.96"	Longitude	-78º 12' 37.16"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Unnamed Tributary to Sandy Run (WWF)	Stream Code	14043
NHD Com ID	65844107	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-D	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93 class	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Longs Run

4.6.8 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	008	Design Flow (MGD)	0
Latitude	40º 7' 52.25"	Longitude	-78º 12' 28.94"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Unnamed Tributary to Sandy Run (WWF)	Stream Code	14043
NHD Com ID	65844047	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-D	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93 class	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Longs Run

4.6.9 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	009	Design Flow (MGD)	0
Latitude	40º 7' 57.75"	Longitude	-78º 12' 10.54"
Quad Name		Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Unnamed Tributary to Sandy Run (WWF)	Stream Code	14043
NHD Com ID	65844047	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-D	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93 class	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Longs Run

5.0: Overview of Presiding Water Quality Standards

5.1 General

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET) The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

5.2.1 Technology-Based Limitations

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Available TBEL requirements for the state of Pennsylvania are itemized in PA Code 25, Chapter 92a.47.

The presiding sources for the basis for the effluent limitations are governed by either federal or state regulation. The reference sources for each of the parameters is itemized in the tables. The following technology-based limitations apply, subject to water quality analysis and best professional judgement (BPJ) where applicable:

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)

Industrial facilities are commonly restricted to effluent limitations established by federal effluent limitation guidelines (ELG). The applicable ELG for this type of industrial facility is the Landfill Subcategory (i.e. 40 CFR 445.21). The ELG limits for landfills are summarized in the table.

Effluent Limitations

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
BOD	140	37
TSS	88	27
Ammonia (as N)	10	4.9
α-Terpineol	0.033	0.016
Benzoic acid	0.12	0.071
p-Cresol	0.025	0.014
Phenol	0.026	0.015

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
Zinc	0.20	0.11
pH	([2])	([2])

[1] Milligrams per liter (mg/L, ppm)

[2] Within the range 6 to 9.

5.3 Water Quality-Based Limitations

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). The subject facility that is typically enforced is the more stringent limit of either the TBEL or the WQBEL.

Determination of WQBEL is calculated by spreadsheet analysis or by a computer modeling program developed by DEP. DEP permit engineers utilize the following computing programs for WQBEL permit limitations: (1) MS Excel worksheet for Total Residual Chorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.1 (WQM Model) and (3) Toxics using DEP Toxics Management Spreadsheet for Toxics pollutants.

The modeling point nodes utilized for this facility are summarized below.

Outfall 001			
General Data 1	***(Modeling Point #1)***	***(Modeling Point #2)***	***Units***
Stream Code	14030	14030	
River Mile Index	4.01	2.98	miles
Elevation	1573	1364	feet
Latitude	40.128889	40.122441	
Longitude	-78.212778	-78.229279	
Drainage Area	1.77	2.46	sq miles
Low Flow Yield	0.088756614	0.088756614	cfs/sq mile
Outfall 002			
General Data 1	***(Modeling Point #1)***	***(Modeling Point #2)***	***Units***
Stream Code	14030	14030	
River Mile Index	4.11	2.98	miles
Elevation	1615	1364	feet
Latitude	40.129167	40.122441	
Longitude	-78.211111	-78.229279	
Drainage Area	1.6	2.46	sq miles
Low Flow Yield	0.0888	0.088756614	cfs/sq mile

5.3.1 Water Quality Modeling 7.0

The WQM Model is a computer model that is used to determine NPDES discharge effluent limitations for Carbonaceous BOD (CBOD5), Ammonia Nitrogen (NH3-N), and Dissolved Oxygen (DO) for single and multiple point source discharges scenarios. WQM Model is a complete-mix model which means that the discharge flow and the stream flow are assumed to instantly and completely mixed at the discharge node.

WQM recommends effluent limits for DO, CBOD5, and NH_3-N in mg/l for the discharge(s) in the simulation.

Four types of limits may be recommended. The limits are

(a) a *minimum concentration for DO in the discharge as 30-day average;*
(b) a 30-day average concentration for CBOD5 in the discharge;
(c) a 30-day average concentration for the NH_3-N in the discharge;
(d) *24-hour average concentration for NH_3-N in the discharge*.

The WQM Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

The applicable WQM Effluent Limit Type are discussed in Section 6 under the corresponding parameter which is either DO, CBOD, or ammonia-nitrogen.

5.3.2 Toxics Modeling

The Toxics Management Spreadsheet model is a computer model that is used to determine effluent limitations for toxics (and other substances) for single discharge wasteload allocations. This computer model uses a mass-balance water quality analysis that includes consideration for mixing, first-order decay, and other factors used to determine recommended water quality-based effluent limits. Toxics Management Spreadsheet does not assume that all discharges completely mix with the stream. The point of compliance with water quality criteria are established using criteria compliance times (CCTs). The available CCTs are either acute fish criterion (AFC), chronic fish criterion (CFC), or human health criteria (THH & CRL).

Acute Fish Criterion (AFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e.15 minutes travel time downstream of the current discharge) or the complete mix time whichever comes first. AFC is evaluated at Q710 conditions.

Chronic Fish Criterion (CFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CFC is evaluated at Q710 conditions.

Threshold Human Health (THH) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the estimated travel time downstream to the nearest potable water supply intake whichever comes first. THH is evaluated at Q710 conditions.

Cancer Risk Level (CRL) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CRL is evaluated at Qh (harmonic mean or normal flow) conditions.

The Toxics Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

5.3.2.1 Determining if NPDES Permit Will Require Monitoring/Limits in the Proposed Permit for Toxic Pollutants

To determine if Toxics modeling is necessary, DEP has developed a Toxics Management Spreadsheet to identify toxics of concern. Toxic pollutants whose maximum concentrations as reported in the permit application or on DMRs are greater than the most stringent applicable water quality criterion are pollutants of concern. A Reasonable Potential Analysis was utilized to determine (a) if the toxic parameters modeled would require monitoring or (b) if permit limitations would be required for the parameters. The toxics reviewed for reasonable potential were the pollutants in Groups 1 through 6.

Based upon the SOP- Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants (Revised January 10, 2019), monitoring and/or limits will be established as follows.

(a) When reasonable potential is demonstrated, establish limits where the maximum reported concentration equals or 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.

Applicable monitoring or permit limits for toxics are summarized in Section 6.

The Toxics Management Spreadsheet output has been included in Attachment B.

5.3.3 Whole Effluent Toxicity (WET)

The facility is not subject to WET.

5.4 Total Maximum Daily Loading (TMDL)

5.4.1 TMDL

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (TMDL) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

A TMDL for a given pollutant and waterbody is composed of the sum of individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background levels. In addition, the TMDL must include an implicit or explicit margin of safety (MOS) to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving waterbody. The TMDL components are illustrated using the following equation:

$$TMDL = \Sigma WLAs + \Sigma LAs + MOS$$

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

5.4.1.1 Local TMDL

The subject facility discharges into the Longs and Sandy Run Watershed TMDL. The complete narrative for the TMDL is available in a document dated for February 25, 2003. The Longs and Sandy Run Watershed is located in South Central Pennsylvania, occupying the northeast corner of Bedford County. The area within the watershed consists of 10.9 square miles.

High levels of metals, and in some areas depressed pH, caused impairments. All impairments resulted from acid drainage from abandoned coal mines. The TMDL addresses the three primary metals associated with acid mine drainage (iron, manganese, aluminum), and pH.

5.4.1.2 Chesapeake Bay TMDL Requirement

The Chesapeake Bay Watershed is a large ecosystem that encompasses approximately 64,000 square miles in Maryland, Delaware, Virginia, West Virginia, Pennsylvania, New York and the District of Columbia. An ecosystem is composed of interrelated parts that interact with each other to form a whole. All of the plants and animals in an ecosystem depend on each other in some way. Every living thing needs a healthy ecosystem to survive. Human activities affect the Chesapeake Bay ecosystem by adding pollution, using resources and changing the character of the land.

Most of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the federal Water Pollution Control Act ("Clean Water Act"), 33 U.S.C. § 1313(d). While the Chesapeake Bay is outside the boundaries of Pennsylvania, more than half of the State lies within the watershed. Two major rivers in Pennsylvania are part of the Chesapeake Bay Watershed. They are (a) the Susquehanna River and (b) the Potomac River. These two rivers total 40 percent of the entire Chesapeake Bay watershed.

The overall management approach needed for reducing nitrogen, phosphorus and sediment are provided in the Bay TMDL document and the Phase I, II, and III WIPs which is described in the Bay TMDL document and Executive Order 13508.

The Bay TMDL is a comprehensive pollution reduction effort in the Chesapeake Bay watershed identifying the necessary pollution reductions of nitrogen, phosphorus and sediment across the seven Bay watershed jurisdictions of Delaware,

Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia to meet applicable water quality standards in the Bay and its tidal waters.

The Watershed Implementation Plans (WIPs) provides objectives for how the jurisdictions in partnership with federal and local governments will achieve the Bay TMDL's nutrient and sediment allocations.

Phase 3 WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. The latest revision of the supplement was September 13, 2021.

The Chesapeake Bay TMDL (Appendix Q) categorizes point sources into four sectors:

- Sector A- significant sewage dischargers;
- Sector B- significant industrial waste (IW) dischargers;
- Sector C- non-significant dischargers (both sewage and IW facilities); and
- Sector D- combined sewer overflows (CSOs).

All sectors contain a listing of individual facilities with NPDES permits that were believed to be discharging at the time the TMDL was published (2010). All sectors with the exception of the non-significant dischargers have individual wasteload allocations (WLAs) for TN and TP assigned to specific facilities. Non-significant dischargers have a bulk or aggregate allocation for TN and TP based on the facilities in that sector that were believed to be discharging at that time and their estimated nutrient loads.

Cap Loads will be established in permits as Net Annual TN and TP loads (lbs/yr) that apply during the period of October 1 – September 30. For facilities that have received Cap Loads in any other form, the Cap Loads will be modified accordingly when the permits are renewed.

Offsets have been incorporated into Cap Loads in several permits issued to date. From this point forward, permits will be issued with the WLAs as Cap Loads and will identify Offsets separately to facilitate nutrient trading activities and compliance with the TMDL.

Based upon the supplement the subject facility has been categorized as a Sector C discharger. The supplement defines Sector C as a non-significant dischargers include sewage facilities (Phase 4 facilities: ≥ 0.2 MGD and < 0.4 MGD and Phase 5 facilities: > 0.002 MGD and < 0.2 MGD), small flow/single residence sewage treatment facilities (≤ 0.002 MGD), and non-significant IW facilities, all of which may be covered by statewide General Permits or may have individual NPDES permits.

At this time, there are approximately 850 Phase 4 and 5 sewage facilities, approximately 715 small flow sewage treatment facilities covered by a statewide General Permit, and approximately 300 non-significant IW facilities.

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. Monitoring for facilities with other discharges will generally conform to the following minimum sampling frequencies, with the permit writer having final discretion.

Non-significant IW facilities that propose expansion or production increases and as a result will discharge at least 75 lbs/day TN or 25 lbs/day TP (on an annual average basis), will be classified as Significant IW dischargers and receive Cap Loads in their permits based on existing performance (existing TN/TP concentrations at current average annual flow).

In general, for new non-significant IW discharges (including existing facilities discharging without a permit), DEP will issue permits containing Cap Loads of "0" and these facilities will be expected to purchase credits and/or apply offsets to achieve compliance.

Consistent with previous renewals, this facility is subjected to monitoring requirements for nitrogen and phosphorus to protect the Chesapeake Bay. Monitoring shall be required 1x/month for total nitrogen and phosphorus.

5.5 Anti-Degradation Requirement

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are

implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

The subject facility's discharge will be to a non-special protection waters and the permit conditions are imposed to protect existing instream water quality and uses. Neither HQ waters or EV waters is impacted by this discharge.

5.6 Anti-Backsliding

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (40 CFR 122.l.1 and 40 CFR 122.l.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

6.0 NPDES Parameter Details

The basis for the proposed sampling and their monitoring frequency that will appear in the permit for each individual parameter are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, anti-degradation, or WET.

WQM modeling was conducted as separate outfalls for 001 and 002. TMS modeling was done as separate runs for Outfalls 001 and 002

Outfall 001 Notes

- An initial CBOD of 50 mg/l was placed in the water quality modeling. Modeling would allow CBOD to be as high as 50 mg/l. However, the EPA ELG is 37 mg/l BOD. Consistent with previous renewals, a 5 mg/l deduction is applied to the 37 mg/l BOD to arrive at the 32 mg/l CBOD. Anti-backsliding will prohibit less stringent effluent limits.
- The existing phosphorus limit originated from protection of Lake Raystown. The current permit limit of 2 mg/l shall continue to the proposed permit.
- The NPDES application reported the number of samples collected for each parameter and the number of non-detect results. The table summarizes these statistics. Mercury was labelled as three samples with three non-detect results. Yet, the result reported on the application reported a positive hit.

Parameter/ Number of Samples	Number of Samples	Number of Non-Detect Results
Boron	22	0
Mercury	3	3
Nickel	3	0
Acrylamide	3	3
Toxaphene	3	3
Notes:		
Data abstracted from NPDES application		

Toxics Modeling Spreadsheet (TMS) was utilized for Modeling Run #1 and Modeling Run #2. Modeling Run #1 used sampling data from the NPDES application.

Modeling Run #1 recommends monitoring for mercury and nickel. Limits were recommended for acrylamide and toxaphene. Monitoring for these parameters on a 1x/quarter basis has been proposed to determine impacts. Pending favorable results, monitoring may be reduced or eliminated in future renewals.

Modeling Run #2 used monitoring data from monthly DMR beginning April 1, 2018 and ending September 1, 2022. TOXCON generated statistic for entering an average monthly data point and coefficient of variation for TMS. Monitoring for aluminum and manganese have been reduced to 1x/quarter. These parameters showed monitoring is necessary but were flagged by TMS as no reasonable potential. Monitoring for boron and cobalt shall continue with limits at 1x/month. These parameters were flagged by TMS as reasonable potential. Effluent limits have been proposed. A summary of the DMR data is in the attachment section.

Other toxics are required by federal ELG.

Outfall 002 Notes

- Outfall 002 experienced discharge. For modeling, the flow rate was averaged from September 2021 to August 2022. The average flow rate was 0.0792 MGD.
- The NPDES application reported the number of samples collected for each parameter and the number of non-detect results. The table summarizes these statistics.

Parameter/ Number of Samples	Number of Samples	Number of Non-Detect Results
Cobalt	11	2
Mercury	11	11
Nickel	11	2
Acrylamide	3	3
Toxaphene	3	3
Notes:		
Data abstracted from NPDES application		

- TMS recommends monitoring for cobalt and nickel. TMS recommends limits for mercury, acrylamide, and toxaphene. Monitoring at 1x/quarter to collect additional samples to determine impacts has been recommended. Pending favorable results, monitoring may be reduced or eliminated in future renewals.

Outfall 003 Notes

- Outfall 003 did not have any discharge flow reported from April 1, 2018 to November 3, 2022. No monitoring other than reporting flow when discharging shall be required.

Outfalls 004-009 Notes

- Monitoring for stormwater are in accordance with PAG-03 Appendix C- Landfills and Land Application Sites. Nitrogen and phosphorus have been included for stormwater monitoring for Chesapeake Bay purposes.

The reader will find in this section:

a) a justification of recommended permit monitoring requirements and limitations for each parameter in the proposed NPDES permit;
b) a summary of changes from the existing NPDES permit to the proposed permit; and
c) a summary of the proposed NPDES effluent limits.

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The tables are categorized by (a) Conventional Pollutants and Disinfection, (b) Nitrogen Species and Phosphorus, and (c) Toxics.

6.1.1 Conventional Pollutants and Disinfection (Outfall 001)

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection Sandy Run Landfill, PA0083879; Outfall 001			
Parameter	**Permit Limitation Required by[1]:**	**Recommendation**	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-4).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-4 and the effluent limits assigned by Chapter 95.2(1).
CBOD	ELG	Monitoring:	The monitoring frequency shall be 2x/month as an 24-hr composite sample (Table 6-4).
		Effluent Limit:	Effluent limits shall not exceed 32 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-4 and the effluent limits assigned by the federal ELG. The ELG was reduced by 5 mg/l to account for BOD conversion to CBOD.
TSS	ELG	Monitoring:	The monitoring frequency shall be 2x/month as a 24-hr composite sample (Table 6-4).
		Effluent Limit:	Effluent limits shall not exceed 27 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by the federal ELG.
Notes:			
1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other			
2 Monitoring frequency based on flow rate of 0.0125 MGD.			
3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97			
4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)			
5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021			

6.1.2 Nitrogen Species and Phosphorus (Outfall 001)

Summary of Proposed NPDES Parameter Details for Nitrogen Species and Phosphorus Sandy Run Landfill, PA0083879; Outfall 001			
Parameter	**Permit Limitation Required by[1]:**	**Recommendation**	
Ammonia-Nitrogen	ELG	Monitoring:	The monitoring frequency shall be 2x/mo as a 24-hr composite sample
		Effluent Limit:	Effluent limits shall not exceed 4.9 mg/l as an average monthly.
		Rationale:	The effluent limits assigned by the federal ELG.
Total Nitrogen	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/mo as a calculation
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay WIP, monitoring shall be required 1x/month.
Total Phosphorus	Anti-backsliding	Monitoring:	The monitoring frequency shall be 1x/month as a 24-hr composite sample
		Effluent Limit:	Effluent limits shall not exceed 2.0 mg/l as an average monthly.
		Rationale:	Due to anti-backsliding, the current permit limit shall continue to the proposed permit.
Notes:			
1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other			
2 Monitoring frequency based on flow rate of 0.0125 MGD.			
3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97			
4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)			
5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021			

6.1.3 Toxics (Outfall 001)

Summary of Proposed NPDES Parameter Details for Toxics

Sandy Run Landfill, PA0083879; Outfall 001

Parameter	Permit Limitation Required by[1]:	Recommendation	
Acrylamide	**WQBEL**	Monitoring:	The monitoring frequency shall be 4x/yr as a 24-hr composite sample
		Effluent Limit:	No effluent requirement
		Rationale:	Toxics Management Spreadsheet recommends limits. Additional sampling is recommended to determine impacts. Pending favorable results, monitoring may be reduced or eliminated in future renewals.
Aluminum, Total	**WQBEL**	Monitoring:	The monitoring frequency shall be 4x/yr as a 24-hr composite sample
		Effluent Limit:	No effluent requirement
		Rationale:	Toxics Management Spreadsheet recommends monitoring. Additional sampling is recommended to determine impacts. Pending favorable results, monitoring may be reduced or eliminated in future renewals.
Boron, Total	**WQBEL**	Monitoring:	The monitoring frequency shall be 1x/month as a 24-hr composite sample
		Effluent Limit:	Effluent limits shall not exceed 1.5 lbs/day and 14.6 mg/l as an average monthly.
		Rationale:	TOXCON statistics were used for monthly DMR data from April 1, 2018 to September 1, 2022. TMS recommends effluent limits.
Cobalt, Total	**WQBEL**	Monitoring:	The monitoring frequency shall be 1x/month as a 24-hr composite sample
		Effluent Limit:	Effluent limits shall not exceed 0.018 lbs/day and 0.17 mg/l as an average monthly.
		Rationale:	TOXCON statistics were used for monthly DMR data from April 1, 2018 to September 1, 2022. TMS recommends effluent limits.
Iron, Dissolved	**Anti-backsliding**	Monitoring:	The monitoring frequency shall be 4x/yr as a 24-hr composite sample
		Effluent Limit:	No effluent requirement
		Rationale:	Due to anti-backsliding, monitoring shall continue to the proposed permit.
Iron, Total	**Anti-backsliding**	Monitoring:	The monitoring frequency shall be 4x/yr as a 24-hr composite sample
		Effluent Limit:	No effluent requirement
		Rationale:	Due to anti-backsliding, monitoring shall continue to the proposed permit.
Manganese, Total	**WQBEL**	Monitoring:	The monitoring frequency shall be 4x/yr as a 24-hr composite sample
		Effluent Limit:	No effluent requirement
		Rationale:	Toxics Management Spreadsheet recommends monitoring. Additional sampling is recommended to determine impacts. Pending favorable results, monitoring may be reduced or eliminated in future renewals.
Mercury	**WQBEL**	Monitoring:	The monitoring frequency shall be 4x/yr as a 24-hr composite sample
		Effluent Limit:	No effluent requirement
		Rationale:	Toxics Management Spreadsheet recommends monitoring. Additional sampling is recommended to determine impacts. Pending favorable results, monitoring may be reduced or eliminated in future renewals.
Nickel	**WQBEL**	Monitoring:	The monitoring frequency shall be 4x/yr as a 24-hr composite sample
		Effluent Limit:	No effluent requirement
		Rationale:	Toxics Management Spreadsheet recommends monitoring. Additional sampling is recommended to determine impacts. Pending favorable results, monitoring may be reduced or eliminated in future renewals.

Toxaphene	**WQBEL**	Monitoring:	The monitoring frequency shall be 4x/yr as a 24-hr composite sample
		Effluent Limit:	No effluent requirement
		Rationale:	Toxics Management Spreadsheet recommends limits. Additional sampling is recommended to determine impacts. Pending favorable results, monitoring may be reduced or eliminated in future renewals.
Zinc, Total	**ELG**	Monitoring:	The monitoring frequency shall be 2x/month as a 24-hr composite sample
		Effluent Limit:	Effluent limits shall not exceed 0.11 mg/l as an average monthly.
		Rationale:	Effluent limits are defined by DEP Guidance Document- Technology-Based Control Requirements for Water Treatment Plant Wastes- Waste Water from Treatment of WTP Sludges and Filter Backwash
Phenol	**ELG**	Monitoring:	The monitoring frequency shall be 2x/month as a 24-hr composite sample
		Effluent Limit:	Effluent limits shall not exceed 0.015 mg/l as an average monthly.
		Rationale:	Effluent limits are defined by DEP Guidance Document- Technology-Based Control Requirements for Water Treatment Plant Wastes- Waste Water from Treatment of WTP Sludges and Filter Backwash
a-Terpineol	**ELG**	Monitoring:	The monitoring frequency shall be 2x/month as a 24-hr composite sample
		Effluent Limit:	Effluent limits shall not exceed 0.016 mg/l as an average monthly.
		Rationale:	The basis for the monitoring is an email directive from DEP Central Office on January 23, 2014.
Benzoic Acid	**ELG**	Monitoring:	The monitoring frequency shall be 2x/month as a 24-hr composite sample
		Effluent Limit:	Effluent limits shall not exceed 0.071 mg/l as an average monthly.
		Rationale:	The basis for the monitoring is an email directive from DEP Central Office on January 23, 2014.
p-Cresol	**ELG**	Monitoring:	The monitoring frequency shall be 1x/month as a 24-hr composite sample.
		Effluent Limit:	Effluent limits shall not exceed 0.014 mg/l as an average monthly.
		Rationale:	Effluent limits are defined by DEP Guidance Document- Technology-Based Control Requirements for Water Treatment Plant Wastes- Waste Water from Treatment of WTP Sludges and Filter Backwash

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.0125 MGD.

3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.1.4 Conventional Pollutants and Disinfection (Outfall 002)

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection			
Sandy Run Landfill, PA0083879; Outfall 002			
Parameter	**Permit Limitation Required by[1]:**	**Recommendation**	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be 1x/month as a grab sample
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-4 and the effluent limits assigned by Chapter 95.2(1).
Notes:			
1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other			
2 Monitoring frequency based on flow rate of 0.0792 MGD.			
3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97			
4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)			
5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021			

6.1.5 Toxics (Outfall 002)

Summary of Proposed NPDES Parameter Details for Toxics

Sandy Run Landfill, PA0083879; Outfall 002

Parameter	Permit Limitation Required by[1]:	Recommendation	
Cobalt, Total	**WQBEL**	Monitoring:	The monitoring frequency shall be 4x/yr as a 24-hr composite sample
		Effluent Limit:	No effluent requirement
		Rationale:	Toxics Management Spreadsheet recommends monitoring. Additional sampling is recommended to determine impacts. Pending favorable results, monitoring may be reduced or eliminated in future renewals.
Mercury, Total	**WQBEL**	Monitoring:	The monitoring frequency shall be 4x/yr as a 24-hr composite sample
		Effluent Limit:	No effluent requirement
		Rationale:	Toxics Management Spreadsheet recommends limits. Additional sampling is recommended to determine impacts. Pending favorable results, monitoring may be reduced or eliminated in future renewals.
Nickel, Total	**WQBEL**	Monitoring:	The monitoring frequency shall be 4x/yr as a 24-hr composite sample
		Effluent Limit:	No effluent requirement
		Rationale:	Toxics Management Spreadsheet recommends monitoring. Additional sampling is recommended to determine impacts. Pending favorable results, monitoring may be reduced or eliminated in future renewals.
Acrylamide	**WQBEL**	Monitoring:	The monitoring frequency shall be 4x/yr as a 24-hr composite sample
		Effluent Limit:	No effluent requirement
		Rationale:	Toxics Management Spreadsheet recommends limits. Additional sampling is recommended to determine impacts. Pending favorable results, monitoring may be reduced or eliminated in future renewals.
Toxaphene	**WQBEL**	Monitoring:	The monitoring frequency shall be 4x/yr as a 24-hr composite sample
		Effluent Limit:	No effluent requirement
		Rationale:	Toxics Management Spreadsheet recommends limits. Additional sampling is recommended to determine impacts. Pending favorable results, monitoring may be reduced or eliminated in future renewals.

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.0792 MGD.

3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.2 Summary of Changes From Existing Permit to Proposed Permit

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

Changes in Permit Monitoring or Effluent Quality for Outfall 001

Parameter	Existing Permit	Draft Permit
TDS, Chloride, Bromide, Total Sulfate	Monitoring is 1x/month	Monitoring has been eliminated
TDS, Aluminum, Dissolved Iron, Total Iron, Total Manganese, Total Sulfate	Monitoring is 1x/month	Monitoring is 1x/quarter
Total Phosphorus	Monitoring is 2x/month	Monitoring is 1x/month
Boron, Total	Monitoring is 1x/month	Monitoring is 1x/month. Effluent limits shall not exceed 1.5 lbs/day and 14.6 mg/l as an average monthly.
Cobalt, Total	Monitoring is 1x/month	Monitoring is 1x/month. Effluent limits shall not exceed 0.018 lbs/day and 0.17 mg/l as an average monthly.
Total Mercury, Total Nickel, Acrylamide, Toxaphene	No monitoring or effluent limits	Monitoring is 1x/quarter

Changes in Permit Monitoring or Effluent Quality for Outfall 002

Parameter	Existing Permit	Draft Permit
pH (S.U.)	No monitoring or effluent limits	Monitoring shall be 1x/month
Cobalt, Total	No monitoring or effluent limits	Monitoring shall be 1x/quarter
Mercury Total	No monitoring or effluent limits	Monitoring shall be 1x/quarter
Nickel, Total	No monitoring or effluent limits	Monitoring shall be 1x/quarter
Acrylamide, Total	No monitoring or effluent limits	Monitoring shall be 1x/quarter
Toxaphene	No monitoring or effluent limits	Monitoring shall be 1x/quarter

6.3.1 Summary of Proposed NPDES Effluent Limits

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

The proposed NPDES effluent limitations are summarized in the table below.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001 , **Latitude** 40º 7' 50.00" , **Longitude** 78º 12' 42.00" , **River Mile Index** 4.01 , **Stream Code** 14030

Receiving Waters: Sandy Run (WWF, MF)

Type of Effluent: IW Process Effluent with ELG

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

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)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	Report	Report	XXX	32.0	135.0	170	2/month	24-Hr Composite
Total Suspended Solids	Report	Report	XXX	27.0	88.0	110	2/month	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Ammonia-Nitrogen	Report	Report	XXX	4.9	10.0	12.5	2/month	24-Hr Composite
Total Phosphorus	Report	Report	XXX	2.0	4.0	5	1/month	24-Hr Composite
Aluminum, Total	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Boron, Total	1.52	1.96	XXX	14.6	18.8	36.5	1/month	24-Hr Composite
Cobalt, Total	0.018	0.033	XXX	0.17	0.31	0.43	1/month	24-Hr Composite
Iron, Dissolved	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	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	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Iron, Total	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Manganese, Total	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Mercury, Total	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Nickel, Total	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Zinc, Total	Report	Report	XXX	0.11	0.20	0.25	2/month	24-Hr Composite
Phenol	Report	Report	XXX	0.015	0.026	0.032	2/month	24-Hr Composite
Acrylamide	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
a-Terpineol	Report	Report	XXX	0.016	0.033	0.04	2/month	24-Hr Composite
Benzoic Acid	Report	Report	XXX	0.071	0.12	0.15	2/month	24-Hr Composite
p-Cresol	Report	Report	XXX	0.014	0.025	0.031	2/month	24-Hr Composite
Toxaphene	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite

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

at Outfall 001

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. B. For Outfall 002 , **Latitude** 40º 7' 45.00" , **Longitude** 78º 12' 40.00" , **River Mile Index** 4.11 , **Stream Code** 14030

Receiving Waters: Sandy Run

Type of Effluent: Other Miscellaneous Discharges

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.

2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Quarterly	Average Weekly	Minimum	Average Quarterly	Maximum	Instant. Maximum		
Flow (MGD)	Report Avg Mo	Report Daily Max	XXX	XXX	XXX	XXX	2/month	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	Grab
Cobalt, Total	Report	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite
Mercury, Total	Report	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite
Nickel, Total	Report	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite
Acrylamide	Report	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite
Toxaphene	Report	XXX	XXX	Report	XXX	XXX	1/quarter	24-Hr Composite

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

at Outfall 002

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. C. For Outfall 003 , **Latitude** 40º 7' 42.00" , **Longitude** 78º 12' 27.00" , **River Mile Index** _____ , **Stream Code** _____

Receiving Waters: Unnamed Tributary to Sandy Run (WWF)

Type of Effluent: Other Miscellaneous Discharges

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.

2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Daily when Discharging	Estimate

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

at Outfall 003

6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- Chesapeake Bay Nutrient Definitions

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: New and Reissuance Industrial Waste and Industrial Stormwater, Revised, October 11, 2013
☐	Other:

Attachment A

Stream Stats/Gauge Data

Table 1. List of U.S. Geological Survey streamgage locations in and near Pennsylvania with updated streamflow statistics.—Continued

[Latitude and Longitude in decimal degrees; mi², square miles]

Streamgage number	Streamgage name	Latitude	Longitude	Drainage area (mi²)	Regulated[1]
01561000	Brush Creek at Gapsville, Pa.	39.956	-78.254	36.8	N
01562000	Raystown Branch Juniata River at Saxton, Pa.	40.216	-78.265	756	N
01562500	Great Trough Creek near Marklesburg, Pa.	40.350	-78.130	84.6	N
01563200	Raystown Branch Juniata River below Rays Dam nr Huntingdon, Pa.	40.429	-77.991	960	Y
01563500	Juniata River at Mapleton Depot, Pa.	40.392	-77.935	2,030	Y
01564500	Aughwick Creek near Three Springs, Pa.	40.213	-77.925	205	N
01565000	Kishacoquillas Creek at Reedsville, Pa.	40.655	-77.583	164	N
01565700	Little Lost Creek at Oakland Mills, Pa.	40.605	-77.311	6.52	N
01566000	Tuscarora Creek near Port Royal, Pa.	40.515	-77.419	214	N
01566500	Cocolamus Creek near Millerstown, Pa.	40.566	-77.118	57.2	N
01567000	Juniata River at Newport, Pa.	40.478	-77.129	3,354	Y
01567500	Bixler Run near Loysville, Pa.	40.371	-77.402	15.0	N
01568000	Sherman Creek at Shermans Dale, Pa.	40.323	-77.169	207	N
01568500	Clark Creek near Carsonville, Pa.	40.460	-76.751	22.5	LF
01569000	Stony Creek nr Dauphin, Pa.	40.380	-76.907	33.2	N
01569800	Letort Spring Run near Carlisle, Pa.	40.235	-77.139	21.6	N
01570000	Conodoguinet Creek near Hogestown, Pa.	40.252	-77.021	470	LF
01570500	Susquehanna River at Harrisburg, Pa.	40.255	-76.886	24,100	Y
01571000	Paxton Creek near Penbrook, Pa.	40.308	-76.850	11.2	N
01571500	Yellow Breeches Creek near Camp Hill, Pa.	40.225	-76.898	213	N
01572000	Lower Little Swatara Creek at Pine Grove, Pa.	40.538	-76.377	34.3	N
01572025	Swatara Creek near Pine Grove, Pa.	40.533	-76.402	116	N
01572190	Swatara Creek near Inwood, Pa.	40.479	-76.531	167	N
01573000	Swatara Creek at Harper Tavern, Pa.	40.403	-76.577	337	N
01573086	Beck Creek near Cleona, Pa.	40.323	-76.483	7.87	N
01573160	Quittapahilla Creek near Bellegrove, Pa.	40.343	-76.562	74.2	N
01573500	Manada Creek at Manada Gap, Pa.	40.397	-76.709	13.5	N
01573560	Swatara Creek near Hershey, Pa.	40.298	-76.668	483	N
01574000	West Conewago Creek near Manchester, Pa.	40.082	-76.720	510	N
01574500	Codorus Creek at Spring Grove, Pa.	39.879	-76.853	75.5	Y
01575000	South Branch Codorus Creek near York, Pa.	39.921	-76.749	117	Y
01575500	Codorus Creek near York, Pa.	39.946	-76.755	222	Y
01576000	Susquehanna River at Marietta, Pa.	40.055	-76.531	25,990	Y
01576085	Little Conestoga Creek near Churchtown, Pa.	40.145	-75.989	5.82	N
01576500	Conestoga River at Lancaster, Pa.	40.050	-76.277	324	N
01576754	Conestoga River at Conestoga, Pa.	39.946	-76.368	470	N
01578310	Susquehanna River at Conowingo, Md.	39.658	-76.174	27,100	Y
01578400	Bowery Run near Quarryville, Pa.	39.895	-76.114	5.98	N
01580000	Deer Creek at Rocks, Md.	39.630	-76.403	94.4	N
01581500	Bynum Run at Bel Air, Md.	39.541	-76.330	8.52	N
01581700	Winters Run near Benson, Md.	39.520	-76.373	34.8	N
01582000	Little Falls at Blue Mount, Md.	39.604	-76.620	52.9	N
01582500	Gunpowder Falls at Glencoe, Md.	39.550	-76.636	160	Y
01583000	Slade Run near Glyndon, Md.	39.495	-76.795	2.09	N
01583100	Piney Run at Dover, Md.	39.521	-76.767	12.3	N

Table 2. Selected low-flow statistics for streamgage locations in and near Pennsylvania.—Continued

[ft^3/s; cubic feet per second; —, statistic not computed; <, less than]

Streamgage number	Period of record used in analysis[1]	Number of years used in analysis	1-day, 10-year (ft^3/s)	7-day, 10-year (ft^3/s)	7-day, 2-year (ft^3/s)	30-day, 10-year (ft^3/s)	30-day, 2-year (ft^3/s)	90-day, 10-year (ft^3/s)
01546000	1912–1934	17	1.8	2.2	6.8	3.7	12.1	11.2
01546400	1986–2008	23	13.5	14.0	19.6	15.4	22.3	18.7
01546500	1942–2008	67	26.8	29.0	41.3	31.2	44.2	33.7
01547100	1969–2008	40	102	105	128	111	133	117
01547200	1957–2008	52	99.4	101	132	106	142	115
01547500	[2]1971–2008	38	28.2	109	151	131	172	153
01547500	[3]1956–1969	14	90.0	94.9	123	98.1	131	105
01547700	1957–2008	52	.5	.6	2.7	1.1	3.9	2.2
01547800	1971–1981	11	1.6	1.8	2.4	2.1	2.9	3.5
01547950	1970–2008	39	12.1	13.6	28.2	17.3	36.4	23.8
01548005	[2]1971–2000	25	142	151	206	178	241	223
01548005	[3]1912–1969	58	105	114	147	125	165	140
01548500	1920–2008	89	21.2	24.2	50.1	33.6	68.6	49.3
01549000	1910–1920	11	26.0	32.9	78.0	46.4	106	89.8
01549500	1942–2008	67	.6	.8	2.5	1.4	3.9	2.6
01549700	1959–2008	50	33.3	37.2	83.8	51.2	117	78.4
01550000	1915–2008	94	6.6	7.6	16.8	11.2	24.6	18.6
01551500	[2]1963–2008	46	520	578	1,020	678	1,330	919
01551500	[3]1901–1961	61	400	439	742	523	943	752
01552000	1927–2008	80	20.5	22.2	49.5	29.2	69.8	49.6
01552500	1942–2008	67	.9	1.2	3.1	1.7	4.4	3.3
01553130	1969–1981	13	1.0	1.1	1.5	1.3	1.8	1.7
01553500	[2]1968–2008	41	760	838	1,440	1,000	1,850	1,470
01553500	[3]1941–1966	26	562	619	880	690	1,090	881
01553700	1981–2008	28	9.1	10.9	15.0	12.6	17.1	15.2
01554000	[2]1981–2008	28	1,830	1,990	3,270	2,320	4,210	3,160
01554000	[3]1939–1979	41	1,560	1,630	2,870	1,880	3,620	2,570
01554500	1941–1993	53	16.2	22.0	31.2	25.9	35.7	31.4
01555000	1931–2008	78	33.5	37.6	58.8	43.4	69.6	54.6
01555500	1931–2008	78	4.9	6.5	18.0	9.4	24.3	16.6
01556000	1918–2008	91	43.3	47.8	66.0	55.1	75.0	63.7
01557500	1946–2008	63	2.8	3.2	6.3	4.2	8.1	5.8
01558000	1940–2008	69	56.3	59.0	79.8	65.7	86.2	73.7
01559000	1943–2008	66	104	177	249	198	279	227
01559500	1931–1958	28	9.3	10.5	15.0	12.4	17.8	15.8
01559700	1963–1978	16	.1	.1	.2	.1	.3	.2
01560000	1941–2008	68	8.5	9.4	15.6	12.0	20.2	16.2
01561000	1932–1958	27	.4	.5	1.6	.8	2.5	1.7
01562000	1913–2008	96	64.1	67.1	106	77.4	122	94.5
01562500	1931–1957	27	1.1	1.6	3.8	2.3	5.4	3.7
01563200	[2]1974–2008	35	—	—	—	112	266	129
01563200	[3]1948–1972	25	10.3	28.2	86.1	64.5	113	95.5
01563500	[2]1974–2008	35	384	415	519	441	580	493
01563500	[3]1939–1972	34	153	242	343	278	399	333
01564500	1940–2008	69	3.6	4.2	10.0	6.2	14.4	10.6

Attachment B

Water Quality Modeling Output

Toxics Management Spreadsheet Output Values

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
11D	14030	SANDY RUN

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)
4.110	SRL 002	PA0083879 002	0.079	CBOD5	50		
				NH3-N	2.44	4.88	
				Dissolved Oxygen			5

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)
4.010	SRL 001	PA0083879 001	0.013	CBOD5	50		
				NH3-N	5.31	10.62	
				Dissolved Oxygen			5

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
11D	14030	SANDY RUN

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
4.110	SRL 002	8.89	18.79	8.89	17.31	2	8
4.010	SRL 001	2.83	24.88	8.39	22.92	2	8

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
4.110	SRL 002	1.24	2.89	1.24	2.44	2	16
4.010	SRL 001	.61	6.29	1.2	5.31	2	16

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)		
4.11	SRL 002	50	50	2.44	2.44	5	5	0	0
4.01	SRL 001	50	50	5.31	5.31	5	5	0	0

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
11D	14030	SANDY RUN	**4.110**	1615.00	1.60	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	0.089	0.00	0.00	0.000	0.000	0.0	0.00	0.00	23.30	8.00	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
SRL 002	PA0083879 00	0.0792	0.0792	0.0792	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	50.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
11D	14030	SANDY RUN	**4.010**	1573.00	1.77	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	0.089	0.00	0.00	0.000	0.000	0.0	0.00	0.00	23.30	8.00	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
SRL 001	PA0083879 00	0.0125	0.0125	0.0125	0.000	25.00	8.19

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	50.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
11D	14030	SANDY RUN	**2.980**	1364.00	2.46	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	0.089	0.00	0.00	0.000	0.000	0.0	0.00	0.00	23.30	8.00	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	0.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
11D	14030	SANDY RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
4.110	0.079	24.087	7.287
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
4.864	0.481	10.121	0.113
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.23	1.430	1.13	0.959
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.741	21.551	Owens	5
Reach Travel Time (days)			
0.054			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.005	24.00	1.13	6.59
0.011	23.78	1.12	6.46
0.016	23.56	1.11	6.35
0.022	23.34	1.11	6.25
0.027	23.12	1.10	6.17
0.032	22.91	1.10	6.10
0.038	22.70	1.09	6.04
0.043	22.49	1.09	5.99
0.049	22.28	1.08	5.94
0.054	22.07	1.07	5.91

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
4.010	0.092	24.106	7.331
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
6.103	0.439	13.905	0.112
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
22.86	1.385	1.29	0.960
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.969	25.255	Owens	5
Reach Travel Time (days)			
0.564			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.056	20.81	1.23	6.10
0.113	18.93	1.16	6.29
0.169	17.23	1.10	6.48
0.226	15.68	1.04	6.65
0.282	14.27	0.99	6.81
0.338	12.99	0.94	6.96
0.395	11.82	0.89	7.09
0.451	10.75	0.84	7.21
0.507	9.79	0.79	7.32
0.564	8.91	0.75	7.42

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
11D	14030	SANDY RUN

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
4.110	0.14	0.00	0.14	.1225	0.07955	.481	4.86	10.12	0.11	0.054	24.09	7.29
4.010	0.16	0.00	0.16	.1419	0.03843	.439	6.1	13.9	0.11	0.564	24.11	7.33
Q1-10 Flow												
4.110	0.14	0.00	0.14	.1225	0.07955	NA	NA	NA	0.11	0.055	24.10	7.28
4.010	0.15	0.00	0.15	.1419	0.03843	NA	NA	NA	0.11	0.571	24.12	7.32
Q30-10 Flow												
4.110	0.16	0.00	0.16	.1225	0.07955	NA	NA	NA	0.12	0.052	24.03	7.31
4.010	0.18	0.00	0.18	.1419	0.03843	NA	NA	NA	0.12	0.540	24.05	7.36

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	0.96	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.15	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Sandy Run Landfill** NPDES Permit No.: **PA0083879** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Landfill leachate**

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
0.0125	667	8.19						

					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		3390									
	Chloride (PWS)	mg/L		620									
	Bromide	mg/L		1.9									
	Sulfate (PWS)	mg/L		69.9									
	Fluoride (PWS)	mg/L	<	0.2									
Group 2	Total Aluminum	µg/L		240									
	Total Antimony	µg/L		4									
	Total Arsenic	µg/L		4.6									
	Total Barium	µg/L		416									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L		3830									
	Total Cadmium	µg/L	<	0.1									
	Total Chromium (III)	µg/L		10									
	Hexavalent Chromium	µg/L	<	2									
	Total Cobalt	µg/L											
	Total Copper	µg/L		4									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L	<	10									
	Dissolved Iron	µg/L		20									
	Total Iron	µg/L		20									
	Total Lead	µg/L	<	0.2									
	Total Manganese	µg/L		5									
	Total Mercury	µg/L		0.1									
	Total Nickel	µg/L		152									
	Total Phenols (Phenolics) (PWS)	µg/L	<	5									
	Total Selenium	µg/L		0.8									
	Total Silver	µg/L		0.1									
	Total Thallium	µg/L		0.1									
	Total Zinc	µg/L		5									
	Total Molybdenum	µg/L		3.1									
	Acrolein	µg/L	<	2									
	Acrylamide	µg/L	<	5									
	Acrylonitrile	µg/L	<	0.5									
	Benzene	µg/L	<	0.2									
	Bromoform	µg/L	<	0.5									
	Carbon Tetrachloride	µg/L	<	0.2									
	Chlorobenzene	µg/L	<	0.2									
	Chlorodibromomethane	µg/L	<	0.4									
	Chloroethane	µg/L	<	0.2									
	2-Chloroethyl Vinyl Ether	µg/L	<	0.2									

Group 3	Chloroform	µg/L	<	0.2										
	Dichlorobromomethane	µg/L	<	0.2										
	1,1-Dichloroethane	µg/L	<	0.2										
	1,2-Dichloroethane	µg/L	<	0.2										
	1,1-Dichloroethylene	µg/L	<	0.2										
	1,2-Dichloropropane	µg/L	<	0.1										
	1,3-Dichloropropylene	µg/L	<	0.2										
	1,4-Dioxane	µg/L		3										
	Ethylbenzene	µg/L	<	0.2										
	Methyl Bromide	µg/L	<	0.5										
	Methyl Chloride	µg/L	<	0.2										
	Methylene Chloride	µg/L	<	0.4										
	1,1,2,2-Tetrachloroethane	µg/L	<	0.2										
	Tetrachloroethylene	µg/L	<	0.4										
	Toluene	µg/L	<	0.2										
	1,2-trans-Dichloroethylene	µg/L	<	0.5										
	1,1,1-Trichloroethane	µg/L	<	0.2										
	1,1,2-Trichloroethane	µg/L	<	0.5										
	Trichloroethylene	µg/L	<	0.2										
	Vinyl Chloride	µg/L	<	0.2										
Group 4	2-Chlorophenol	µg/L	<	0.2										
	2,4-Dichlorophenol	µg/L	<	0.2										
	2,4-Dimethylphenol	µg/L	<	0.2										
	4,6-Dinitro-o-Cresol	µg/L	<	1										
	2,4-Dinitrophenol	µg/L	<	1										
	2-Nitrophenol	µg/L	<	0.5										
	4-Nitrophenol	µg/L	<	0.5										
	p-Chloro-m-Cresol	µg/L	<	0.1										
	Pentachlorophenol	µg/L	<	0.5										
	Phenol	µg/L	<	0.4										
	2,4,6-Trichlorophenol	µg/L	<	0.2										
Group 5	Acenaphthene	µg/L	<	0.1										
	Acenaphthylene	µg/L	<	0.1										
	Anthracene	µg/L	<	0.1										
	Benzidine	µg/L	<	0.5										
	Benzo(a)Anthracene	µg/L	<	0.1										
	Benzo(a)Pyrene	µg/L	<	0.1										
	3,4-Benzofluoranthene	µg/L	<	0.1										
	Benzo(ghi)Perylene	µg/L	<	0.1										
	Benzo(k)Fluoranthene	µg/L	<	0.1										
	Bis(2-Chloroethoxy)Methane	µg/L	<	0.1										
	Bis(2-Chloroethyl)Ether	µg/L	<	0.1										
	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.1										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	1										
	4-Bromophenyl Phenyl Ether	µg/L	<	0.1										
	Butyl Benzyl Phthalate	µg/L	<	1										
	2-Chloronaphthalene	µg/L	<	0.1										
	4-Chlorophenyl Phenyl Ether	µg/L	<	0.1										
	Chrysene	µg/L	<	0.1										
	Dibenzo(a,h)Anthrancene	µg/L	<	0.1										
	1,2-Dichlorobenzene	µg/L	<	0.1										
	1,3-Dichlorobenzene	µg/L	<	0.1										
	1,4-Dichlorobenzene	µg/L	<	0.1										
	3,3-Dichlorobenzidine	µg/L	<	0.5										
	Diethyl Phthalate	µg/L	<	1										
	Dimethyl Phthalate	µg/L	<	1										
	Di-n-Butyl Phthalate	µg/L	<	1										
	2,4-Dinitrotoluene	µg/L	<	0.2										
	2,6-Dinitrotoluene	µg/L	<	0.2										
	Di-n-Octyl Phthalate	µg/L	<	1										
	1,2-Diphenylhydrazine	µg/L	<	0.1										
	Fluoranthene	µg/L	<	0.1										
	Fluorene	µg/L	<	0.1										
	Hexachlorobenzene	µg/L	<	0.1										
	Hexachlorobutadiene	µg/L	<	0.1										
	Hexachlorocyclopentadiene	µg/L	<	0.5										
	Hexachloroethane	µg/L	<	0.1										
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.1										

	Isophorone	µg/L	<	0.4										
	Naphthalene	µg/L	<	0.1										
	Nitrobenzene	µg/L	<	0.1										
	n-Nitrosodimethylamine	µg/L	<	0.1										
	n-Nitrosodi-n-Propylamine	µg/L	<	0.1										
	n-Nitrosodiphenylamine	µg/L	<	0.1										
	Phenanthrene	µg/L	<	0.1										
	Pyrene	µg/L	<	0.1										
	1,2,4-Trichlorobenzene	µg/L	<	0.1										
Group 6	Aldrin	µg/L	<	0.02										
	alpha-BHC	µg/L	<	0.02										
	beta-BHC	µg/L	<	0.02										
	gamma-BHC	µg/L	<	0.02										
	delta BHC	µg/L	<	0.02										
	Chlordane	µg/L	<	0.51										
	4,4-DDT	µg/L	<	0.02										
	4,4-DDE	µg/L	<	0.02										
	4,4-DDD	µg/L	<	0.02										
	Dieldrin	µg/L	<	0.02										
	alpha-Endosulfan	µg/L	<	0.02										
	beta-Endosulfan	µg/L	<	0.02										
	Endosulfan Sulfate	µg/L	<	0.02										
	Endrin	µg/L	<	0.02										
	Endrin Aldehyde	µg/L	<	0.02										
	Heptachlor	µg/L	<	0.02										
	Heptachlor Epoxide	µg/L	<	0.02										
	PCB-1016	µg/L	<											
	PCB-1221	µg/L	<	0.2										
	PCB-1232	µg/L	<	0.2										
	PCB-1242	µg/L	<	0.2										
	PCB-1248	µg/L	<	0.2										
	PCB-1254	µg/L	<	0.2										
	PCB-1260	µg/L	<											
	PCBs, Total	µg/L	<											
	Toxaphene	µg/L	<	0.51										
	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 1.3, March 2021

Stream / Surface Water Information

Sandy Run Landfill, NPDES Permit No. PA0083879, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Raystown Branch Juniata River**

No. Reaches to Model: 1

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	014030	4.01	1573	1.77			Yes
End of Reach 1	014030	2.98	1364	2.46			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	4.01	0.0888										72.8	8		
End of Reach 1	2.98	0.0888										72.8	8		

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	4.01														
End of Reach 1	2.98														

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

No. Samples/Month: 4

Pollutants	*Mass Limits* AML (lbs/day)	MDL (lbs/day)	*Concentration Limits* AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Boron	Report	Report	Report	Report	Report	µg/L	14,605	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Mercury	Report	Report	Report	Report	Report	µg/L	0.46	THH	Discharge Conc > 10% WQBEL (no RP)
Total Nickel	Report	Report	Report	Report	Report	µg/L	625	CFC	Discharge Conc > 10% WQBEL (no RP)
Acrylamide	0.0006	0.0009	5.41	8.44	13.5	µg/L	5.41	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Toxaphene	1.90E-07	2.97E-07	0.002	0.003	0.005	µg/L	0.002	CFC	Discharge Conc ≥ 50% WQBEL (RP)

☑ ***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).

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Toxics Management Spreadsheet
Version 1.3, March 2021

RUN #2

Discharge Information

Instructions | Discharge | Stream

Facility: **Sandy Run Landfill** NPDES Permit No.: **PA0083879** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Landfill leachate**

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
0.0125	667	8.19						

					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		5469.95643			0.2072						
	Chloride (PWS)	mg/L		1543.77728			0.2607						
	Bromide	mg/L		1.2167131			0.2571						
	Sulfate (PWS)	mg/L		4.9317979			0.4086						
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		1057.7663			0.5558						
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L		7687.6742			0.2421						
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L		132.7044			0.9583						
	Total Copper	µg/L											
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L		176.8745			0.6815						
	Total Iron	µg/L		353.5841			0.9704						
	Total Lead	µg/L											
	Total Manganese	µg/L		1305.5669			1.9151						
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	µg/L											
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

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Toxics Management Spreadsheet
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Stream / Surface Water Information

Sandy Run Landfill, NPDES Permit No. PA0083879, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Raystown Branch Juniata River**

No. Reaches to Model: 1

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	014030	4.01	1573	1.77			Yes
End of Reach 1	014030	2.98	1364	2.46			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	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	4.01	0.0888										72.8	8		
End of Reach 1	2.98	0.0888										72.8	8		

Q_h

Location	RMI	LFY (cfs/mi^2)	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	4.01														
End of Reach 1	2.98														

☑ ***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
Total Aluminum	Report	Report	Report	Report	Report	µg/L	4,635	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Boron	1.52	1.96	14,605	18,816	36,512	µg/L	14,605	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Cobalt	0.018	0.033	173	315	434	µg/L	173	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Manganese	Report	Report	Report	Report	Report	µg/L	9,128	THH	Discharge Conc > 10% WQBEL (no RP)

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Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Sandy Run Landfill** NPDES Permit No.: **PA0083879** Outfall No.: **002**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Wetlands discharge**

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
0.0792	15	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		242									
	Chloride (PWS)	mg/L		9.7									
	Bromide	mg/L	<	0.1									
	Sulfate (PWS)	mg/L		150									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		12									
	Total Antimony	µg/L	<	0.5									
	Total Arsenic	µg/L	<	0.5									
	Total Barium	µg/L		20									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L		28									
	Total Cadmium	µg/L	<	0.1									
	Total Chromium (III)	µg/L	<	0.5									
	Hexavalent Chromium	µg/L	<	2									
	Total Cobalt	µg/L	<	10									
	Total Copper	µg/L	<	1									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L	<	20									
	Total Iron	µg/L	<	50									
	Total Lead	µg/L	<	0.2									
	Total Manganese	µg/L		60									
	Total Mercury	µg/L		0.1									
	Total Nickel	µg/L	<	20									
	Total Phenols (Phenolics) (PWS)	µg/L	<	5									
	Total Selenium	µg/L	<	0.5									
	Total Silver	µg/L	<	0.1									
	Total Thallium	µg/L	<	0.1									
	Total Zinc	µg/L		6									
	Total Molybdenum	µg/L	<	0.5									
	Acrolein	µg/L	<	2									
	Acrylamide	µg/L	<	5									
	Acrylonitrile	µg/L	<	0.5									
	Benzene	µg/L	<	0.2									
	Bromoform	µg/L	<	0.5									

Group 3	Carbon Tetrachloride	µg/L	<	0.2									
	Chlorobenzene	µg/L	<	0.2									
	Chlorodibromomethane	µg/L	<	0.4									
	Chloroethane	µg/L	<	0.2									
	2-Chloroethyl Vinyl Ether	µg/L	<	0.5									
	Chloroform	µg/L	<	0.2									
	Dichlorobromomethane	µg/L	<	0.2									
	1,1-Dichloroethane	µg/L	<	0.2									
	1,2-Dichloroethane	µg/L	<	0.2									
	1,1-Dichloroethylene	µg/L	<	0.2									
	1,2-Dichloropropane	µg/L	<	0.2									
	1,3-Dichloropropylene	µg/L	<	0.2									
	1,4-Dioxane	µg/L		20									
	Ethylbenzene	µg/L	<	0.2									
	Methyl Bromide	µg/L	<	0.5									
	Methyl Chloride	µg/L	<	0.2									
	Methylene Chloride	µg/L	<	0.4									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.2									
	Tetrachloroethylene	µg/L	<	0.4									
	Toluene	µg/L	<	0.2									
	1,2-trans-Dichloroethylene	µg/L	<	0.5									
	1,1,1-Trichloroethane	µg/L	<	0.2									
	1,1,2-Trichloroethane	µg/L	<	0.5									
	Trichloroethylene	µg/L	<	0.2									
	Vinyl Chloride	µg/L	<	0.2									
Group 4	2-Chlorophenol	µg/L	<	0.2									
	2,4-Dichlorophenol	µg/L	<	0.2									
	2,4-Dimethylphenol	µg/L	<	0.2									
	4,6-Dinitro-o-Cresol	µg/L	<	1									
	2,4-Dinitrophenol	µg/L	<	1									
	2-Nitrophenol	µg/L	<	0.5									
	4-Nitrophenol	µg/L	<	0.5									
	p-Chloro-m-Cresol	µg/L	<	0.1									
	Pentachlorophenol	µg/L	<	0.5									
	Phenol	µg/L	<	0.2									
	2,4,6-Trichlorophenol	µg/L	<	0.2									
Group 5	Acenaphthene	µg/L	<	0.1									
	Acenaphthylene	µg/L	<	0.1									
	Anthracene	µg/L	<	0.1									
	Benzidine	µg/L	<	0.5									
	Benzo(a)Anthracene	µg/L	<	0.1									
	Benzo(a)Pyrene	µg/L	<	0.1									
	3,4-Benzofluoranthene	µg/L	<	0.1									
	Benzo(ghi)Perylene	µg/L	<	0.1									
	Benzo(k)Fluoranthene	µg/L	<	0.1									
	Bis(2-Chloroethoxy)Methane	µg/L	<	0.1									
	Bis(2-Chloroethyl)Ether	µg/L	<	0.1									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.1									
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	0.1									
	4-Bromophenyl Phenyl Ether	µg/L	<	0.1									
	Butyl Benzyl Phthalate	µg/L	<	1									
	2-Chloronaphthalene	µg/L	<	0.1									
	4-Chlorophenyl Phenyl Ether	µg/L	<	0.1									
	Chrysene	µg/L	<	0.1									
	Dibenzo(a,h)Anthrancene	µg/L	<	0.1									
	1,2-Dichlorobenzene	µg/L	<	0.1									
	1,3-Dichlorobenzene	µg/L	<	0.1									
	1,4-Dichlorobenzene	µg/L	<	0.1									
	3,3-Dichlorobenzidine	µg/L	<	0.5									
	Diethyl Phthalate	µg/L	<	1									
	Dimethyl Phthalate	µg/L	<	1									
	Di-n-Butyl Phthalate	µg/L	<	1									
	2,4-Dinitrotoluene	µg/L	<	0.2									

	2,6-Dinitrotoluene	µg/L	<	0.2										
	Di-n-Octyl Phthalate	µg/L	<	1										
	1,2-Diphenylhydrazine	µg/L	<	0.1										
	Fluoranthene	µg/L	<	0.1										
	Fluorene	µg/L	<	0.1										
	Hexachlorobenzene	µg/L	<	0.1										
	Hexachlorobutadiene	µg/L	<	0.1										
	Hexachlorocyclopentadiene	µg/L	<	0.5										
	Hexachloroethane	µg/L	<	0.1										
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.1										
	Isophorone	µg/L	<	0.2										
	Naphthalene	µg/L	<	0.1										
	Nitrobenzene	µg/L	<	0.1										
	n-Nitrosodimethylamine	µg/L	<	0.1										
	n-Nitrosodi-n-Propylamine	µg/L	<	0.1										
	n-Nitrosodiphenylamine	µg/L	<	0.1										
	Phenanthrene	µg/L	<	0.1										
	Pyrene	µg/L	<	0.1										
	1,2,4-Trichlorobenzene	µg/L	<	0.1										
Group 6	Aldrin	µg/L	<	0.02										
	alpha-BHC	µg/L	<	0.02										
	beta-BHC	µg/L	<	0.02										
	gamma-BHC	µg/L	<	0.02										
	delta BHC	µg/L	<	0.02										
	Chlordane	µg/L	<	0.51										
	4,4-DDT	µg/L	<	0.02										
	4,4-DDE	µg/L	<	0.02										
	4,4-DDD	µg/L	<	0.02										
	Dieldrin	µg/L	<	0.02										
	alpha-Endosulfan	µg/L	<	0.02										
	beta-Endosulfan	µg/L	<	0.02										
	Endosulfan Sulfate	µg/L	<	0.02										
	Endrin	µg/L	<	0.02										
	Endrin Aldehyde	µg/L	<	0.02										
	Heptachlor	µg/L	<	0.02										
	Heptachlor Epoxide	µg/L	<	0.02										
	PCB-1016	µg/L	<											
	PCB-1221	µg/L	<	0.2										
	PCB-1232	µg/L	<	0.2										
	PCB-1242	µg/L	<	0.2										
	PCB-1248	µg/L	<	0.2										
	PCB-1254	µg/L	<	0.2										
	PCB-1260	µg/L	<	0.2										
	PCBs, Total	µg/L	<											
	Toxaphene	µg/L	<	0.51										
	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												

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Sandy Run Landfill, NPDES Permit No. PA0083879, Outfall 002

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Raystown Branch Juniata 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	014030	4.11	1615	1.6			Yes
End of Reach 1	014030	2.98	1364	2.46			Yes

Q $_{7\text{-}10}$

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	4.11	0.0888										72.8	8		
End of Reach 1	2.98	0.0888										72.8	8		

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	4.11														
End of Reach 1	2.98														

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

No. Samples/Month: 4

Pollutants	*Mass Limits* AML (lbs/day)	*Mass Limits* MDL (lbs/day)	*Concentration Limits* AML	*Concentration Limits* MDL	*Concentration Limits* IMAX	*Concentration Limits* Units	Governing WQBEL	WQBEL Basis	Comments
Total Cobalt	Report	Report	Report	Report	Report	µg/L	41.0	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Mercury	0.00007	0.0001	0.11	0.17	0.27	µg/L	0.11	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Nickel	Report	Report	Report	Report	Report	µg/L	58.4	CFC	Discharge Conc > 10% WQBEL (no RP)
Acrylamide	0.0006	0.0009	0.84	1.31	2.1	µg/L	0.84	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Toxaphene	2.85E-07	4.45E-07	0.0004	0.0007	0.001	µg/L	0.0004	CFC	Discharge Conc ≥ 50% WQBEL (RP)

Attachment C

Federal ELG

Title 40 - Protection of Environment
Chapter I - Environmental Protection Agency
Subchapter N - Effluent Guidelines and Standards

PART 445 - LANDFILLS POINT SOURCE CATEGORY

Authority: Secs. 301, 304, 306, 307, 308, 402 and 501 of the Clean Water Act, as amended (33 U.S.C. 1311, 1314, 1316, 1317, 1318, 1342 and 1361)

Source: 65 FR 3048, Jan. 19, 2000, unless otherwise noted.

§ 445.1 General applicability.

(a) As defined more specifically in each subpart and except as provided in paragraphs (b) through (h) of this section, this part applies to discharges of wastewater from landfill units.

(b) The provisions of this part do not apply to wastewater discharges from land application or land treatment units, surface impoundments, underground injection wells, waste piles, salt dome formations, salt bed formations, underground mines or caves as these terms are defined in 40 CFR 257.2 and 260.10.

(c) The provisions of this part do not apply to wastewater generated off-site of a landfill facility, including wastewater generated off-site from washing vehicles or from waste transfer stations.

(d) The provisions of this part do not apply to discharges of contaminated ground water or wastewater from recovery pumping wells.

(e) This part does not apply to discharges of landfill wastewater from landfills operated in conjunction with other industrial or commercial operations when the landfill only receives wastes generated by the industrial or commercial operation directly associated with the landfill.

(f) This part does not apply to discharges of landfill wastewater from landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes provided the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR subchapter N as the industrial or commercial operation or the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation.

(g) This part does not apply to landfills operated in conjunction with Centralized Waste Treatment (CWT) facilities subject to 40 CFR part 437 so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills.

(h) This part does not apply to landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

§ 445.2 General definitions.

In addition to the definitions set forth in 40 CFR 122.2, 257.2, 258.2, 264.10, 265.10, 401.11, and 403.3 the following definitions apply to this part:

(a) ***Contaminated ground water*** means water below the land surface in the zone of saturation which has been contaminated by activities associated with waste disposal.

(b) ***Contaminated storm water*** means storm water which comes in direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater as defined in paragraph (f) of this section. Some specific areas of a landfill that may produce contaminated storm water include (but are not limited to): the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment or machinery that has been in direct contact with the waste; and waste dumping areas.

(c) ***Landfill*** directly associated with an industrial or commercial operation means:

(1) A landfill located on the same site as industrial or commercial operations; and

(2) A landfill not located on the same site as the industrial or commercial operations (off-site), but "wholly-owned" by the industrial or commercial facility and primarily dedicated to receiving waste from the related industrial or commercial facility.

(d) ***Facility*** means all contiguous property owned, operated, leased or under the control of the same person or entity.

(e) ***Landfill unit*** means an area of land or an excavation in which wastes are placed for permanent disposal, that is not a land application or land treatment unit, surface impoundment, underground injection well, waste pile, salt dome formation, a salt bed formation, an underground mine or a cave as these terms are defined in 40 CFR 257.2, 258.2 and 264.10.

(f) ***Landfill wastewater*** means all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated storm water, contaminated ground water, and wastewater from recovery pumping wells. Landfill wastewater includes, but is not limited to, leachate, gas collection condensate, drained free liquids, laboratory derived wastewater, contaminated storm water and contact washwater from washing truck, equipment, and railcar exteriors and surface areas which have come in direct contact with solid waste at the landfill facility.

(g) ***Non-contaminated storm water*** means storm water which does not come in direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater that is defined in paragraph (f) of this section. Non-contaminated storm water includes storm water which flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.

(h) ***Off-site*** means outside the boundaries of a facility.

(i) ***On-site*** means within the boundaries of a facility.

(j) ***Public service*** means the provision of landfill waste disposal services to individual members of the general public, publicly-owned organizations (schools, universities, government agencies, municipalities) and not-for-profit organizations for which the landfill does not receive a fee or other remuneration.

(k) The regulated parameters for this part, numbered (P) and listed with approved methods of analysis in Table 1B at 40 CFR 136.3, are defined as follows:

(1) ***Ammonia (as N)*** means ammonia reported as nitrogen. P4.

(2) ***BOD_5*** means 5-day biochemical oxygen demand. P9.

(3) ***Arsenic*** means total arsenic. P6.

(4) ***Chromium*** means total chromium. P19.

(5) ***Zinc*** means total zinc. P75.

(l) The regulated parameters for this part, numbered (P) and listed with approved methods of analysis in Table 1C at 40 CFR 136.3, are as follows:

(1) Naphthalene. P68.

(2) Phenol. P85.

(m) The regulated parameters for this part listed with approved methods of analysis in the attachments to Methods 625 and 1625B in appendix A at 40 CFR part 136 are as follows:

(1) Aniline.

(2) Benzoic acid.

(3) p-Cresol.

(4) Pyridine.

(5) a-Terpineol.

§ 445.3 General pretreatment standards.

Any source subject to this part that introduces wastewater pollutants into a publicly owned treatment works (POTW) must comply with 40 CFR part 403.

Subpart A - RCRA Subtitle C Hazardous Waste Landfill

§ 445.10 Applicability.

Except as provided in § 445.1, this subpart applies to discharges of wastewater from landfills subject to the provisions of 40 CFR part 264, *Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, Subpart N-(Landfills);* and 40 CFR part 265, *Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, Subpart N-(Landfills).*

§ 445.11 Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations which represent the application of BPT:

Effluent Limitations

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
BOD_5	220	56
TSS	88	27
Ammonia (as N)	10	4.9
α-Terpineol	0.042	0.019
Aniline	0.024	0.015
Benzoic acid	0.119	0.073
Naphthalene	0.059	0.022
p-Cresol	0.024	0.015
Phenol	0.048	0.029
Pyridine	0.072	0.025
Arsenic	1.1	0.54
Chromium	1.1	0.46
Zinc	0.535	0.296
pH	([2])	([2])

[1] Milligrams per liter (mg/L, ppm).

[2] Within the range 6 to 9.

[65 FR 3048, Jan. 19, 2000; 65 FR 14344, Mar. 16, 2000]

§ 445.12 Effluent limitations attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations which represent the application of BCT: Limitations for BOD_5, TSS and pH are the same as the corresponding limitations specified in § 445.11.

§ 445.13 Effluent limitations representing the degree of effluent reduction attainable by the application of best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations which represent the application of BAT: Limitations for ammonia (as N), a-terpineol, aniline, benzoic acid, naphthalene, p-cresol, phenol, pyridine, arsenic, chromium and zinc are the same as the corresponding limitations specified in § 445.11.

§ 445.14 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following performance standards: Standards are the same as those specified in § 445.11.

Subpart B - RCRA Subtitle D Non-Hazardous Waste Landfill

§ 445.20 Applicability.

Except as provided in § 445.1, this subpart applies to discharges of wastewater from landfills subject to the provisions of 40 CFR part 258, *Criteria for Municipal Solid Waste Landfills;* and 40 CFR part 257, *Criteria for Classification of Solid Waste Disposal Facilities and Practices.*

§ 445.21 Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations which represent the application of BPT:

Effluent Limitations

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
BOD	140	37
TSS	88	27
Ammonia (as N)	10	4.9
α-Terpineol	0.033	0.016
Benzoic acid	0.12	0.071
p-Cresol	0.025	0.014
Phenol	0.026	0.015

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
Zinc	0.20	0.11
pH	(2)	(2)

[1] Milligrams per liter (mg/L, ppm)

[2] Within the range 6 to 9.

[65 FR 3048, Jan. 19, 2000; 65 FR 14344, Mar. 16, 2000]

§ 445.22 Effluent limitations attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations which represent the application of BCT: Limitations for BOD_5, TSS and pH are the same as the corresponding limitations specified in § 445.21.

§ 445.23 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30-125.32, any existing point source subject to this subpart must achieve the following effluent limitations which represent the application of BAT: Limitations for ammonia (as N), a-terpineol, benzoic acid, p-cresol, phenol and zinc are the same as the corresponding limitations specified in § 445.21.

§ 445.24 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following performance standards: Standards are the same as those specified in § 445.21.

Attachment D
DMR data

Parameter Name	Aluminum, Total	Boron, Total	Cobalt, Total	Iron, Dissolved	Iron, Total	Manganese
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Detection Limit				50		
04/01/2018	300	6490	30	<50	60	540
05/01/2018	500	6050	30	100	140	430
06/01/2018	1900	5710	23	180	400	1220
07/01/2018	500	6160	22	140	190	1310
08/01/2018	700	3970	21	200	260	50
09/01/2018	800	2860	22	90	110	30
10/01/2018	500	4360	25	120	130	60
11/01/2018	500	5200	36	120	150	280
12/01/2018	300	4280	29	120	160	180
01/01/2019	1800	4270	28	220	550	540
02/01/2019	1600	4880	27	180	510	250
03/01/2019	700	5120	23	150	210	50
04/01/2019	800	4760	25	110	230	130
05/01/2019	1300	5270	27	110	360	150
06/01/2019	400	3940	26	70	90	40
07/01/2019	800	6110	37	180	250	270
08/01/2019	500	5050	28	60	140	50
09/01/2019	200	7670	28	130	150	80
10/01/2019	400	6770	24	130	150	550
11/01/2019	200	4740	21	100	110	150
12/01/2019	500	6380	40	80	110	120
01/01/2020	500	6290	2	70	20	290
02/01/2020	600	4720	24	60	110	330
03/01/2020	600	5670	27	110	120	210
04/01/2020	1000	4560	23	70	160	140
05/01/2020	900	4620	17	110	170	90
06/01/2020	310	6770	24	70	90	110
07/01/2020	900	9200	53	50	80	50
08/01/2020	800	8670	45	50	70	70
09/01/2020	300	7900	395	60	70	2130
10/01/2020	910	7550	553	10	420	2280
11/01/2020	1200	4700	142	30	150	1010
12/01/2020	540	4680	124	40	70	610
01/01/2021	460	4580	68	80	17	490
02/01/2021	270	5070	90	60	80	130
03/01/2021	400	5240	71	<20	30	60
04/01/2021	400	5210	69	30	30	40
05/01/2021	290	6230	98	20	30	50
06/01/2021	350	5550	59	30	30	50
07/01/2021	240	6620	70	<20	<20	40
08/01/2021	430	8190	101	<20	20	20
09/01/2021	400	3830	18	<50	70	10
10/01/2021	450	4800	30	80	90	10
11/01/2021	390	5470	31	130	130	70
12/01/2021	340	5800	24	50	60	70
01/01/2022	470	6820	31	60	60	110
02/01/2022	330	6870	34	60	70	150
03/01/2022	400	5750	29	40	40	60
04/01/2022	430	7110	36	60	70	60
05/01/2022	490	7250	38	49	60	80
06/01/2022	340	6540	30	90	100	90
07/01/2022	350	7460	44	70	80	230
08/01/2022	440	8290	38	70	70	40
09/01/2022	410	7510	37	70	80	40

NPDES #:	PA0083879		
Outfall No:	001		
n (Samples/Month):	4		
Parameter	**Distribution Applied**	**Coefficient of Variation (daily)**	**Avg. Monthly**
Aluminum, Total (µg/L)	Lognormal	0.5557550	1057.7662797
Boron, Total (µg/L)	Lognormal	0.2420914	7687.6742099
Cobalt, Total (µg/L)	Lognormal	0.9583136	132.7043730
Iron, Dissolved (µg/L)	Delta-Lognormal	0.6814860	176.8744675
Iron, Total (µg/L)	Delta-Lognormal	0.9703655	353.5841075
Manganese (µg/L)	Lognormal	1.9151374	1305.5668618

Parameter Name	Sulfate	Bromide		Chloride	TDS
Units	mg/L	mg/L		mg/L	mg/L
Detection Limit		0.25			
04/01/2018	189	3.5		1050	4380
05/01/2018	166	1.6		1080	4480
06/01/2018	111	< 0.2		924	4460
07/01/2018	114	2.9		1070	4260
08/01/2018	117	2.6		855	3700
09/01/2018	118	1.7		568	2410
10/01/2018	137	2.5		810	3630
11/01/2018	76	< 0.20		1150	4960
12/01/2018	40	< 0.2		1090	4140
01/01/2019	47	2.3		976	3800
02/01/2019	44	2.8		980	4060
03/01/2019	48	3.1		1040	4110
04/01/2019	47	3		948	3970
05/01/2019	43	2.5		884	3480
06/01/2019	55	2.1		757	2940
07/01/2019	68	3.9		1260	3670
08/01/2019	71.1	4.2		990	3620
09/01/2019	88	4.2		1460	4570
10/01/2019	165	1.4		1490	4370
11/01/2019	118	3.4		1060	3360
12/01/2019	168	4.7		1560	5020
01/01/2020	123	1		1270	4160
02/01/2020	205	< 1		1870	3410
03/01/2020	105	< 1		1160	4030
04/01/2020	111	4.3		1040	3550
05/01/2020	90.1	2.4		797	3400
06/01/2020	107	3.2		1250	4710
07/01/2020	157	5.9		1710	5610
08/01/2020	152	5.8		1830	6120
09/01/2020	2150	6.7		1500	7330
10/01/2020	1500	5.1		1250	7150
11/01/2020	1100	3		929	3070
12/01/2020	759	4		941	4190
01/01/2021	399	2.9		861	3390
02/01/2021	382	4.7		1090	4210
03/01/2021	244	3		1090	5370
04/01/2021	203	3.3		1160	4320
05/01/2021	148	2.9		1070	4430
06/01/2021	136	3		957	3650
07/01/2021	148	4.7		1400	4580
08/01/2021	146	4.6		1500	5250
09/01/2021	118	< 2.5		823	3660
10/01/2021	81	3		956	3670
11/01/2021	70	3.4		1020	3960
12/01/2021	81	4.4		1120	3890
01/01/2022	143	4.8		1370	4370
02/01/2022	237	4.9		1400	4980
03/01/2022	232	3.2		1100	4190
04/01/2022	303	4.9		1520	4410
05/01/2022	117	1.9		620	4320
06/01/2022	98	3		913	4470
07/01/2022	159	4.9		1600	4740
08/01/2022	183	4.6		1400	5910
09/01/2022	191	5.3		1580	5660

NPDES #:	PA0083879		
Outfall No:	001		
n (Samples/Month):	4		

Parameter	Distribution Applied	Coefficient of Variation (daily)	Avg. Monthly
Sulfate (mg/L)	Lognormal	0.4085857	4.9317979
Bromide (mg/L)	Delta-Lognormal	0.2571297	1.2167131
Chloride (mg/L)	Lognormal	0.2607321	1543.7772768
TDS (mg/L)	Lognormal	0.2071755	5469.9564268

CORRESPONDENCE

From: Hamill, Jill
To: Hong, Nicholas
Subject: [External] RE: Sandy Run Landfill NPDES renewal (PA0083879)
Date: Tuesday, November 29, 2022 10:38:06 AM

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

Hi Nick,

Sorry for the delay in responding. I've looked into the parameters listed below, and it appears that the QLs used by the lab should be acceptable. The QL used for Nickel was slightly above the DEP target value, but Nickel was detected at levels above the QL in all instances, so resampling should not be necessary.

Outfall 001		
Parameter	**DEP Target QL**	**QL Used**
Boron	200	50
Mercury	0.2	0.2
Nickel	4.0	5.0

Outfall 002		
Parameter	**DEP Target QL**	**QL Used**
Cobalt	1.0	0.5
Mercury	0.2	0.2
Nickel	4.0	5.0

No discharge from Outfall 003 has been observed in recent years, so no data is available. We noted this in the application narrative.

Please let me know if you have any questions, or if you think resampling is still needed.

Thank you,

Jill R. Hamill, P.E. | *Project Manager*
Civil & Environmental Consultants, Inc.
4350 Northern Pike, Suite 141, Monroeville, PA 15146
direct 724.387.6323 **office** 724.327.5200 **mobile** 724.989.3549
www.cecinc.com

From: Hong, Nicholas <nhong@pa.gov>
Sent: Tuesday, November 8, 2022 9:16 AM
To: Hamill, Jill <jhamill@cecinc.com>

Subject: Sandy Run Landfill NPDES renewal (PA0083879)

Jill.

This message acknowledges that DEP has received the NPDES renewal application for Sandy Run Landfill (PA0083879).

We have the following comments on the renewal application.

- Provide the discharge flows for Outfall 003. Data for 2021 and 2022 is being requested. If there was no flow, just indicate it.

- We are recommending re-sampling the below parameters at DEP target limits. A total of three composite samples over a three week period. Attached are the DEP target quantitation limits.

  For Outfall 001, the parameters in question are boron, mercury, and nickel

  For Outfall 002, the parameters in question are cobalt, mercury, and nickel

Nick Hong, PE | Environmental Engineer
PA Department of Environmental Protection
Clean Water Programs
Southcentral Regional Office
909 Elmerton Avenue | Harrisburg, PA 17110
Phone: 717.705.4824 | Fax: 717.705.4760
www.dep.pa.gov

THE SOUTHCENTRAL REGIONAL OFFICE AFTER HOURS REPORTING & 24 HOUR EMERGENCY RESPONSE NUMBER IS 1-800-541-2050