Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0024589**
Facility Type	**Municipal**	APS ID	**1024761**
Major / Minor	**Minor**	Authorization ID	**1329687**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Leetsdale Borough Municipal Authority Allegheny County**	Facility Name	**Leetsdale Borough Municipal Authority STP**
Applicant Address	10 Sixth Street	Facility Address	10 Sixth Street
	Leetsdale, PA 15056-1303		Leetsdale, PA 15056-1303
Applicant Contact	Jonathan Kuzma	Facility Contact	
Applicant Phone	(724) 266-4063	Facility Phone	
Client ID	43672	Site ID	250230
Ch 94 Load Status	Not Overloaded	Municipality	Leetsdale Borough
Connection Status	No Limitations	County	Allegheny
Date Application Received	October 5, 2020	EPA Waived?	No
Date Application Accepted	October 8, 2020	If No, Reason	CSO System not included in waiver.
Purpose of Application	Renewal of an NPDES Minor Permit for POTW, with CSOs.		

Summary of Review

The Leetsdale Borough Municipal Authority (LBMA) in Allegheny County has applied for renewal of the Leetsdale Borough Municipal Authority STP, an NPDES Minor Sewage facility with a Combined Sewer Overflow (CSO) sewer system.

Sewage to the plant is treated by parallel comminutors, sequencing batch reactors, followed by ultraviolet disinfection.

Act 14 Notification was provided to Edgeworth Borough, Bell Acres Borough, Leetsdale Borough, Leet Township, and Allegheny County in the September 9, 2020 letters to each entity.

Sludge use and disposal description and location(s): Two aerobic sludge digesters, and a belt filter press are located on site for reducing volume of sludge. The belt filter press serves to thicken and to dewater sludge. Sludge cakes are hauled to Brunner Landfill.

The renewal includes new more stringent Ammonia-Nitrogen Limits and a schedule for the LBMA to update the Post Construction Compliance Monitoring Plan. The facility is expected to meet the new more stringent limits at the permit effective date.

Public Participation

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

Approve	Deny	Signatures	Date
x		John Price Jack Price / Environmental Engineering Specialist	April 17, 2025
x		Mahbuba Iasmin Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	April 17, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.95
Latitude	40º 33' 37.00"	Longitude	-80º 12' 58.0"
Quad Name	Ambridge	Quad Code	40080E2
Wastewater Description:	Sewage Effluent		
Receiving Waters	Ohio River (WWF)	Stream Code	32317
NHD Com ID	99682868	RMI	26.15
Drainage Area	19500	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	5,880	Q_{7-10} Basis	US Army Corps. of Engineers
Elevation (ft)	682.96	Slope (ft/ft)	-
Watershed No.	20-G	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	DIOXIN, PATHOGENS, POLYCHLORINATED BIPHENYLS (PCBS)		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Final	Name	Ohio River

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

Nearest Downstream Public Water Supply Intake	Center Twp Water Auth PWSID 5040007 (3 MGD)		
PWS Waters	Ohio River	Flow at Intake (cfs)	5,880 (Army Corps)
PWS RMI	13.16	Distance from Outfall (mi)	9.98 Linear Miles 13.01 River Miles

Changes Since Last Permit Issuance: A new WQM and TMS model were run for this renewal. The WQM Model has recommended Ammonia-Nitrogen limits, which have been added to the permit. RMI is now in consistent with the definition of the Ohio River per the PA Gazetteer of Streams. Mass loading rates have been revised to conform to DEP Rounding Guidance.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	NA
Latitude	40° 33’ 57.00”	Longitude	80° 12’ 46.00”
Quad Name	Ambridge	Quad Code	1404
Wastewater Description:	Combined Sewer Overflow – Bethlehem Street (Leetsdale Industrial Park)		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	99682868		
Watershed No.	20-G	Chapter 93 Class.	WWF

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	005	Design Flow (MGD)	NA
Latitude	40° 33’ 14.00”	Longitude	80° 12’ 6.00”
Quad Name	Ambridge	Quad Code	1404
Wastewater Description:	Combined Sewer Overflow – Church Lane		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	99682868		
Watershed No.	20-G	Chapter 93 Class.	WWF

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	006	Design Flow (MGD)	NA
Latitude	40° 32’ 57.00”	Longitude	80° 11’ 52.00”
Quad Name	Ambridge	Quad Code	1404
Wastewater Description:	Combined Sewer Overflow – Edgeworth Lane		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	99682868		
Watershed No.	20-G	Chapter 93 Class.	WWF

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	007	Design Flow (MGD)	NA
Latitude	40° 32’ 51.00”	Longitude	80° 11’ 42.00”
Quad Name	Ambridge	Quad Code	1404
Wastewater Description:	Combined Sewer Overflow – Chestnut Road		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	99682868		
Watershed No.	20-G	Chapter 93 Class.	WWF

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	008	Design Flow (MGD)	NA
Latitude	40° 32’ 38.00”	Longitude	80° 11’ 36.00”
Quad Name	Ambridge	Quad Code	1404
Wastewater Description:	Combined Sewer Overflow – Hazel Lane		
Receiving Waters	Ohio River	Stream Code	32317
NHD Com ID	99682868		
Watershed No.	20-G	Chapter 93 Class.	WWF

Treatment Facility Summary

Treatment Facility Name: Leetsdale Municipal Authority STP

WQM Permit No.	Issuance Date
271412 A-5	11/18/2020

Treatment Facility Description
The Leetsdale Municipal Authority STP consists of the following treatment processes with a design flow of 0.95 mgd as a complete system:

- Two parallel comminutors at the plant headworks with a combined peak hydraulic capacity of 10 MGD;
- Four parallel SBRs with a maximum effective volume of approximately 156,000 gallons each with the following system characteristics:
  - Peak hourly hydraulic capacity of 10.0 MGD;
  - Sustained storm event hydraulic capacity of 7.5 MGD;
  - Average wet-weather hydraulic capacity of 3.75 MGD, and;
  - SBR Cycle of Anoxic Fill, Aerated Fill, Aerated React, Anoxic React, Settle, Decant;
- UV Disinfection Channel containing 11 banks of 12 lamps with a peak design flow of 7.5 MGD;
- Two parallel aerobic sludge digesters with a combine volume of approximately 194,000 gallons, and;
- Belt filter press with modes for for thickening and dewatering.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Sequencing Batch Reactor	Ultraviolet	0.95

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
3.75	2000	Not Overloaded	Anaerobic Digestion	Belt Filter Press/Landfilled

Changes Since Last Permit Issuance:

WQM Permit 0271412 A-5 was issued in 2020 and approved the construction of

- Two 30 ft by 29.3 ft by 12 ft fine bubble aerobic sludge digester tanks
- 3,300 LF of 16-inch HDPE force main
- 110 LF of 24-inch Ductile Iron Pipe.

Review of Organic and Hydraulic Loading

LBMA submits annual Wasteload Management and CSO Reports “Chapter 94 Reports” to communicate the organic and hydraulic status of the facility and collection system. The system is considered overloaded when the design organic or hydraulic capacity of the system is exceeded for three consecutive months during the compliance period. The 2024 Chapter 94 Report was the most recent report reviewed during the development of this fact sheet. The 2024 Chapter 94 Report shows no existing or projected state of hydraulic or organic overload.

In addition to the load status of the facility and sewer system, the Chapter 94 Report includes information about ongoing operation and maintenance, sewer extensions, infiltration and inflow, and overall health and condition of the sewer system. The LBMA reported that the overall condition of the collections system was in generally good condition, with no major problems or unexpected issues.

Compliance History

DMR Data for Outfall 001 (from March 1, 2024 to February 28, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24
Flow (MGD) Average Monthly	0.659	0.324	336	0.343	0.240	0.276	0.415	0.285	0.358	0.697	1.556	0.728
Flow (MGD) Daily Maximum	3.117	0.590	0.662	0.901	0.353	0.806	1.703	0.682	1.047	2.955	5.815	1.638
pH (S.U.) Minimum	6.6	6.7	6.6	6.8	6.5	6.1	6.5	6.9	6.8	6.8	6.8	7.0
pH (S.U.) Maximum	7.5	7.6	7.3	7.4	7.8	7.2	7.4	7.2	7.3	7.2	7.5	7.4
DO (mg/L) Minimum	5.9	5.4	5.5	6.4	5.8	5.8	5.1	5.1	5.9	6.2	6.1	6.7
$CBOD_5$ (lbs/day) Average Monthly	13.75	8.2	10.25	11.75	8.6	7.5	10.75	11.4	10.5	17.2	111.0	21.0
$CBOD_5$ (lbs/day) Weekly Average	20.0	10.0	13.0	23.0	12.0	9.0	20.0	21.0	26.0	24.0	383.0	31.0
$CBOD_5$ (mg/L) Average Monthly	3.5	3.2	3.75	3.25	4.2	2.5	3.0	3.6	3.0	3.2	4.5	3.0
$CBOD_5$ (mg/L) Weekly Average	4.0	4.0	6.0	4.0	6.0	4.0	3.0	6.0	3.0	4.0	9.0	3.0
BOD_5 (lbs/day) Raw Sewage Influent Average Monthly	349.0	280.8	331.5	598.75	318.0	648.0	324.5	323.0	586.0	463.0	704.0	378.8
BOD_5 (lbs/day) Raw Sewage Influent Daily Maximum	429.0	374.0	404.0	1172.0	411.0	1540.0	574.0	588	1493.0	869.0	1831.0	598.0
BOD_5 (mg/L) Raw Sewage Influent Average Monthly	90.75	112.8	120.75	168.25	157.8	247.0	123.0	109.6	131.0	88.8	50.0	57.3
TSS (lbs/day) Average Monthly	16.75	17.6	9.25	13.25	10.6	8.0	10.75	10.8	16.8	16.6	132.3	25.5
TSS (lbs/day) Raw Sewage Influent Average Monthly	241.5	217.4	222.13	427.5	212.6	649.0	304.0	258.4	443.8	511.0	666.5	340.3
TSS (lbs/day) Raw Sewage Influent Daily Maximum	337.0	260.0	267.0	796.0	313.0	1894.0	636.0	377.0	1013.0	1313.0	1873.0	743.0
TSS (lbs/day) Weekly Average	19.0	42.0	13.0	23.0	15.0	9.0	20.0	18.0	44.0	23.0	468.0	32.0
TSS (mg/L) Average Monthly	4.75	7.0	3.25	3.75	5.4	3.0	3.0	3.4	3.5	3.2	5.0	4.0

TSS (mg/L) Raw Sewage Influent Average Monthly	61.5	86.0	80.0	120.25	106.6	241.0	111.0	86.6	108.3	92.8	42.8	48.8
TSS (mg/L) Weekly Average	7.0	17.0	4.0	5.0	8.0	4.0	3.0	5.0	5.0	4.0	11.0	6.0
Fecal Coliform (CFU/100 ml) Geometric Mean	1	14	3	7	1.0	1	1	1	1	1	1	1.0
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	1	2420	132	981	1.0	1	1	1	1	1	1	1.0
UV Intensity (mW/cm²) Minimum	97.8	82.8	101.1	100.1	110.9	130.4	143.8	119.8	101.7	93.4	103.1	98.0
UV Intensity (mW/cm²) Average Monthly	141.8	145.6	136.4	126.2	123.1	197.7	160.1	141.0	133.1	133.1	143.5	138.1
Total Nitrogen (mg/L) Daily Maximum			17.4			8.05			11.1			8.06
Ammonia-Nitrogen (lbs/day) Average Monthly	4.05	3.54	2.25	0.37	4.88	0.24	0.36	0.24	0.40	1.108	10.73	1.03
Ammonia-Nitrogen (lbs/day) Weekly Average	8.33	9.56	4.32	0.75	8.89	0.29	0.68	0.82	0.87	3.47	40.87	2.37
Ammonia-Nitrogen (mg/L) Average Monthly	1.24	1.54	0.10	0.10	2.45	0.10	0.10	0.82	0.10	0.194	0.32	0.13
Ammonia-Nitrogen (mg/L) Weekly Average	3.32	4.17	2.0	0.10	4.80	0.10	0.10	2.92	0.10	0.57	0.96	0.23
Total Phosphorus (mg/L) Daily Maximum			2.86			1.02			1.88			0.720

Effluent Violations for Outfall 001, from: April 1, 2024 To: February 28, 2025

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
$CBOD_5$	04/30/24	Wkly Avg	383.0	lbs/day	297.3	lbs/day
TSS	04/30/24	Wkly Avg	468.0	lbs/day	356.7	lbs/day

Compliance Review Period: 03/01/2020-04/01/2025

Inspection Summary:

INSP ID	INSPECTED DATE	INSP TYPE	INSPECTION RESULT DESC	INSPECTOR
3603797	07/21/2023	Compliance Evaluation	No Violations Noted	WATKINS, EDWIN
3414804	08/03/2022	Compliance Evaluation	Violation(s) Noted	WATKINS, EDWIN
3796108	06/13/2024	Compliance Evaluation	Violation(s) Noted	WATKINS, EDWIN
3096638	08/12/2020	Compliance Evaluation	No Violations Noted	WATKINS, EDWIN
3195160	05/11/2021	Compliance Evaluation	No Violations Noted	WATKINS, EDWIN
3249395	09/14/2021	Combined Sewer Overflow-Non-Sampling	No Violations Noted	WATKINS, EDWIN

Violation Summary:

VIOL ID	VIOLATION DATE	VIOLATION TYPE	VIOLATION TYPE DESC	RESOLVED DATE
966359	08/03/2022	92A.44	NPDES - Violation of effluent limits in Part A of permit	01/26/2024
8194120	06/13/2024	92A.44	NPDES - Violation of effluent limits in Part A of permit	

Enforcement Summary

ENF ID	ENF TYPE	ENF CREATION DATE	VIOLATIONS	# OF VIOLATIONS	PENALTY AMOUNT	AMOUNT RECEIVED	ENF FINALSTATUS	ENF CLOSED DATE
431177	NOV	07/16/2024	92A.44	1				
406738	NOV	08/30/2022	92A.44	1			Administrative Close Out	01/02/2024

Open Violations by Client ID:

CLIENT ID	INSP ID	VIOLATION ID	VIOLATION DATE	VIOLATION
43672	3796108	8194120	06/13/2024	NPDES - Violation of effluent limits in Part A of permit

Other Comments: April 2024 had violations for weekly average loading ($CBOD_5$ and TSS). The month in question had 10.8 inches of rain according to the DMR Submitted that month. Several days of heavy rain above resulted in a wet weather flow above the annual average daily flow. This increased flow resulted in higher loading. The final compliance status will be included in a Fact Sheet addendum included with the final permit.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.95
Latitude 40º 33' 37.00" **Longitude** -80º 12' 58.00"
Wastewater Description: Sewage Effluent

Technology-Based Effluent Limitations (TBELs)

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
Ammonia-Nitrogen	25.0	Average Monthly	-	BCW-PMT-033 Note 5
Dissolved Oxygen	4.0 (min)	Average Monthly	-	BCW-PMT-033 Note 6

Comments:

The proposed discharge was evaluated using WQM 7.0 to evaluate $CBOD_5$, Ammonia-Nitrogen, and Dissolved Oxygen Parameters. The WQM report recommended TBELs for $CBOD_5$ and Ammonia-Nitrogen year-round.

Fecal Coliform in the warm period are subject to more restrictive limits to achieve ORSANCO's bacteria discharge requirements for contact recreational purposes. See the section below regarding Fecal Coliform.

Water Quality-Based Effluent Limitation (WQBEL) Analysis

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

Parameter	Limit (mg/l)	SBC	Model
Dissolved Oxygen	4.0 (min)	Average Monthly	WQM 7.0 Version 1.1
$CBOD_5$	25.0	Average Monthly	WQM 7.0 Version 1.1
Ammonia-Nitrogen	25.0	Average Monthly	WQM 7.0 Version 1.1

Comments:

The WQM Report has determined that the TBELs for Dissolved Oxygen, $CBOD_5$, and Ammonia-Nitrogen are sufficient to protect water quality. See Attachment 2 for the WQM Report.

A "Reasonable Potential" Analysis was performed in DEP's Toxics Management Spreadsheet per the SOP For Establishing WQBELs (DEP Document No. BCW-PMT-037, Revised May 20, 2021). The reasonable potential analysis was performed based on effluent testing included with the permit application. The instructions for NPDES Minor sewage facilities require effluent testing for several Group 1 and Group 2 parameters. Please see attachment 3 for the TMS Report.

The following table lists the values used for the TMS model along with the information source.

Model Input Parameter	Value	Unit	Source
Design Flow	0.95	MGD	Permit Application
Receiving Waters	Ohio River	-	
Effluent Hardness	100	mg/L	DEP Default Value
Effluent pH	7.0	-	
Drainage Area at Discharge	19,500	mi^2	USGS StreamStats
Elevation at Discharge	682.96	ft	
Low Flow of Stream	5,880	cfs	US Army Corps of Engineers
Low-Flow Depth	9.0	ft	
Low-Flow Yield	0.301	cfs/mi^2	Calculated Value

Fecal Coliform

The following Fecal Coliform limits were imposed in the previous NPDES permits based on past ORSANCO Bacteria discharge requirements:

Period	Avg. Monthly	Instantaneous Maximum
May 1 to Oct 31	200/100 ml, Geometric Mean	400/100 ml
Nov 1 to Apr 30	2,000/100 ml, Geometric Mean	10,000/100 ml

Changes were made to ORSANCO's Bacteria discharge requirements to include an *E. Coli* bacteria limit of 130/100 ml as a 90 day geometric mean for the period April through October, and not to exceed 240/100 ml in more than 25% of the samples. The following correlation analysis was made to show that extending the warmer period Fecal Coliform limits to include the month of April will be adequate to meet the above *E. Coli* limit. ORSANCO has not objected to the use of this analysis:

The equations below are taken from the Ohio Environmental Protection Agency:

Current Warmer Period Avg. Monthly limit for Fecal Coliform (FC) = 200/100 ml

Using the equation for NE area of Ohio, *E. Coli* = 0.667 x (FC)^1.034 = 159.73/100 ml

Using the equation for rest of Ohio, *E. Coli* = 0.403 x (FC)^1.028 = 93.49/100 ml

Average of two values = (159.73 + 93.49)/2 = 126.61/100 ml < 130/100 ml

In summary, the discharge meets the ORSANCO *E. Coli* effluent standard of 130/100 ml by maintaining an effluent Fecal Coliform Avg. Monthly limit of 200/100 ml from April through October, which becomes the new recreational season period. Using the same equations for a maximum Fecal Coliform count of 400/100 ml at 10% of the time exceedance is more restrictive than the 25% exceedance at 240/100 ml *E. Coli*.

Best Professional Judgment (BPJ) Limitations

Comments: None.

Mercury

In the previous authorization ORSANCO has requested that all publicly owned treatment works (POTWs) with design flows greater than or equal to 0.1 mgd that discharge directly to the Ohio River monitor for Mercury using a method that will detect down to a level of 12 nanograms/liter (ng/l) which is the limit at the end of pipe. This is lower than the most stringent water quality criteria in Chapter 93 of PA Rules and Regulations for Mercury (50 ng/l for Human Health). ORSANCO's reasoning for requiring this limit at the end of pipe is that as of October of 2015, mixing zones are no longer permitted for bio-accumulative pollutants including Mercury.

In the fact sheet for the previous authorization, the Department noted that (12) effluent results for Mercury which are contained in the pollution report. The average of the 12 samples was 4.11 ng/l. No reasonable potential exists to violate the 12 ng/l limit because the average of 4.11 ng/l is lower than 50% of the limit (6 ng/l), therefore no effluent limit or additional monitoring was necessary. During the current permit renewal, no additional sampling was requested from this

facility because the application instructions for minor NPDES Sewage do not list mercury as a required renewal testing parameter outside of a TMDL or if suspected to be in effluent. Leetsdale STP is a minor facility with a design flow of less than 1 MGD and the facility currently does not have an industrial user discharging process water containing mercury. No additional evaluations for Total Mercury were conducted during the current renewal.

Ohio River TMDL-PCBs and Chlordane

Section 303(d) of the Clean Water Act and the U.S. Environmental Protection Agency's Water Quality Planning and Management Regulation (codified at Title 40 of the Code of Federal Regulations Part 130) requires states to develop a TMDL for impaired water quality criteria for the pollutant. TMDLs also provide a scientific basis for States to establish water-quality based controls for reducing pollution to both point and non-point sources in order to restore and maintain the quality of the state's water resources (USEPA 1991a). Ohio River was included in the state's 1996 Section 303(d) list because of Polychlorinated Biphenyls (PCBs) and Chlordane which are anticipated to be legacy contaminants as well as a current Industrial Discharger. The summary from the TMDL is included in Attachment 11.

In accordance with 40 CFR § 122.44(d)(1)(vii)(B), when developing WQBELs, the permitting authority shall ensure that effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation (WLA) for the discharge prepared by the State and approved by the EPA pursuant to 40 CFR § 130.7.

This facility discharges to Ohio River, for which a TMDL, Total Maximum Daily Load – PCB and Chlordane – Ohio River, was finalized on March 6, 2001. According to the TMDL, the use of both PCB and Chlordane has been banned in the United States, so there will be no new point sources to which controls can be applied.

PCB and Chlordane present in the Ohio River are believed to reside primarily in the sediment due to historical use and improper disposal practices. Long-term natural attenuation coupled with the implementation on the existing source identified in the TMDL is expected to reduce PCB and Chlordane contamination from the Ohio River sediments over time. Due to this and the fact that the TMDL is currently monitoring the levels of PCBs and chlordane in fish, this facility will not be assigned wasteload allocations. No monitoring of PCBs and Chlordane will also be applied.

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard of water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation. Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

(40 CFR 122.44 (l)(2) Establishing limitations, standards, and other permit conditions., 40 CFR Ch. I (7-1-21 Edition))

No permits limits have been made less stringent in the renewal draft permit.

Mass Loadings

Mass loading limits are applicable for publicly owned treatment works. Current policy requires average monthly mass loading limits be established for $CBOD_5$, TSS, and NH_3-N and average weekly mass loading limits be established for $CBOD_5$ and TSS.

Average monthly mass loading limits (lbs./day) are based on the formula: design flow (MGD) x concentration limit (mg/L) x conversion factor (8.34).

(*Section IV, SOP for Clean Water Program, Establishing Effluent Limitations for Individual Sewage Permits, Final November 9, 2012, Revised March 24, 2021, Version 1.9*)

Ultraviolet Disinfection

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

(*Section I.A, Note 4, SOP for Clean Water Program, Establishing Effluent Limitations for Individual Sewage Permits, Final November 9, 2012, Revised March 24, 2021, Version 1.9* and *25 PA Code 92a.61(b)*.)

Combined Sewer Overflows (CSOs)

Outfalls 003, and 005 through 008 are combined sewer outfalls. The facility is a POTW serving a population under 75,000. The CSO components of this facility were reviewed for using the PA CSO Policy (Document No. 385-2000-011, March 9, 2013) and guidance documents referenced within. The facility was under a consent order and agreement for the CSOs until 2010 when DEP terminated the order. No dry weather overflows have been recorded or observed by the permittee in the 2024 CSO Report. The application and annual CSO Reports have stated that the permittee continues implementation of the Nine Minimum Controls and the Long-Term Control Plan.

This authorization is a Post Phase II CSO Permit. Phase I permitting began with the implementation of the Nine Minimum Controls (NMC) concurrent with the development of the Long-Term Control Plan (LTCP). The NMC Plan was accepted by DEP on June 8, 2005. Phase II permitting began with the implementation of the LTCP. The LTCP was accepted by DEP in 2006. The LTCP adopted the presumption approach for compliance with the CSO Policy. The permittee meets the presumption approach using Criterion ii. Criterion ii is met when the combined sewer system captures at least 85% of Combined Sewage for treatment and when the portion of Combined Sewage that is not captured is treated for solids and disinfected if required. Criterion ii is verified by measurement of CSO outfall flow and measurement of flow to the plant.

Nine Minimum Controls

The permittee demonstrates continued adherence to the nine minimum controls as described in the application and the 2024 CSO Report:

1. *Proper operation and regular maintenance programs for the sewer system and the CSOs.*
   The permittee submits annual summaries of maintenance performed on the sewer system, CSOs, and plant.

2. *Maximum use of the collection system for storage.*
   The permittee submits annual reports confirming flow maximization by locking flow regulators to the open position. This storage is limited due to the proximity to the Ohio River.

3. *Review and modification of pretreatment requirements to assure CSO impacts are minimized*
   The permittee submitted an inventory of industrial dischargers with the application. Each entry of this inventory includes information about the industrial user and the nature of the wastewater being sent to the plant.

4. *Maximization of flow to the POTW for treatmen*t
   The permittee submits annual reports confirming flow maximization by locking flow regulators to the open position. The facility was upgraded in 2010 to a four-basin SBR system with a designed sustained wet weather hydraulic capacity of 3.75 MGD, a sustained storm event capacity 7.5 MGD and a peak hourly hydraulic capacity of 10.0 MGD treated to secondary standards with UV Disinfection. This plant upgrade was accompanied by upgrades to interceptors and pump stations within the service area of the plant.

5. *Prohibition of CSOs during dry weather*
   The permittee has no recent history of dry-weather discharges on discharge monitoring reports.

6. *Control of solids and floatable materials in CSOs*
   The approved LTCP includes a description of the CSO controls in place for solid materials. The controls include

weirs and bar screens on the Leet Street Pump station, and a weir to trap solids on the diversion structures to outfall structures.

7. *Pollution prevention*
   The permittee submits annual reports confirming pollution prevention by regular sweet sweeping, inlet cleaning, and recycling/garbage collection. Informational flyers are also sent to residents with pollution prevention instructions.

8. *Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts*
   The permittee provides annual notices to residents to inform them about CSO risks and controls. The flyers list the locations of CSOs and the procedures for CSO Notifications.

9. *Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls*
   The permittee monitors volume of flow to plant and to outfalls and has developed a LTCP that was accepted by DEP. A Post-Construction Compliance Monitoring Plan is now in place.

Long Term Control Plan (LTCP)

The Department approved the Township's Long-Term Control Plan (LTCP) on April 7, 2006. The Long-Term Control Plan selected by the Borough uses the Presumption Approach to meet water quality standards. Under design conditions, the system captures 85% of Combined Sewer Flow for treatment. The LTCP submitted to DEP fulfills the 9 Elements in the LTCP Guidance (EPA 832-B-95-002). The elements as they relate to this authorization are summarized below.

1. Characterization, Monitoring, and Modeling
   The LTCP contains a system characterization that identifies CSO outfalls, baseline conditions in dry weather, and regression equations for estimation of wet weather discharge volume in response to rainfall intensity. Monitoring via rain gauges and outfall flow meters (in addition to flow monitoring at the plant) have been in place since 1999. The regression equations were developed in 2004 for rain volumes of 0.05 inches to 5 inches between 1 and 48 hours.

2. Public Participation Process
   The Borough circulates annual flyers with details about CSO risks and controls, with locations of outfalls. A telephone number is included with CSO publication for additional information. Public meetings were held during the development of the LTCP.

3. Consideration of Sensitive Areas
   A sensitive area evaluation was included in the LTCP. The nearest outfall (002) to the public boat ramp, 50 feet away, was closed off in 2005. Additionally, the LTCP reduces combined sewer flow to the next nearest outfall (003) 3,300 feet upstream. Characterization of the receiving water was based on ORSANCO's testing program.

4. Evaluation of alternatives
   Four alternatives were considered. The chosen alternative was to construct a new plant capable of 10 MGD peaks and to upgrade pump station capacities to provide hydraulic capacity in flow to the plant. Cost, Presumption Criteria, and the age of the existing plant at the time were factors in selecting the chosen alternative. All construction for the chosen alternative has been completed.

5. Cost/Performance Considerations
   Construction and financing for the chosen alternative have been completed. Performance of the chosen alternative is assessed in the PCCMP.

6. Operational Plan
   The LTCP does not explicitly contain an operational plan, however updates to the O&M Manual were part of the implementation schedule. These updates were completed in 2004.

7. Maximization of treatment at existing POTW
   The treatment plant was modified, starting up in 2010 to treat 7.5 MGD wet weather flows and 10.0 MGD peak hourly flows to secondary standards with UV disinfection.

8. Implementation Schedule for CSO Controls
   All controls are now in effect. Effectiveness of these controls will be assessed in the PCCMP.

9. A Post-Construction Compliance Monitoring Program
   Please see section below regarding the PCCMP.

Post Construction Compliance Monitoring Plan (PCCMP)

The application contains the Post Construction Compliance Monitoring Plan, which was developed as the 9th component of the Long-Term Control Plan. The PCCMP was reviewed using the EPA's CSO Post Construction Compliance Monitoring Guidance. (DOCUMENT NO. EPA-833-K-11-001, MAY 2012). The LBMA has a PCCMP in place that monitors the effectiveness of the CSO Controls for meeting presumption criteria.

A PCCMP serves to assure collection of sufficient data for evaluation the effectiveness of CSO controls in meeting performance goals *and* assessing compliance with water quality standards. Per 3.1 of the PCCMP Guidance, the ultimate responsibility of the permittee is to meet Water Quality Standards and protect designated uses regardless of whatever approach is considered in the LTCP.

The procedures in the PCCMP submitted by the LBMA call for monitoring of rain gauges, flow at each of the CSO outfalls, and monitoring of influent flow to the plant. The regression equations developed in the LTCP for each outfall and the influent flow are used to determine the captured volume, volume discharged if applicable for the storm event, and the captured percent for a storm event. This monitoring is a valuable component for measuring the effectiveness of the controls for meeting the volume reduction goals under the presumption approach. The existing PCCMP does not include a water quality sampling plan to verify the effectiveness of achieving water quality standards or that the discharge does not contribute to impairment and will be required to submit a water quality monitoring plan. An update to the PCCMP will be required to include a water quality monitoring component to verify the effectiveness of the CSO controls in achieving water quality standards under the design wet weather event.

Requirements to evaluate the water quality impacts of the CSO discharge on receiving water are established under 25 Pa § 92a.27.(b) and sections 5(b)(1) and 402 of The PA Clean Streams Law. The water quality monitoring component of the PCCMP will be evaluated upon submission to the Department for adherence to the procedures from the DEP Water Quality Monitoring Protocols for Streams and Rivers ("Monitoring Book"), EPA PCCMP guidance, and the PA CSO Policy.

The LBMA will develop the water quality monitoring component of the PCCMP and notify DEP of its completion within the first 6 months of the permit effective date. Implementation of water quality monitoring will begin upon completion. The updated PCCMP, with monitoring data will be submitted with the next annual CSO Report. The water quality monitoring component of the PCCMP will contain a Field Sampling Plan.

Monthly sampling for E. Coli and Fecal Coliform during recreational season May 1 through September 30 will consist of:
- At least one sample location upstream of outfall or outfall group, and at least one sample location downstream;
- 5 samples collected under typical recreating conditions, and;
- 5 samples collected under wet weather conditions, ideally in situations equivalent to or more severe than design conditions identified in the LTCP.

Monthly sampling for E. Coli and Fecal Coliform during the non-recreational season will consist of:
- The same sample locations used during recreational season;
- 5 samples collected under normal/low-flow conditions, and;
- 5 samples collected under wet weather conditions; ideally in situations equivalent to or more severe than design conditions identified in the LTCP.

Water chemistry parameters must be monitored. At least 1 year, representing 4 seasons. The monitoring will consist of:
- One sample during each CSO discharge event unless dangerous conditions prohibit collection;
- Each sample must include
  - BOD;
  - TSS;
  - Ammonia-Nitrogen;
  - Specific conductance;
  - Temperature;
  - Dissolved Oxygen, and;
  - Any other parameter reasonably expected to be in the discharge.

At least one qPCR sample should be considered for each set of samples to characterize whether the CSO is contributing to bacterial impairment. The LBMA may consider coordinating with other organizations performing water quality monitoring (e.g. upstream/downstream communities, ORSANCO, universities, etc.) provided such testing is performed according to the Monitoring Book.

The Field Sampling Plan will also include:

- Criteria for wet weather conditions, normal conditions, recreating conditions;
- Strategy for determining when to activate wet-weather sampling;
- Sampling protocols;
- Consideration of effluent monitoring, and;
- Consideration of historical data through existing monitoring efforts.

CSO Considerations-Industrial Users

The permit application contains an inventory of industrial users connected to the plant. Section B.5. of the PA CSO Policy and Section 4.2.2 of the PCCMC Guidance call for review of potential or observed water quality impacts from industrial waste contributions. The LBMA operates a pretreatment program, the Municipal Industrial Pretreatment Program (MIPP). Of the industrial users, only Clearwater Inc.is listed as a significant user discharging process water to the sewer. In 2005 and 2006, Clearwater Inc. was identified as a source of high organic content and plant upsets. These issues have since been corrected according to the LBMA.

The LBMA STP industrial users are unlikely to cause or contribute to water quality impairment of the receiving waters, thus no additional water quality monitoring is recommended beyond the parameters listed in the above PCCMP section. The activity of the LBMA's pretreatment program, comparatively low flows of process water from industrial users, and the nature of the process water dischargers, and the lack of impairment for the categorical industries identified all lead to this conclusion.

Influent Monitoring

For POTWs with design flows greater than 2,000 GPD, influent BOD_5 and TSS monitoring must be established in the permit, and the monitoring should be consistent with the same frequency and sample type as is used for other effluent parameters. BOD_5 and TSS influent loads will once again be reported for monthly average and daily maximum values in lbs/day and monthly average concentrations in mg/L.

(Section *IV.E.8. SOP – New and Reissuance Individual Sewage NPDES Permits Final November 9, 2012, Revised February 3, 2022, Version 2.0.)*

Additional Considerations

Sewage discharges will include monitoring, at a minimum, for *E. Coli*, in new and reissued permits, with a monitoring frequency of 1/quarter for design flows ≥0.05 and <1 MGD.

(*Note 12 SOP-Establishing Effluent Limitations for Individual Sewage Permits Final November 9, 2012, Revised February 5, 2024, Version 2.0.* and *25 PA Code 92a.61(b).)*

Nutrient monitoring is required by the SOP for Effluent Limitations for Individual Sewage Permits. Monitoring is included to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). The receiving stream is not listed as impaired for nutrients, therefore at the discretion of the application manager, a monitoring frequency less than the equivalent of conventional pollutants in Table 6-3 of the Permit Writer's Manual has been selected.

(*Section I.A, Note 7 & 8, SOP for Clean Water Program, Establishing Effluent Limitations for Individual Sewage Permits, Final November 9, 2012, Revised March 24, 2021, Version 1.9* and *25 PA Code 92a.61(b)*.)

Rounding-Off Mathematical Values. Section 5 C.2. of the Permit Writers Manual contains general guidelines for rounding conventional and toxic pollutants, with instructions to round down to the nearest decimal place indicated.

General Magnitude	Conventional Pollutants	Toxic Pollutants
<0.01	to nearest 0.001	to nearest 0.001
0.01 - 0.1	to nearest 0.01	to nearest 0.01
0.1 - 1.0	to nearest 0.1	to nearest 0.01
1.0 - 10.0	to nearest 0.5	to nearest 0.01
10.0 - 60.0	to nearest 1.0	to nearest 0.01
60.0 or greater	to nearest 5.0	to nearest 0.10

(Department Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits, Updated June 28, 2023 (Document No. 362-0400-001))

Section 2.C of the Permit Writers Manual contains the procedure for converting average monthly effluent limitations to average weekly, maximum daily, and instantaneous maximum effluent limitations. The average monthly limit is multiplied according to the following chart:

Discharge Solution	Parameters	Average Weekly	Maximum Daily	Instantaneous Maximum Multiplier
Sewage	All	1.5		2.0
Industrial	All		2.0	2.5*

(Department Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits, Updated June 28, 2023 (Document No. 362-0400-001))

Table 5-3: Methods of Expressing Effluent Limits for Sewage Discharges

Discharge Situation	Mass Loadings (lbs/day)			Concentrations (mg/L)				
	Average Monthly	Average Weekly[3]	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Instant Maximum[4]	Limit On Flow[6]
A. POTW DISCHARGES:								
1. Technology Based concentration limits	x	x[3]		x	x[3]		x	Yes
2. Water Quality Based limits	x	x[3]		x	x[3]		x	Yes
3. Water Quality Based limits (Toxics)	x		x	x		x		
B. NON-POTW DISCHARGES:								
1. Technology Based concentration limits	x[5]			x			x	Yes
2. Water Quality based limits	x[5]			x			x	Yes

1. This table is for all pollutants, conventional, non-conventional, toxic and all other pollutants that may be regulated by the permit. (Also refer to the toxics management strategy when specifying toxic WQBELs.)

2. X indicates need for an effluent limitation.

3. Only CBOD and TSS limitation.

4. Only include Instantaneous maximum limitations on the DMR forms if grab a sample is specified in the permit, otherwise do not include instantaneous maximum limitations on the DMR.

   Also, the permit page could include the following language for when composite samples are required "Instantaneous maximum limitations are imposed to allow for a grab sample to be collected by the appropriate regulatory agency to determine compliance. The permittee does not have to monitor for the instantaneous maximum limitations, however, if grab samples are collected by the permittee, the results must be reported."

5. This is for all sewage permits with design flow greater than 100,000 gpd since 25 Pa. Code § 94.13 requires flow monitoring.

6. The maximum monthly average flow limitation is the permitted flow that is to be placed in the NPDES permit. Generally, the annual average flow (AAF) is to be used for water quality modeling and to be used to determine the allowable mass loading in NPDES permits (i.e., AAF x 8.34 x mg/l = #/day) (Refer to the Domestic Wastewater Facilities Manual).

(Department Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits, Updated June 28, 2023 (Document No. 362-0400-001))

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers.

Table 6-3 – Self-Monitoring Requirements for SEWAGE Discharges

Plant Design Flow (MGD)	Flow Monitoring	C-BOD_5 or BOD_5	Suspended Solids	pH	Fecal Coliform	Chlorine Residual	NH_3-N	Phosphorus	DO	Toxics
Single Residence (Individual Permit)	2/year by estimate	2/year*	2/year*	1/month*	2/year*	1/month*	2/year*	2/year*	2/year*	N/A
.0005 to .002	weekly, using average pump rate or weir (a)	1/month*	1/month*	daily*	1/month*	daily*	1/month*	1/month*	daily*	N/A
.002 to .01	weekly, using average pump rate or weir (a)	2/month*	2/month*	daily*	2/month*	daily*	2/month*	2/month*	daily*	N/A
0.01 to 0.1	weekly, using average pump rate or weir (a)	2/month*	2/month*	daily*	2/month*	daily*	2/month*	2/month*	Daily*	1/week*
0.1 to 1.0	meter	1/week**	1/week**	daily*	1/week*	daily*	1/week**	1/week**	daily*	1/week****
1.0 to 5.0	meter	2/week***	2/week***	daily*	2/week*	daily*	2/week***	2/week***	daily*	1/week****
5.0 to 25.0	meter	daily***	daily***	daily*	daily*	1/shift*	daily***	daily***	daily*	1/week****
over 25.0	meter	daily***	daily***	1/shift*	daily*	1/shift*	1/shift***	1/shift***	1/shift*	1/week****

* Grab sample-these should be most representative of the effluent and are to be taken at a time when the normal daily maximum flow would reach the sampling point.

** 8-hour composite sample.

*** 24-hour composite sample.

**** Same sample type as for Industrial Process Wastewater (See Table 6-4).

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	4.0	XXX	XXX	XXX	1/day	Grab
$CBOD_5$	195.0	295.0	XXX	25.0	37.5	50.0	1/week	8-Hr Composite
BOD_5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	235.0	355.0	XXX	30.0	45.0	60.0	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Nov 1 - Mar 31	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) Apr 1 - Oct 31	XXX	XXX	XXX	200 Geo Mean	XXX	400	1/week	Grab
UV Intensity (mW/cm^2)	XXX	XXX	Report	Report	XXX	XXX	1/day	Recorded
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	Grab
Ammonia-Nitrogen	195.0	Report	XXX	25.0	37.5	50.0	1/week	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	Grab

Compliance Sampling Location: Outfall 001

Attachment 1-Stream Characteristics Report

USGS StreamStats Report-Upstream Elevation and Basin Area

$Q_{7\text{-}10}$ Flows of Major Rivers

Nicolas Lazzaro, P.E.
U.S. Army Corp of Engineers
Pittsburgh District Water Management
December 1, 2017

UPPER OHIO BASIN LOW FLOWS		
Location		Q7, 10 Flow (cfs)
Allegheny River		
Franklin downstream of French Creek (RMI 123.96)		1,450
L&D 9 at Templeton (RMI 62.2; Upper Pool El. 822.2)		2,070
L&D 8 at Templeton (RMI 52.6; Upper Pool El. 800.2)		2,070
L&D 7 at Kittanning (RMI 45.7; Upper Pool El. 782.4)	Crooked Creek enters at RMI 40.11	2,070
L&D 6 at Freeport (RMI 36.3; Upper Pool El. 769.4)		2,070
L&D 5 at Freeport (RMI 30.4; Upper Pool El. 757.0)	Kiskiminetas R. enters at RMI 30.2	2,070
L&D 4 at Natrona (RMI 24.2; Upper Pool El. 745.4)		2,390
C.W. Bill Young L&D at New Kensington (RMI 14.5; Upper Pool El. 734.5)		2,390
L&D 2 at Pittsburgh (RMI 6.7, Pool El. 721.0)		2,390
Monongahela River		
Point Marion L&D (RMI 90.8; Upper Pool El. 797.0)	Cheat River enters at RMI 89.68 Dunkard Creek enters at RMI 87.18	420
Grays Landing L&D (RMI 82.0; Upper Pool El. 778.0)	Tenmile Creek enters at RMI 65.62	530
Maxwell L&D (RMI 61.2; Upper Pool El. 763.0)	Redstone Creek enters at RMI 54.90	530
L&D 4 at Charleroi (RMI 41.5; Upper Pool El. 743.5)		550
L&D 3 at Elizabeth (RMI 23.8; Upper Pool El. 726.9)		550
McKeesport downstream of the Youghiogheny River (RMI 15.53)		1,060
Braddock L&D (RMI 11.2; Upper Pool El. 718.7)		1,230
Youghiogheny River		
Youghiogheny Dam at Confluence (RMI 74.8)		390
Dam at Connellsville (RMI 46.27)		460
Sutersville downstream of Sewickley Creek (~RMI 15.0)		510
Beaver River		
Beaver Falls		640
Ohio River		
Emsworth L&D (RMI 974.8; Pool El. 710.0)	Q7,10 is halved for each side of Neville Island	4,730
Dashields L&D (RMI 967.7; Upper Pool El. 692.0)		4,730
Montgomery L&D (RMI 949.3; Upper Pool El. 682.0)		5,880
New Cumberland L&D (RMI 926.7; Upper Pool El. 664.5)		5,880
Pike Island L&D (RMI 896.8; Upper Pool El. 664.0)		5,880
Hannibal L&D (RMI 854.6; Upper Pool El. 623.0)		5,880

UPPER OHIO BASIN LOW FLOWS	
Location	Q7, 10 Flow (cfs)
Allegheny River	
Franklin	1,450
Kittanning	2,070
Natrona	2,390
Monongahela River	
Point Marion	420
Greensboro	530
Charleroi	550
Braddock	1,230
Youghiogheny River	
Confluence	390
Connellsville	460
Sutersville	510
Beaver River	
Beaver Falls	640
Ohio River	
Dashshields	4,800
Montgomery	5,700
New Cumberland	5,750
Pike Island	5,830
Hannibal	5,850

StreamStats-Basin Area and Elevations

StreamStats Report-Upstream

Region ID: PA
Workspace ID: PA20250129164004881000
Clicked Point (Latitude, Longitude): 40.55954, -80.21753
Time: 2025-01-29 11:40:38 -0500

PA0024589 Outlet Elevation-682.96'

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	19500	square miles
ELEV	Mean Basin Elevation	1672	feet
OUTLETXA83	X coordinate of the outlet, in NAD_1983_Albers,meters	-187761.8093	meters
OUTLETYA83	Y coordinate of the outlet, in NAD_1983_Albers, meters	175521.2092	meters
PRECIP	Mean Annual Precipitation	45	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [58.0 Percent (11200 square miles) Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	19500	square miles	2.33	1720
ELEV	Mean Basin Elevation	1672	feet	898	2700
PRECIP	Mean Annual Precipitation	45	inches	38.7	47.9

Low-Flow Statistics Parameters [42.0 Percent (8280 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	19500	square miles	2.26	1400
ELEV	Mean Basin Elevation	1672	feet	1050	2580

Low-Flow Statistics Disclaimers [58.0 Percent (11200 square miles) Low Flow Region 3]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [58.0 Percent (11200 square miles) Low Flow Region 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2820	ft^3/s
30 Day 2 Year Low Flow	3550	ft^3/s
7 Day 10 Year Low Flow	2000	ft^3/s
30 Day 10 Year Low Flow	2320	ft^3/s
90 Day 10 Year Low Flow	3100	ft^3/s

Low-Flow Statistics Disclaimers [42.0 Percent (8280 square miles) Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [42.0 Percent (8280 square miles) Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2860	ft^3/s
30 Day 2 Year Low Flow	3550	ft^3/s
7 Day 10 Year Low Flow	1940	ft^3/s
30 Day 10 Year Low Flow	2030	ft^3/s
90 Day 10 Year Low Flow	2770	ft^3/s

Low-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2840	ft^3/s
30 Day 2 Year Low Flow	3550	ft^3/s
7 Day 10 Year Low Flow	1970	ft^3/s
30 Day 10 Year Low Flow	2200	ft^3/s
90 Day 10 Year Low Flow	2960	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

NHD Features of Delineated Basin

NHD Streams Intersecting Basin Delineation Boundary

This functionality attempts to find the stream name at the delineation point. The name of the nearest intersecting National Hydrography Dataset (NHD) stream is selected by default to appear in the report above. NHD streams do not correspond to the StreamStats stream grid and may not be accurate. If you would like a different stream to appear in the above section, please make a selection below.

Watershed Boundary Dataset (WBD) HUC 8 Intersecting Basin Delineation Boundary

This functionality attempts to find the intersecting HUC 8 of the delineated watershed. HUC boundaries do not correspond to the StreamStats data and may not be accurate.

No WBD HUC8s intersect the delineated basin.

NHD Hydrologic Features Citations

U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6. (https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6) U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4. (https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4)

material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.26.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

StreamStats Report-Downstream

Region ID: PA
Workspace ID: PA20250129165251303000
Clicked Point (Latitude, Longitude): 40.56406, -80.22189
Time: 2025-01-29 11:53:32 -0500

PA0024589 Outlet Elevation-682.91'

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	19500	square miles
ELEV	Mean Basin Elevation	1672	feet
OUTLETXA83	X coordinate of the outlet, in NAD_1983_Albers,meters	-188123.1441	meters
OUTLETYA83	Y coordinate of the outlet, in NAD_1983_Albers, meters	176034.5665	meters
PRECIP	Mean Annual Precipitation	45	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [58.0 Percent (11200 square miles) Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	19500	square miles	2.33	1720
ELEV	Mean Basin Elevation	1672	feet	898	2700
PRECIP	Mean Annual Precipitation	45	inches	38.7	47.9

Low-Flow Statistics Parameters [42.0 Percent (8280 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	19500	square miles	2.26	1400
ELEV	Mean Basin Elevation	1672	feet	1050	2580

Low-Flow Statistics Disclaimers [58.0 Percent (11200 square miles) Low Flow Region 3]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [58.0 Percent (11200 square miles) Low Flow Region 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2820	ft^3/s
30 Day 2 Year Low Flow	3550	ft^3/s
7 Day 10 Year Low Flow	2000	ft^3/s
30 Day 10 Year Low Flow	2320	ft^3/s
90 Day 10 Year Low Flow	3100	ft^3/s

Low-Flow Statistics Disclaimers [42.0 Percent (8280 square miles) Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [42.0 Percent (8280 square miles) Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2860	ft^3/s
30 Day 2 Year Low Flow	3550	ft^3/s
7 Day 10 Year Low Flow	1940	ft^3/s
30 Day 10 Year Low Flow	2030	ft^3/s
90 Day 10 Year Low Flow	2770	ft^3/s

Low-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2840	ft^3/s
30 Day 2 Year Low Flow	3550	ft^3/s
7 Day 10 Year Low Flow	1970	ft^3/s
30 Day 10 Year Low Flow	2200	ft^3/s
90 Day 10 Year Low Flow	2960	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Application Version: 4.26.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment 2-WQM Report
Summer

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
20E	32317	OHIO RIVER	**26.150**	682.96	19500.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.301	0.00	0.00	0.000	0.000	0.0	0.00	9.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Leetsdale STP	PA0024589	0.9500	0.9500	0.9500	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	8.38	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
20E	32317	OHIO RIVER	**25.770**	682.91	19500.01	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	0.301	0.00	0.00	0.000	0.000	0.0	0.00	9.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		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	4.00	8.38	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO RIVER

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
26.150	Leetsdale STP	6.76	50	6.76	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
26.150	Leetsdale STP	1.34	25	1.34	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
26.15	Leetsdale STP	25	25	25	25	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
26.150	0.950	24.999	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
248.286	9.000	27.587	2.627
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.01	0.005	0.01	1.028
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.379	0.872	O'Connor	5
Reach Travel Time (days)			
0.009			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.001	2.01	0.01	7.54
0.002	2.01	0.01	7.54
0.003	2.01	0.01	7.54
0.004	2.01	0.01	7.54
0.004	2.01	0.01	7.54
0.005	2.01	0.01	7.54
0.006	2.01	0.01	7.54
0.007	2.01	0.01	7.54
0.008	2.01	0.01	7.54
0.009	2.01	0.01	7.54

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO RIVER

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)
26.150	Leetsdale STP	PA0024589	0.950	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

Attachment 2-WQM Report
Winter

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
20E	32317	OHIO RIVER	**26.150**	682.96	19500.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.602	0.00	0.00	0.000	0.000	0.0	0.00	9.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Leetsdale STP	PA0024589	0.9500	0.9500	0.9500	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	12.80	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
20E	32317	OHIO RIVER	**25.770**	682.91	19500.01	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	0.602	0.00	0.00	0.000	0.000	0.0	0.00	9.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		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	4.00	12.80	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO RIVER

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
26.150	Leetsdale STP	20.59	50	20.59	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
26.150	Leetsdale STP	4.08	25	4.08	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
26.15	Leetsdale STP	25	25	25	25	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
26.150	0.950	5.002	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
336.807	9.000	37.423	3.873
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.00	0.002	0.00	0.221
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
12.799	0.764	Churchill	5
Reach Travel Time (days)			
0.006			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.001	2.00	0.00	11.45
0.001	2.00	0.00	11.45
0.002	2.00	0.00	11.45
0.002	2.00	0.00	11.45
0.003	2.00	0.00	11.45
0.004	2.00	0.00	11.45
0.004	2.00	0.00	11.45
0.005	2.00	0.00	11.45
0.005	2.00	0.00	11.45
0.006	2.00	0.00	11.45

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20E	32317	OHIO RIVER

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)
26.150	Leetsdale STP	PA0024589	0.950	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

Attachment 3-TMS Report

Discharge Information

Instructions | Discharge | Stream

Facility: Leetsdale Borough MA NPDES Permit No.: PA0024589 Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: Treated Sewage Effluent

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
0.95	100	7						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		340									
	Chloride (PWS)	mg/L		97.6									
	Bromide	mg/L		0.1									
	Sulfate (PWS)	mg/L		44.9									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	mg/L		0.02									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	µg/L	<	0.02									
	Total Manganese	µg/L											
	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	mg/L		0.04									
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										

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

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

Stream / Surface Water Information

Leetsdale Borough MA, NPDES Permit No. PA0024589, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Ohio 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	032317	26.15	682.96	19500			Yes
End of Reach 1	032317	25.77	682.91	19500.01			Yes

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

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	26.15	0.301					9					100	7		
End of Reach 1	25.77	0.301					9								

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	26.15														
End of Reach 1	25.77														

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Leetsdale Borough MA, NPDES Permit No. PA0024589, Outfall 001

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

☑ ***Hydrodynamics***

Q_{7-10}

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
26.15	5869.50		5869.50	1.47	0.00002	9.	248.299	2560975.82	2.627	0.009	626.642
25.77	5869.50		5869.50301								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
26.15	14613.23		14613.23	1.47	0.00002	13.444	248.299	18.47	4.378	0.005	343.35
25.77	14613.235		14613.24								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 12.728 PMF: 0.155 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	13.439	14.0	8,664	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.581	81.6	50,531	Chem Translator of 0.791 applied
Total Zinc	0	0		0	117.180	120	74,155	Chem Translator of 0.978 applied

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

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	8.958	9.33	37,267	Chem Translator of 0.96 applied

Total Lead	0	0		0	2.517	3.18	12,710	Chem Translator of 0.791 applied
Total Zinc	0	0		0	118.139	120	478,644	Chem Translator of 0.986 applied

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

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Copper	0	0		0	1,300	1,300	5,193,250	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	7,400	7,400	29,561,580	

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

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

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

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Copper	5.55	mg/L	Discharge Conc ≤ 10% WQBEL

Total Lead	N/A	N/A	Discharge Conc < TQL
Total Zinc	47.5	mg/L	Discharge Conc ≤ 10% WQBEL