pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0027111**
Facility Type	**Municipal**	APS ID	**623286**
Major / Minor	**Major**	Authorization ID	**1376035**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Municipal Sanitary Authority of the City of New Kensington (MSANK)**	Facility Name	**New Kensington STP**
Applicant Address	120 Logans Ferry Road	Facility Address	120 Logans Ferry Road
	New Kensington, PA 15068-2004		New Kensington, PA 15068-2004
Applicant Contact	Kevin Kaplan, Manager	Facility Contact	***same as applicant***
Applicant Phone	(724) 335-9813	Facility Phone	***same as applicant***
Applicant Email	kkaplan@msank.org	Facility Email	***same as applicant***
Client ID	43503	Site ID	243111
Ch 94 Load Status	Not Overloaded	Municipality	New Kensington City
Connection Status	Dept. Imposed Connection Prohibitions	County	Westmoreland
Date Application Received	November 5, 2021	EPA Waived?	No
Date Application Accepted	November 11, 2021	If No, Reason	Major Facility, Pretreatment
Purpose of Application	Renewal of NPDES permit for discharges of treated sewage.		

Summary of Review

On behalf of the Municipal Sanitary Authority of the City of New Kensington (MSANK), Mott MacDonald submitted an application dated October 18, 2021 to renew NPDES Permit PA0027111 for discharges of treated sewage from the New Kensington Sewage Treatment Plant (STP). The application was received by the Department of Environmental Protection (DEP) on November 5, 2021. The permit currently in effect was issued on June 14, 2017 with an effective date of July 1, 2017 and an expiration date of June 30, 2022. The renewal application was submitted at least 180 days before the permit expired (*i.e.*, before January 1, 2022), so the terms and conditions of the 2017 permit were automatically extended past June 30, 2022.

Facility Overview

Sewage is treated with a mechanical bar screen, grit removal, pre-aeration, primary settling, activate sludge, final clarification, sludge thickening, aerobic digestion, sludge dewatering, and chlorine disinfection. The treated effluent discharges through Outfall 001 to Pucketa Creek just above the harbor line of the Allegheny River. Pucketa Creek has a designated aquatic life use for warm water fishes. The STP has one storm water outfall, Outfall 013, for discharges of uncontaminated storm water runoff from the areas in and around STP. There are also six combined sewer overflows (CSOs): 004, 005, 006, 007, 008, and 009.

WQM Permit 6572405 A-5 was issued by DEP on August 14, 2020 and approved modifications to the STP including: two (2) new primary clarifiers; two (2) existing aeration tanks; one (1) new secondary clarifier; expansion of two (2) existing chlorine contact tanks; one (1) existing sludge belt filter press replacement; and additional appurtenances in compliance with the facility's Long-Term Control Plan to control CSOs. Construction is expected to be completed by April 2025. The design annual average discharge flow rate is 6.0 MGD. The design maximum monthly flow rate will be 10.1 MGD for wet weather flow. The design peak flow will be 20.0 MGD for wet weather flows.

Approve	Return	Deny	Signatures	Date
✓			Ryan C. Decker Ryan C. Decker, P.E. / Environmental Engineer	April 9, 2025
✓			Mahbuba Iasmin Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineer Manager	April 11, 2025

Summary of Review

Combined Sewer Overflows (CSOs)

MSANK's CSOs include the following:

CSO Outfall No.	Description	Latitude	Longitude	Receiving Water
004	Third Street	40° 33' 03.00"	-79° 45' 56.00"	Allegheny River
005	Fourth Street	40° 33' 23.00"	-79° 46' 0.00"	Allegheny River
006	Fifth Street	40° 33' 29.00"	-79° 46' 2.00"	Allegheny River
007	Sixth Street	40° 33' 38.00"	-79° 46' 7.00"	Allegheny River
008	Seventh Street	40° 33' 43.00"	-79° 46' 11.00"	Allegheny River
009	Ninth Street	40° 33' 53.00"	-79° 46' 15.00"	Allegheny River

In October 2014, MSANK submitted a Long-Term Control Plan (LTCP) to control its CSOs from the New Kensington collection system consistent with the requirements of EPA's April 11, 1994 CSO Control Policy and 33 U.S.C. §1342(q) that incorporates the 1994 CSO Control Policy into the Clean Water Act. MSANK intends to meet the CSO Control Policy's Presumption Approach by reducing CSO volumes such that at least 85% of the combined sewage collected in the combined sewer system during precipitation events is captured and treated on a system-wide, annual average basis.

By letter dated December 2, 2016, DEP approved MSANK's LTCP and acknowledged that MSANK's implementation program for the CSO Control Policy's Nine Minimum Controls (NMCs) was expected to fulfill the CSO Control Policy's NMC objectives. CSO Outfalls 004, 005, 006, 007, 008, and 009 will again be permitted by the renewed permit. The outfalls serve as CSOs necessitated by storm water entering the sewer system and exceeding the hydraulic capacity of the collection system sewers and/or the treatment plant and are permitted to discharge only in those circumstances. Dry weather discharges from the CSOs, *i.e.*, Sanitary Sewer Overflows or "SSOs" are prohibited by 25 Pa. Code § 92a.47(c). Part A.I.C. Identification of Combined Sewer Overflow Discharges and Part C.III, Combined Sewer Overflows have been added to the permit.

In the previous permit, which was effective from July 1, 2017 to June 30, 2022, the projected final completion date for the LTCP activities was June 30, 2022. On May 23, 2022 and February 5, 2025, Mott MacDonald, on behalf of MSANK, submitted extension requests for some activities in the LTCP Implementation Schedule. The updated schedule is summarized below.

Project Name	Project Description	Compliance Date	Completion Status
P1E	New Lower Burrell Interceptor (Lower Burrell)	Completed	Completed 2015
P1C	Screenings and Floatables Control (MSANK)	January 1, 2018	Completed December 7, 2017
P1H	Plum I/I Removal Complete CCTV and I/I Removal (Plum Borough)	July 1, 2018	Completed
P1I	I/I Removal – Kinloch Interceptor (MSANK)	June 30, 2019	Completed September 1, 2018
P1G	I/I Removal – Little Pucketa Interceptor, Phase I (Lower Burrell)	July 1, 2019	Completed
P1D	Phase 1 New Kensington Infrastructure (MSANK)	January 1, 2020	Completed August 13, 2020
P2A	6th and 7th Street CSO Consolidation (MSANK) †	July 1, 2019	Completed November 14, 2019
P1F	Begin New Chartiers Pump Station	December 31, 2026	Project bid opening scheduled for Feb 12, 2025. Estimated completion date of Dec 2026 included in 2023 wasteload remains the same.
P1J	Complete Interim Flow Monitoring Assessment (All communities)	December 31, 2026	Will begin upon completion of P1A (anticipated March 1, 2025).
P1H	Begin Plum Storage Project Construction (Plum Borough)	January 1, 2021	Completed – Plum completed alternate system improvement to comply.
P1B	Drey Street CSO Consolidation and 14th Street Regulator Upgrades (City or Arnold)	January 1, 2021	Completed

Summary of Review

Project Name	Project Description	Compliance Date	Completion Status
P1A	Complete Construction to Maximize Flow to the WWTP/POTW (MSANK)	April 1, 2025	In progress. On track to be substantially complete by April 1, 2025. General contractor submitted substantial completion request in December 2024.
P2B	Green Infrastructure in New Kensington Phase 2 (MSANK)	December 31, 2029	Expand construction period to 2029.
P2C	I&I Removal – Little Pucketa Interceptor Phase 2 (MSANK)	December 31, 2025	In progress, on track. Data collection phase started ahead of schedule.
P3A	Little Pucketa Interceptor CIPP Lining in Memorial Park (MSANK)	July 1, 2029	Not started.
P2D	I&I Removal – Kinloch Interceptor Phase 2 (Lower Burrell)	December 31, 2025	City of Lower Burrell awarded two grants for construction projects in 2025.
P2E	End of Phase 2 Flow Monitoring Assessment	July 31, 2030	Additional monitoring included in P1J to quantify completed phase 2 repairs completed through 2025.
P3B	Memorial Park Hydraulic Improvements (MSANK)	December 31, 2027	MSANK received grant funding for design. Design schedule moved up to 2025.
P3C	Little Pucketa Interceptor Storage Facility (Lower Burrell)	December 31, 2032	Not started.
P3D	Kinloch Wet Weather Interceptor (Lower Burrell/MSANK)	December 31, 2031	Not started.
P3F	Submit Post-Construction Compliance Monitoring Plan (PCCMP)	January 1, 2033	Not started.
P3E	End of Phase 3 Flow Monitoring Assessment	December 31, 2033	Not started.
P3G	Submit findings of Post-Construction Compliance Monitoring and Comply with CSO Performance Standard	February 28, 2034	New.

† This project included directing all the 6th and 7th Street sanitary flows into a new 6th Street regulator which now regulates both drainage areas. Upon review of the proposed LTCP project description and additional field investigation, MSANK decided to expand the scope of the project to include storm sewer separation along 6th Street. This separation project managed an additional 3.0 acres of impervious surfaces from the combined system. Both the new 6th Street CSO and existing 7th Street CSO regulators remain active. The 7th Street CSO is anticipated to act as an emergency relief during large storm events to prevent manhole flooding in a shallow manhole located at 7th Street and Industrial Blvd. Construction was completed in November of 2019.

In a 2016 letter to the permittee, DEP requested more information regarding a POTW unit bypass request that would be associated with Project P1A in the LTCP. Since the construction timeline for Project P1A has been extended to 2025, DEP is not requiring any additional information from MSANK for the POTW unit bypass request at this time. Once construction for Project P1A has been completed, MSANK may revisit this request.

EPA-Administered Pretreatment Program Requirements

EPA administers a National Pretreatment Program as a part of the National Pollutant Discharge Elimination System (NPDES). The goal of the National Pretreatment Program is to prevent the introduction of pollutants to Publicly Owned Treatment Works (POTWs) that will interfere with the operation of the POTW, pass through the POTW untreated, thereby improving opportunities to recycle and reclaim municipal and industrial wastewaters and sludges. The general pretreatment regulations that require certain POTWs to establish a local pretreatment program can be found at 40 CFR Part 403.8(a).

Based on DEP's discussions with EPA pertaining to per- and polyfluoroalkyl substances (PFAS), Pretreatment Program Implementation conditions in the permit are updated to require information on Industrial Users (IUs) in certain industrial categories that discharge process wastewater or sludge into the POTW that are expected or suspected of containing PFAS. Those IUs also must be sampled annually for 40 PFAS analytes according to EPA Method 1633.

Summary of Whole Effluent Toxicity (WET) Tests

For the permit renewal, MSANK performed four chronic WET Tests at a TIWC of 2% and a dilution series of 1%, 2%, 30%, 60%, and 100%. Based on the WET Test Evaluation (**Attachment B**), Reasonable Potential (RP) was not established therefore

Summary of Review

no WET limits will be included in this permit. For the next permit cycle, MSANK should perform the chronic WET Tests at a TIWC of 1% and a dilution series of 1%, 2%, 30%, 60%, and 100%.

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA) establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a technology-based effluent limitation based on a permitting authority's best professional judgement 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. Anti-backsliding regulations under 40 CFR § 122.44(l) govern all other backsliding situations.

The facility is not seeking to revise the previously permitted effluent limits, so the terms and conditions of the previous permit will be maintained pursuant to statutory and regulatory anti-backsliding requirements except where exceptions under Section 402(o) of the Clean Water Act or 40 CFR § 122.44(l) allow for backsliding as discussed in this Fact Sheet.

Sludge use and disposal description and location(s):

Processes used for treatment of waste solids include sludge thickening, anaerobic digestion, and dewatering. No biosolids are produced. Sludge is transported by Republic Services Inc. to Greenridge Reclamation landfill (234 Landfill Road Scottdale, PA 15683) for disposal. Sewage sludge disposed during the year preceding submission of the NPDES permit renewal application was 303.7 dry tons.

Summary of Changes for this Permit Renewal

Below is a summary of changes made for this permit renewal:

- More stringent Total Residual Chlorine (TRC) limits are imposed
- Mass loading limits are rounded to comply with current DEP rounding guidelines
- Monitoring requirements for Total Aluminum, Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Perfluorobutanesulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA) are added to Outfall 001
- Monitoring for TDS, Bromide, Sulfate, and Chloride are removed from Outfall 001 pursuant to the exception to anti-backsliding under 40 CFR § 122.44(l)(2)(i)(B)*(1)*
- Conditions relating to Pretreatment Program Implementation are updated to require information on Industrial Users that may contribute to the presence of per- and polyfluoroalkyl substances (PFAS)
- The schedule for LTCP implementation is updated to reflect the most recent schedule revision

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.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	6.0
Latitude	40° 33' 1.96"	Longitude	-79° 45' 44.94"
Quad Name	New Kensington West	Quad Code	1407
Wastewater Description:	Treated sewage effluent		
Receiving Waters	Pucketa Creek (see comments)	Stream Code	42376
NHD Com ID	123972853	RMI	0.006
Drainage Area (mi^2)	36.5	Yield (cfs/mi^2)-	0.018
Q_{7-10} Flow (cfs)	0.66	Q_{7-10} Basis	US Army Corps of Engineers
Elevation (ft)	734	Slope (ft/ft)	0.0055
Watershed No.	18-A	Chapter 93 Class.	TSF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired (Aquatic Life)		
Cause(s) of Impairment	Siltation		
Source(s) of Impairment	Highway/Road/Bridge Runoff (Non-Construction Related); Rural (Residential Areas)		
TMDL Status	None	Name	None

Background/Ambient Data		Data Source
pH (S.U.)	7.24 (MAX)	NPDES permit renewal application
Temperature (°F)		
Hardness (mg/L)	121	NPDES permit renewal application
Other:		

Nearest Downstream Public Water Supply Intake	Oakmont Water Authority		
PWS ID	5020036	PWS Withdrawal (MGD)	9.2
PWS Waters	Allegheny River	Flow at Intake (cfs)	2,390
PWS RMI	13.34	Distance from Outfall (mi)	4.6

Other Comments: The New Kensington STP was originally permitted for direct discharges to the Allegheny River upstream of the mouth of Pucketa Creek (Water Quality Management Permit No. 9079-S issued June 26, 1958). During construction of the plant, the discharge was relocated to a point on Pucketa Creek just above the harbor line of the Allegheny River.

Instability in the area planned for outfall headwall construction was the primary reason for moving the outfall. The revised outfall location was documented with the issuance of WQM Permit No. 9220-S on February 25, 1959 which replaced WQM Permit No. 9079-S. While Outfall 001 is technically located on Pucketa Creek (TSF) and will be identified as such in the renewed permit, Outfall 001 historically was permitted as a direct discharge to the Allegheny River due to the modeling implications of the outfall pipe being located within a few hundred feet from the eastern bank of the Allegheny River (*i.e.*, acute and chronic mixing conditions are better represented by mixing of the discharge and Pucketa Creek with the Allegheny River). Water quality-based effluent limitations will continue to be developed based on mixing with the Allegheny River.

Due to discrepancies in the application data, DEP personnel conducted a site visit to determine the exact location of Outfall 001 in June 2022. The findings of DEP's visit are summarized in **Attachment E**.

Waterbody Report for Pucketa Creek

Pucketa Creek-123972661

Assessment Unit ID: PA-SCR-123972661

Waterbody Condition: Impaired (Issues Identified)

Existing Plans for Restoration: No

303(d) Listed: Yes

Year Reported: 2024

Organization Name (ID): Pennsylvania (21PA)

What type of water is this?

Stream/creek/river (0.1783 Miles)

Where is this water located?

LOWER BURRELL CITY, 15068 (county: Westmoreland)

Assessment Information from 2024

State or Tribal Nation specific designated uses:

Information on Water Quality Standards — Expand All

Trout Stocking — Impaired

Probable sources contributing to impairment from 2024:

Click a column heading to sort... Clear Filters

Source	Parameter	Confirmed
Filter...	Filter...	Filter...
Highway/road/bridge Runoff (Non-Construction Related)	Siltation	Yes
Rural (Residential Areas)	Siltation	Yes

Click a column heading to sort... Clear Filters

Assessment Documents

No documents are available

Plans to Restore Water Quality

What plans are in place to protect or restore water quality?

No plans specified for this waterbody.

Waterbody Report for the Allegheny River

Allegheny River-123972860
Assessment Unit ID: PA-SCR-123972860

Waterbody Condition: Impaired (Issues Identified)

Existing Plans for Restoration: No

303(d) Listed: Yes

Year Reported: 2024

Organization Name (ID): Pennsylvania (21PA)

What type of water is this?
Stream/creek/river (2.2574 Miles)

Where is this water located?
SPRINGDALE TWP, 15030 (county: Allegheny)

Assessment Information from 2024

State or Tribal Nation specific designated uses:

Information on Water Quality Standards — Expand All

Fishing — Impaired

Identified Issues for Use

Impaired Parameters	Plan in Place
Polychlorinated Biphenyls (Pcbs)	No

Other Water Quality Parameters Evaluated
No other parameters evaluated for this use.

Probable sources contributing to impairment from 2024:

Click a column heading to sort... Clear Filters

Source	Parameter	Confirmed
Filter...	Filter...	Filter...
Source Unknown	Polychlorinated Biphenyls (Pcbs)	Yes

Click a column heading to sort... Clear Filters

Assessment Documents

No documents are available

Plans to Restore Water Quality

What plans are in place to protect or restore water quality?

No plans specified for this waterbody.

Treatment Facility Summary		
Treatment Facility: New Kensington STP		
WQM Permit No.	**Issuance Date**	**Purpose**
6572405	July 18, 1972	Permit issued to MSANK to upgrade the existing system from primary to secondary treatment (85% BOD removal) including two aeration tanks, two final clarifiers, a control building with a vacuum filter, pumps and blowers, and sludge thickener. Four sludge drying beds were removed.
6572405 A-2	November 13, 1992	Permit issued to MSANK for the replacement of an existing bar rack with a 20 MGD mechanically cleaned bar screen and 1.5-meter belt filter press. The new bar screen was located in parallel with the existing comminutor in the influent chamber leading to the pump station and grit removal facilities. The existing comminutor and auxiliary bar screen would be used as backup. The 1.5-meter belt filter press replaced the existing vacuum filter.
6572405 A-3	October 16, 2000	Letter amendment issued to MSANK for the construction of new sludge screening equipment and associated building, a new belt filter press and associated building, a primary clarifier scum pump station, new sludge pumps, new equipment existing anaerobic digesters, new chlorine piping and diffusers, new additions to the existing on-site effluent water distribution system
6572405 A-4	April 4, 2007	Permit issued to MSANK for the construction of four raw sewage dry pit submersible pumps, two mechanically cleaned bar screens, one manually cleaned bar screen as a reserve, two vortex concentrator grit chambers, two new centrifugal blowers, an odor control facility, one non-potable water pump system
6572405 A-5	September 9, 2020	Permit issued to MSANK for the construction of two new primary clarifiers, the expansion of two existing aeration tanks, one new secondary clarifier, the expansion of two existing chlorine contact tanks, the replacement of two existing sludge belt filter press, and appurtenances to increase wet weather flow treatment capacity at the STP to 20 MGD. DEP declined to authorize a higher organic design load but will exercise its discretion in evaluating non-compliance with the organic design loading when it is the sole violation at the plant and will consider a rerate of the organic capacity based on available data at that time.

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Contact Stabilization	Chlorine	6.0

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
6.0	8,500	Not Overloaded	Anaerobic Digestion	Landfill

Treatment Facility Summary		
Treatment Facility: New Kensington STP		
WQM Permit No.	**Issuance Date**	**Purpose**
6597408	February 11, 1998	Construction of pump stations and sanitary sewers to serve the Linden Avenue and Valley Camp Pump Stations.

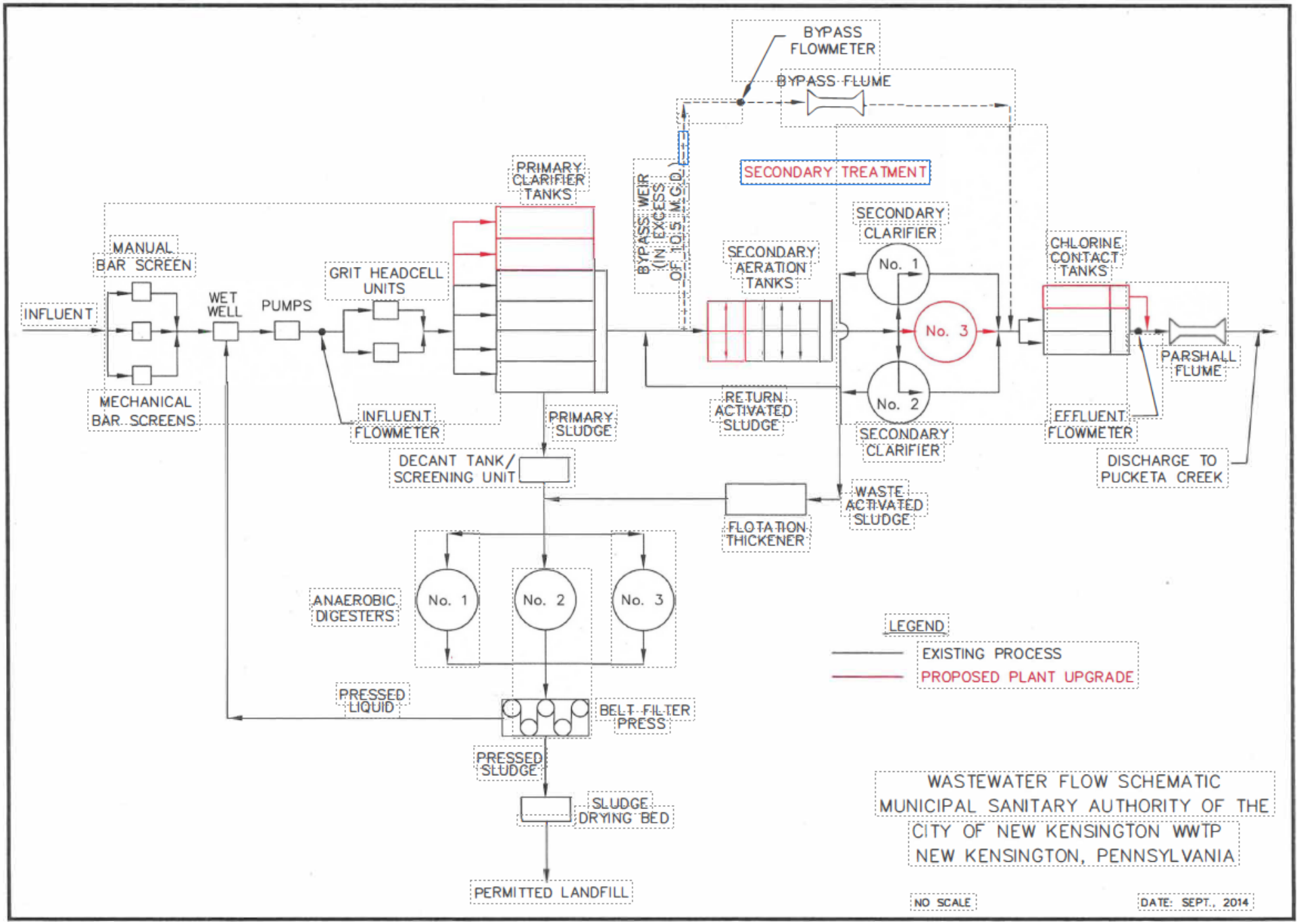
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	—	—	—	—

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
—	—	—	—	—

Treatment Facility Summary		
Treatment Facility: Collection Systems and Sewer Extensions		
WQM Permit No.	**Issuance Date**	**Purpose**
6518402	April 12, 2018	Approved the construction work necessary to consolidate CSO Outfalls 007 and 008

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	—	Collection	—	—

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
—	—	—		


BYPASS FLOWMETER
BYPASS FLUME
SECONDARY TREATMENT
PRIMARY CLARIFIER TANKS
BYPASS WEIR (IN EXCESS OF 10.5 M.G.D.)
SECONDARY CLARIFIER
MANUAL BAR SCREEN
SECONDARY AERATION TANKS
CHLORINE CONTACT TANKS
GRIT HEADCELL UNITS
INFLUENT
WET WELL
PUMPS
No. 1
No. 3
No. 2
PARSHALL FLUME
MECHANICAL BAR SCREENS
INFLUENT FLOWMETER
PRIMARY SLUDGE
RETURN ACTIVATED SLUDGE
EFFLUENT FLOWMETER
SECONDARY CLARIFIER
DECANT TANK/ SCREENING UNIT
DISCHARGE TO PUCKETA CREEK
WASTE ACTIVATED SLUDGE
FLOTATION THICKENER
ANAEROBIC DIGESTERS
No. 1
No. 2
No. 3
LEGEND
EXISTING PROCESS
PROPOSED PLANT UPGRADE
PRESSED LIQUID
BELT FILTER PRESS
PRESSED SLUDGE
SLUDGE DRYING BED
PERMITTED LANDFILL
WASTEWATER FLOW SCHEMATIC
MUNICIPAL SANITARY AUTHORITY OF THE
CITY OF NEW KENSINGTON WWTP
NEW KENSINGTON, PENNSYLVANIA
NO SCALE
DATE: SEPT., 2014

Compliance History

Facility: New Kensington STP

NPDES Permit No.: PA0027111

Compliance Review Period: 7/2018 – 7/2023

Inspection Summary:

INSP ID	INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC
3391358	06/07/2022	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted
3199009	05/19/2021	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted
3194774	05/19/2021	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted
3199036	05/19/2021	Combined Sewer Overflow-Non-Sampling	PA Dept of Environmental Protection	No Violations Noted
3194779	05/19/2021	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted
3160568	03/11/2021	Complaint Inspection	PA Dept of Environmental Protection	No Violations Noted
2909522	07/17/2019	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted
2909521	07/17/2019	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted

Violation Summary:

No violations

Open Violations by Client ID:

No open violations for Client ID 43503

Enforcement Summary:

No enforcements

DMR Violation Summary:

START	END	NON COMPLIANCE CATEGORY	PARAMETER	SAMPLE	PERMIT	UNIT OF MEASURE	STATISTICAL BASE CODE
09/01/2020	09/30/2020	Concentration 1 Effluent Violation	pH	5.7	6.0	S.U.	Minimum
07/01/2019	07/31/2019	Concentration 3 Effluent Violation	Fecal Coliform	5300	1000	No./100 ml	Instantaneous Maximum

Compliance Status: Permit issuance is recommended.

Completed by: John Murphy

Completed date: 7/26/2023

Compliance History

DMR Data for Outfall 001 (from February 1, 2024 to January 31, 2025)

Parameter	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24
Flow (MGD) Average Monthly	4.33	4.76	3.33	2.98	2.98	3.64	3.34	4.09	6.67	6.96	5.98	5.32
Flow (MGD) Daily Maximum	7.23	7.51	5.60	4.72	5.37	5.82	7.32	5.98	9.39	8.73	7.50	7.31
pH (S.U.) Minimum	6.7	6.7	6.7	6.7	6.7	6.8	6.6	6.7	6.7	6.7	6.4	6.6
pH (S.U.) Maximum	7.6	7.2	7.3	7.5	7.3	7.4	7.2	7.2	7.3	7.2	7.1	7.1
DO (mg/L) Minimum	7.8	9.0	7.5	6.8	5.9	5.5	6.4	5.9	6.0	7.4	6.7	6.4
TRC (mg/L) Average Monthly	0.61	0.51	0.57	0.66	0.57	0.66	0.71	0.79	0.64	0.61	0.61	0.57
TRC (mg/L) Instantaneous Maximum	2.0	1.0	1.1	1.3	0.95	1.1	1.5	1.7	1.5	1.0	1.2	1.1
CBOD5 (lbs/day) Average Monthly	239	115	91	201	231	442	222	411	740	403	273	329
CBOD5 (lbs/day) Weekly Average	469	164	105	326	334	743	238	643	1140	510	426	359
CBOD5 (mg/L) Average Monthly	6.9	2.9	3.3	7.5	9.1	13.3	7.6	11.9	12.8	7.2	5.3	7.0
CBOD5 (mg/L) Weekly Average	14.3	3.43	3.71	10.3	14.7	22.9	8.29	14.3	17.6	10.3	7.57	7.14
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	5214	6156	3778	3798	3888	3946	4510	4335	8563	5460	5255	7283
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	11250	16878	8920	9329	13660	7801	13010	7730	30681	12109	9841	12277
BOD5 (mg/L) Raw Sewage Influent Average Monthly	153	149	139	151	152	135	157	127	155	100	112	170
TSS (lbs/day) Average Monthly	206	91	62	155	222	214	291	472	608	400	193	256
TSS (lbs/day) Raw Sewage Influent Average Monthly	8655	9096	5083	5415	4426	6275	7665	6964	13348	9452	6467	9716
TSS (lbs/day) Raw Sewage Influent Daily Maximum	17431	29438	9772	14880	8964	19705	29123	19101	44304	20596	15352	18915

Parameter	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24
TSS (lbs/day) Weekly Average	329	183	101	260	360	587	364	585	938	547	307	341
TSS (mg/L) Average Monthly	6.0	2.3	2.2	5.8	9.0	6.1	10.4	14.5	10.3	6.9	3.8	5.6
TSS (mg/L) Raw Sewage Influent Average Monthly	248	216	190	213	175	207	258	198	243	172	140	223
TSS (mg/L) Weekly Average	10.0	4.0	3.9	8.4	16.0	14.1	14.3	19.3	14.6	8.3	5.6	6.9
Total Dissolved Solids (mg/L) Daily Maximum		442			501			599			477	
Fecal Coliform (No./100 ml) Geometric Mean	18	17	18	18	40	38	24	32	30	12	14	13
Fecal Coliform (No./100 ml) Instantaneous Maximum	5100	700	267	560	900	404	820	931	786	620	4100	291
Total Nitrogen (mg/L) Daily Maximum		< 0.625			15.8			5.24			4.77	
Ammonia (lbs/day) Average Monthly	64.1	7.27	3.53	< 2.09	7.96	< 2.32	126.1	72.9	2.06	< 0.100	79.3	132.4
Ammonia (mg/L) Average Monthly	1.86	< 0.150	0.115	< 0.100	0.276	< 0.100	2.52	2.82	2.06	< 0.100	1.81	2.18
Ammonia (mg/L) Instantaneous Maximum	1.86	< 0.150	0.115	< 0.100	0.276	< 0.100	2.52	2.82	94.1	< 4.47	1.81	2.18
Total Phosphorus (mg/L) Daily Maximum		1.00			2.21			1.65			< 0.10	
Sulfate (mg/L) Daily Maximum		57.4			92.7			80.8			57.3	
Chloride (mg/L) Daily Maximum		153			137			282			172	
Bromide (mg/L) Daily Maximum		< 0.100			0.143			0.143			0.103	

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 6.0
Latitude 40° 33' 1.96" **Longitude** -79° 45' 44.94"
Wastewater Description: Treated sewage effluent

001.A. Technology-Based Effluent Limitations (TBELs)

25 Pa. Code § 92a.47 – Sewage Permits

Regulations at 25 Pa. Code § 92a.47 specify TBELs and effluent standards that apply to sewage discharges. Section 92a.47(a) requires that sewage be given a minimum of secondary treatment with significant biological treatment that achieves the following:

Table 1. Regulatory TBELs for Sanitary Wastewaters

Parameter	Average Monthly (mg/L)	Weekly Average (mg/L)	Instant. Max (mg/L)	Basis
CBOD5	25	40 †	50 ††	25 Pa. Code § 92a.47(a)(1), (a)(2) & 40 CFR §§ 133.102(a)(4)(i) & (ii)
Total Suspended Solids	30	45	60 ††	25 Pa. Code § 92a.47(a)(1), (a)(2) & 40 CFR §§ 133.102(b)(1) & (b)(2)
Fecal Coliform (No./100 mL) May 1 – September 30	200 (Geometric Mean)	N/A	1,000	25 Pa. Code § 92a.47(a)(4)
Fecal Coliform (No./100 mL) October 1 – April 30	2,000 (Geometric Mean)	N/A	10,000	25 Pa. Code § 92a.47(a)(5)
Total Residual Chlorine	0.5 (or facility-specific)	N/A	1.6 (or facility-specific)	25 Pa. Code § 92a.47(a)(8) & § 92a.48(b)(2)
pH (s.u.)	not less than 6.0 and not greater than 9.0			25 Pa. Code § 92a.47(a)(7) & § 95.2(1), & 40 CFR § 133.102(c)

† Outfall 001 is currently subject to a more stringent CBOD5 weekly average limit of 37.5 mg/L.

†† IMAX values are calculated as two times the monthly average in accordance with Chapter 2 of DEP's "Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits" [Doc. No. 386-0400-001].

The CBOD5, TSS, and pH limits in § 92a.47(a) are the same as those in EPA's secondary treatment regulation (40 CFR § 133.102). Outfall 001 is currently subject to a more stringent average weekly CBOD5 limit of 37.5 mg/L. That limit will be maintained in the renewed permit pursuant to EPA's anti-backsliding regulation (40 CFR § 122.44(l)).[1]

Outfall 001 is currently subject to TRC TBELs of 1.0 mg/L average monthly and 3.3 mg/L maximum daily, which were first imposed in the NPDES permit issued in 1995. At that time, those limits were regional BAT TBELs (generally reflecting the performance of erosion-fed tablet chlorinators). The limits were not facility-specific. Those TBELs have been superseded by the TRC TBELs promulgated in Chapter 92a (as shown in Table 1, above). DMR data indicate that MSANK will not comply with the 0.50 mg/L average monthly limit TRC limit with a long-term average TRC concentration of 0.66 mg/L (see DMR summary preceding this section). Therefore, a one-year schedule of compliance will be included pursuant to DEP's best professional judgement. The existing TRC TBELs will be in effect for one year and the new TRC TBELs will take effect after one year.

In addition, the following TBELs and monitoring requirements apply based on DEP's "Standard Operating Procedure for Clean Water Program Establishing Effluent Limitations for Individual Sewage Permits" [SOP No. BCW-PMT-033] and under the regulatory and statutory authority of 25 Pa. Code § 92a.61 and Section 402(a)(1) of the Clean Water Act and its implementing regulations under 40 CFR § 125.3(c).

[1] 40 CFR § 122.44(l) *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.)

Table 2. Additional TBELs and Reporting Requirements for Sanitary Wastewaters

Parameter	Average Monthly (mg/L)	Weekly Average (mg/L)	Instant. Max (mg/L)	Basis
Flow (MGD)	Report	—	Report Maximum Daily	25 Pa. Code §§ 92a.27 & 92a.61
Ammonia-Nitrogen (NH_3-N)	25.0	—	50.0	25 Pa. Code § 92a.61; SOP No. BCW-PMT-033; 40 CFR § 125.3(c)
Dissolved Oxygen (DO)	4.0 Instant. Minimum	—	—	25 Pa. Code §§ 93.6 & 92a.61; 40 CFR § 125.3(c)
Total Nitrogen	Report	—	—	25 Pa. Code § 92a.61(b)
Total Phosphorus	Report	—	—	25 Pa. Code § 92a.61(b)
E. coli (No./100mL)	—	—	Report	25 Pa. Code § 92a.61(b)

Average monthly and maximum daily flows must be reported pursuant to 25 Pa. Code § 92a.61(d)(1). The existing minimum dissolved oxygen limit of 4.0 mg/L will be maintained at Outfall 001 pursuant to 40 CFR § 122.44(l) (regarding anti-backsliding).

In accordance with Section I of DEP's "Standard Operating Procedure for Clean Water Program Establishing Effluent Limitations for Individual Sewage Permits" [SOP No. BCW-PMT-033] and under the authority of 25 Pa. Code § 92a.61(b), quarterly reporting for Total Nitrogen and Total Phosphorus is required for sewage discharges with design flows greater than 2,000 gpd to help evaluate treatment effectiveness and to monitor nutrient loading to the receiving watershed. The SOP states that the monitoring frequencies for Total Nitrogen and Total Phosphorus should be equivalent to the monitoring frequencies for other conventional pollutants if the facility discharges to a nutrient-impaired water or potentially a lesser frequency if the receiving water is not nutrient-impaired. Neither Pucketa Creek nor the Allegheny River are impaired by nutrients, so DEP previously used its discretion to require quarterly monitoring for Total Nitrogen and Total Phosphorus, which will be maintained in the renewed permit.

Pursuant to that same SOP and under the authority of § 92a.61(b), a monthly reporting requirement for *E. coli* is added to Outfall 001 because the design flow of the STP exceeds 1 MGD. *E. coli* was recently added to the bacteria water quality criteria in 25 Pa. Code § 93.7(a); the monitoring will be used to determine if *E. coli* require additional controls.

Influent Monitoring

Pursuant to Section IV.E.8 of DEP's "Standard Operating Procedure (SOP) for Clean Water Program New and Reissuance Sewage Individual NPDES Permit Applications" [SOP No. BCW-PMT-002], for POTWs with design flows greater than 2,000 GPD, influent BOD_5 and TSS monitoring is established in the permit with the same sample frequency and sample type used for the effluent. As explained in Section 001.C, below, the New Kensington STP's effluent must be analyzed for CBOD5 and TSS 1/day using 24-hour composite sampling. Therefore, influent samples must be analyzed for BOD and TSS 1/day using 24-hour composite sampling.

Per- and Polyfluoroalkyl Substances (PFAS)

In February 2024, DEP implemented a new monitoring initiative for PFAS. PFAS are a family of thousands of synthetic organic chemicals that contain a chain of strong carbon-fluorine bonds. Many PFAS are highly stable, water- and oil-resistant, and exhibit other properties that make them useful in a variety of consumer products and industrial processes. PFAS are resistant to biodegradation, photooxidation, direct photolysis, and hydrolysis and do not readily degrade naturally; thus, many PFAS accumulate over time. According to the United States Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR), the environmental persistence and mobility of some PFAS, combined with decades of widespread use, have resulted in their presence in surface water, groundwater, drinking water, rainwater, soil, sediment, ice caps, outdoor and indoor air, plants, animal tissue, and human blood serum across the globe. ATSDR also reported that exposure to certain PFAS can lead to adverse human health impacts.[2] Due to their durability, toxicity, persistence, and pervasiveness, PFAS have emerged as significant pollutants of concern.

In accordance with Section II.G of DEP's "Standard Operating Procedure (SOP) for Clean Water Program – Establishing Effluent Limitations for Individual Sewage Permits" [SOP No. BCW-PMT-033] and under the authority of 25 Pa. Code § 92a.61(b), DEP has determined that monitoring for a subset of common/well-studied PFAS including Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Perfluorobutanesulfonic acid (PFBS), and Hexafluoropropylene oxide dimer

[2] ATSDR, "Toxicological Profile for Perfluoroalkyls". Patrick N. Breysse, Ph.D., CIH Director, National Center for Environmental Health and Agency for Toxic Substances and Disease Registry Centers for Disease Control and Prevention, May 2021.

acid (HFPO-DA) is necessary to help understand the extent of environmental contamination by PFAS in the Commonwealth and the extent to which point source dischargers (including POTWs) are contributors. Section II.G. of SOP BCW-PMT-033 directs permit writers to consider special monitoring requirements for PFOA, PFOS, PFBS, and HFPO-DA in the following instances:

1. If sampling that is completed as part of the permit renewal application reveals a detection of PFOA, PFOS, HFPO-DA or PFBS (any of these compounds), the application manager will establish a quarterly monitoring requirement for PFOA, PFOS, HFPO-DA and PFBS (all of these compounds) in the permit.

2. If sampling that is completed as part of the permit renewal application demonstrates non-detect values at or below the Target QLs for PFOA, PFOS, HFPO-DA and PFBS (all of these compounds in a minimum of 3 samples), the application manager will establish an annual monitoring requirement for PFOA, PFOS, HFPO-DA and PFBS in the permit.

3. In all cases the application manager will include a footnote in the permit that the permittee may cease monitoring for PFOA, PFOS, HFPO-DA, and PFBS when the permittee reports non-detect values at or below the Target QL for four consecutive monitoring periods for each PFAS parameter that is analyzed. The application manager will use the following language for the footnote: *The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L*

MSANK's application was submitted before the NPDES permit application forms were updated to require sampling for PFOA, PFOS, PFBS, and HFPO-DA, so the concentrations of those PFAS in the STP's effluent are unknown. However, MSANK has five significant industrial users (SIUs) of which one is a categorical industrial user (CIU)—Keystone Rustproofing, Inc.—that operates in the metal finishing and electroplating industries. The metal finishing and electroplating industries are two of EPA's target industries for its Multi-Industry PFAS Study.[3] EPA is working on a rulemaking to modify the Metal Finishing Effluent Limitations Guidelines in 40 CFR Part 433 to address PFAS with a focus on chromium finishing facilities. The Keystone Rustproofing facility in Arnold is on a list of 2,034 facilities EPA identified as likely performing one or more of the following chromium finishing operations: chromium plating, chromium anodizing, chromic acid etching, or chromate conversion coating for which EPA intends to issue a mandatory questionnaire under Section 308 of the Clean Water Act to collect information and data on operations, PFAS use, wastewater generation, and wastewater management.[4]

Separately, EPA is studying PFAS influent to Publicly Owned Treatment Works (POTWs). To facilitate EPA's study, the General Pretreatment Program language in Part B.I.D of DEP's municipal sewage NPDES permits and POTW Pretreatment Program Implementation conditions for facilities with approved pretreatment programs have been updated. All POTWs will need to submit to EPA an updated listing of IUs in industrial categories expected or suspected to have PFAS discharges. For POTWs that are subject to the POTW Pretreatment Program Implementation conditions, the Annual Report required by those conditions must contain an updated listing of IUs in industrial categories expected or suspected of PFAS discharges. Other PFAS-related requirements are described in the updated permit condition.

Even though MSANK did not report results for PFOA, PFOS, PFBS, and HFPO-DA on the permit application, the POTW receives pretreated effluent from a facility likely to handle PFAS. Therefore, quarterly monitoring and reporting will be required for PFOA, PFOS, PFBS, and HFPO-DA at Outfall 001 consistent with Section II.G.1 of the SOP.

As stated in Section II.G.3 of the SOP, if non-detect values at or below DEP's Target QLs are reported for four consecutive monitoring periods (*i.e.*, four consecutive quarterly results in MSANK's case), then the monitoring may be discontinued.

001.B. Water Quality-Based Effluent Limitations (WQBELs)

Toxics Management Spreadsheet Water Quality Modeling Program and Procedures for Evaluating Reasonable Potential

WQBELs are developed pursuant to Section 301(b)(1)(C) of the Clean Water Act and, per 40 CFR § 122.44(d)(1)(i), are imposed to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) that are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality." The Department of Environmental

[3] USEPA, "Multi-Industry Per- and Polyfluoroalkyl Substances (PFAS) Study – 2021 Preliminary Report". Office of Water (4303T). EPA-821-R-21-004. September 2021.

[4] https://www.regulations.gov/docket/EPA-HQ-OW-2022-0869

Protection developed the DEP Toxics Management Spreadsheet (TMS) to facilitate calculations necessary to complete a reasonable potential (RP) analysis and determine WQBELs for discharges of toxic and some nonconventional pollutants.

The TMS is a single discharge, mass-balance water quality modeling program for Microsoft Excel® that considers mixing, first-order decay, and other factors to determine WQBELs for toxic and nonconventional pollutants. Required input data including stream code, river mile index, elevation, drainage area, discharge flow rate, low-flow yield, and the hardness and pH of both the discharge and the receiving stream are entered into the TMS to establish site-specific discharge conditions. Other data such as reach dimensions, partial mix factors, and the background concentrations of pollutants in the stream also may be entered to further characterize the discharge and receiving stream. The pollutants to be analyzed by the model are identified by inputting the maximum concentration reported in the permit application or Discharge Monitoring Reports, or by inputting an Average Monthly Effluent Concentration (AMEC) calculated using DEP's TOXCONC.xls spreadsheet for datasets of 10 or more effluent samples. Pollutants with no entered concentration data and pollutants for which numeric water quality criteria in 25 Pa. Code Chapter 93 have not been promulgated are excluded from the modeling.

The TMS evaluates each pollutant by computing a Wasteload Allocation for each applicable criterion, determining the most stringent governing WQBEL, and comparing that governing WQBEL to the input discharge concentration to determine whether permit requirements apply in accordance with the following RP thresholds:

- Establish limits in the permit where the maximum reported effluent concentration or calculated AMEC equals or exceeds 50% of the WQBEL. Use the average monthly, maximum daily, and instantaneous maximum (IMAX) limits for the permit as recommended by the TMS (or, if appropriate, use a multiplier of 2 times the average monthly limit for the maximum daily limit and 2.5 times the average monthly limit for IMAX).
- For non-conservative pollutants, establish monitoring requirements where the maximum reported effluent concentration or calculated AMEC is between 25% - 50% of the WQBEL.
- For conservative pollutants, establish monitoring requirements where the maximum reported effluent concentration or calculated AMEC is between 10% - 50% of the WQBEL.

In most cases, pollutants with effluent concentrations that are not detectable at the level of DEP's Target Quantitation Limits are eliminated as candidates for WQBELs and water quality-based monitoring.

Reasonable Potential Analysis and WQBEL Development for Outfall 001

Table 3. 001 Modeling Inputs and Assumptions

Modeling Input Parameters		
Discharge Flow (MGD)	6.0	
Parameter	**Upstream Point (Outfall 001)**	**Downstream Point (End of Segment)**
Stream Code	42122	42122
River Mile Index	17.94	13.34
Drainage Area (mi^2)	11,500	11,550
Q_{7-10} (cfs)	2,390	2,390
Elevation (ft)	734	733
Slope (ft/ft)	0.0001	0.0001
Stream Width (ft)	1,400	1,100
Stream Depth (ft)	12.0	12.0
PWS Intake (MGD)	—	9.2
Low-flow yield (cfs/mi^2)	0.208	0.207
Parameter	**Value**	
Stream Hardness (mg/L)	79.0	
Stream pH (S.U.)	7.6	

The Toxics Management Spreadsheet (TMS) was initially run using the analytical data provided in MSANK's November 3, 2021 NPDES permit renewal application. In a pre-draft letter and survey from DEP dated July 11, 2022 (**Attachment H**), MSANK was informed about potential WQBELs for Hexachlorobutadiene and 1,2,4-Trichlorobenzene. In response to the letter, MSANK elected to collect additional samples to analyze those parameters down to the level of DEP's Target Quantitation Limits. The resampling results were received on August 31, 2022. The modeling described below uses MSANK's updated analytical data for those parameters.

Discharges from Outfall 001 are evaluated based on the maximum concentrations reported on the permit renewal application. The TMS model is run for Outfall 001 with the modeled discharge and receiving stream characteristics shown in **Table 3**. Pollutants for which water quality criteria have not been promulgated (e.g., TSS, oil and grease, etc.) are excluded from the modeling.

As explained in the "Discharge, Receiving Waters and Water Supply Information" section of this Fact Sheet, water quality modeling will continue to be performed assuming Outfall 001 discharges directly to the Allegheny River. The Q_{7-10} flow of the Allegheny River in the vicinity of Outfall 001 is regulated to a minimum flow of about 2,390 cfs, which is entered into the

TMS as the stream flow at river mile index 17.94. To ensure that mixing conditions are properly represented in the TMS, the reach width and reach depth are approximated as 1,400 feet and 12 feet, respectively, at the point of discharge.

The downstream point is at river mile index 13.34 where the Oakmont Water Authority operates a 9.2 MGD potable water supply intake. The depth at the downstream point is assumed to be the same as the upstream point, 12 feet, and the width at that location is estimated as the total combined width of the two channels carrying flow around Twelvemile Island. Stream hardness and pH are based on water quality data from February 2012 through September 2022 reported at DEP Water Quality Network (WQN) Station 801 located a few miles upstream of Outfall 001. The stream hardness is the average of WQN Station 801's hardness data. The stream pH is the median of WQN Station 801's pH data.

Output from the TMS model run is included in **Attachment J**. As explained previously, the TMS compares the input discharge concentrations to the calculated WQBELs using DEP's RP thresholds to evaluate the need to impose WQBELs or monitoring requirements in the permit. Based on the results of the TMS modeling, reporting is required for Total Aluminum.

Table 4. Water Quality-Based Requirements Toxics at Outfall 001

Parameter	Permit Limits			Maximum Result (µg/L)	Governing WQBEL (µg/L)	Governing WQBEL Basis†	Comments
	Avg Mo. (µg/L)	Max Daily (µg/L)	IMAX (µg/L)				
Aluminum, Total	Report	Report	Report	281	750	AFC	Discharge Conc > 10% of WQBEL

Reporting for TDS, Chloride, Bromide, and Sulfate is no longer recommended by the TMS model. When MSANK's permit was renewed in 2017, DEP was implementing a monitoring initiative for those emerging pollutants of concern based on the recommendations of Pennsylvania's Environmental Quality Board and the U.S. Environmental Protection Agency. The monitoring initiative for those pollutants ended in 2021. Therefore, the reporting requirements for those parameters will be removed from Outfall 001 pursuant to the exception to anti-backsliding in 40 CFR § 122.44(l)(2)(i)(B)*(1)* regarding the availability of new information (i.e., DEP's policy revisions and updated modeling) that justifies the application of less stringent requirements.

WQM 7.0 Water Quality Modeling Program

WQM 7.0 is a water quality modeling program for Windows that determines Waste Load Allocations ("WLAs") and effluent limitations for carbonaceous biochemical oxygen demand ("CBOD5"), ammonia-nitrogen, and dissolved oxygen ("D.O.") for single and multiple point-source discharge scenarios. To accomplish this, the model simulates two basic processes. In the ammonia-nitrogen module, the model simulates the mixing and degradation of ammonia-nitrogen in the stream and compares calculated instream ammonia-nitrogen concentrations to ammonia-nitrogen water quality criteria. In the D.O. module, the model simulates the mixing and consumption of D.O. in the stream due to the degradation of CBOD5 and ammonia-nitrogen and compares calculated instream D.O. concentrations to D.O. water quality criteria. WQM 7.0 then determines the highest pollutant loadings that the stream can assimilate while still meeting water quality criteria under design conditions.

Water Quality Modeling for Outfall 001 with WQM 7.0

The WQM 7.0 model is run for Outfall 001 to determine whether WQBELs are necessary for $CBOD_5$, ammonia-nitrogen, and D.O. Input values for the WQM 7.0 model are shown in **Table 5**.

DEP's modeling for sewage discharges is a conditional two-step process. First, a discharge is modeled for the summer period (May through October) using warm temperatures for the discharge and the receiving stream. Modeling for the summer period is done first because allowable ammonia concentrations in a discharge are lower at higher temperatures (*i.e.*, warm temperatures are more likely to result in critical loading conditions). Reduced D.O. levels also appear to increase ammonia toxicity and the maximum concentration of D.O. in water is lower at higher temperatures.

The second step is to evaluate WQBELs for the winter period, but only if modeling shows that WQBELs are needed for the summer period. For the summer period, pursuant to DEP's "Implementation Guidance of Section 93.7 Ammonia Criteria" [Doc. No. 391-2000-013] (Ammonia Guidance) and in the absence of site-specific data, the discharge temperature is assumed to be 20°C.

As explained in the "Discharge, Receiving Waters and Water Supply Information" section of this Fact Sheet, water quality modeling will continue to be performed assuming Outfall 001 discharges directly to the Allegheny River. The Q_{7-10} flow of

the Allegheny River in the vicinity of Outfall 001 is regulated to a minimum flow of about 2,390 cfs, which is entered into WQM 7.0 as the stream flow at river mile index 17.94. To ensure that mixing conditions are properly represented in WQM 7.0, the reach width and reach depth are approximated as 1,400 feet and 12 feet, respectively, at the point of discharge. The downstream point is at river mile index 13.34 where the Oakmont Water Authority operates a 9.2 MGD potable water supply intake. The depth at the downstream point is assumed to be the same as the upstream point, 12 feet, and the width at that location is estimated as the total combined width of the two channels carrying flow around Twelvemile Island.

Table 5. 001 Modeling Inputs and Assumptions

Modeling Input Parameters				
Discharge Flow (MGD)	6.0			
Parameter	**Upstream Point (Outfall 001)**		**Downstream Point (End of Segment)**	
Stream Code	42122		42122	
River Mile Index	17.94		13.34	
Drainage Area (mi^2)	11,500		11,550	
Q_{7-10} (cfs)	2,390		2,390	
Elevation (ft)	734		733	
Slope (ft/ft)	0.0001		0.0001	
Stream Width (ft)	1,400		1,100	
Stream Depth (ft)	12.0		12.0	
PWS Intake (MGD)	—		9.2	
Low-flow yield (cfs/mi^2)	0.208		0.207	
Seasonal Input Parameters				
Parameter	**Summer**		**Winter**	
	Stream	**001**	**Stream**	**001**
Temperature (°C)	25	20	5	15
pH (S.U.)	7.0	7.0	7.0	7.0
D.O. (mg/L)	8.38	4.0	12.80	4.0
$CBOD_5$ (mg/L)	2.0	25.0	2.0	25.0
NH_3-N (mg/L)	0.0	25.0	0.0	25.0
D.O. Goal (mg/L)	5.0	5.0	5.0	5.0

The input discharge concentrations are the model's defaults: 25 mg/L for both $CBOD_5$ and ammonia-nitrogen. The modeling results (see **Attachment F**) indicate that water quality-based effluent limitations are not required for $CBOD_5$, ammonia-nitrogen, or D.O. Since there are no summer limits, winter limits are not evaluated.

According to DEP's "Standard Operating Procedure (SOP) for Clean Water Program Establishing Effluent Limitations for Individual Sewage Permits" [SOP No. BCW-PMT-033], when WQM 7.0 indicates that a summer limit of 25 mg/L for ammonia nitrogen is acceptable, a year-round monitoring requirement for ammonia-nitrogen will be established, at a minimum.

Total Residual Chlorine

To determine if WQBELs are required for discharges containing total residual chlorine (TRC), a discharge evaluation is performed using a DEP program called TRC_CALC created with Microsoft Excel for Windows. TRC_CALC calculates TRC Waste Load Allocations (WLAs) through the application of a mass balance model which considers TRC losses due to stream and discharge chlorine demands and first-order chlorine decay. Input values for the program include flow rates and chlorine demands for the receiving stream and the discharge, the number of samples taken per month, coefficients of TRC variability, partial mix factors, and an optional factor of safety. The mass balance model calculates WLAs for acute and chronic criteria that are then converted to long term averages using calculated multipliers. The multipliers are functions of the number of samples taken per month and the TRC variability coefficients (normally kept at default values unless site specific information is available). The most stringent limitation between the acute and chronic long-term averages is converted to an average monthly limit for comparison to the BAT average monthly limit of 0.5 mg/l from 25 Pa. Code § 92a.48(b)(2). The more stringent of those average monthly TRC limitations is imposed in the permit.

The results of the modeling, included in **Attachment G**, indicate that no WQBELs are required for TRC. Therefore, the TRC TBELs from 25 Pa. Code § 92a.47(a)(8) will control subject to a schedule of compliance.

Mass Limits

In accordance with Table 5-3 of DEP's "Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits" and Section IV of DEP's "Standard Operating Procedure for Clean Water Program Establishing Effluent Limitations for Individual Sewage Permits", mass limits are calculated for CBOD5 and TSS. Average monthly and average weekly mass limits (in units of pounds per day) are calculated using the concentration limits in Table 6 (apart from the more stringent 37.5 mg/L average weekly CBOD5 limit) and the Charleroi STP's 3.0 MGD design flow with the following formula:

Design flow (average annual) (MGD) × concentration limit (mg/L) at design flow × conversion factor (8.34) = mass limit (lb/day)

Table 6. Mass TBELs for Sanitary Wastewaters

Parameter	Average Monthly (mg/L)	Average Weekly (mg/L)
CBOD5	1,250.0	1,875.0
Total Suspended Solids	1,500.0	2,250.0
Ammonia-Nitrogen	Report	—

Pursuant to Chapter 5, Section C.2 of DEP's "Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits" mass limits for conventional pollutants with a magnitude greater than 60.0 are rounded down to the nearest 5.0 mg/L. The mass limits in Table 6 account for this rounding convention.

The previous permit required reporting of average monthly mass loading for ammonia-nitrogen, which will be maintained in the renewed permit.

001.C. Effluent Limits and Monitoring Requirements for Outfall 001

In accordance with 25 Pa. Code §§ 92a.12 and 92a.61 and anti-backsliding requirements under 40 CFR § 122.44(l) (incorporated by reference in Pennsylvania regulations at 25 Pa. Code § 92a.44), effluent limits at Outfall 001 are the more stringent of TBELs, WQBELs, regulatory effluent standards, and monitoring requirements developed for this permit renewal; and effluent limits and monitoring requirements from the previous permit, subject to any exceptions to anti-backsliding discussed previously in this Fact Sheet. Applicable effluent limits and monitoring requirements are summarized in the table below.

Table 7. Effluent Limits and Monitoring Requirements for Outfall 001

Parameter	Mass (pounds)		Concentration (mg/L)			Basis
	Average Monthly	Weekly Average	Average Monthly	Weekly Average	Instant. Maximum	
Flow (MGD)	Report	Report (Daily Max)	—	—	—	25 Pa. Code § 92a.61(d)(1)
pH (standard units)	—	—	6.0 (Min)	—	9.0	25 Pa. Code § 92a.47(a)(7) & § 95.2(1)
$CBOD_5$	1,250.0	1,875.0	25.0	37.5	50.0	25 Pa. Code § 92a.47(a)(1)
Total Suspended Solids	1,500.0	2,250.0	30.0	45.0	60.0	25 Pa. Code § 92a.47(a)(1)
BOD5 (Influent)	—	—	—	Report	Report	25 Pa. Code § 92a.61(b)
TSS (Influent)	—	—	—	Report	Report	25 Pa. Code § 92a.61(b)
Fecal Coliform (No. /100mL) May 1 – Sept 30	—	—	200	—	1000	25 Pa. Code § 92a.47(a)(4) & 40 CFR § 122.44(l)
Fecal Coliform (No. /100mL) Oct 1 – April 30	—	—	2000	—	10000	25 Pa. Code § 92a.47(a)(5) & 40 CFR § 122.44(l)
E. coli (No./100mL)	—	—	—	—	Report	25 Pa. Code § 92a.61(b)
Dissolved Oxygen	—	—	4.0 (Min.)	—	—	CWA § 402(a)(1); BPJ TBEL
Total Residual Chlorine (Interim)	—	—	1.0	—	3.3	CWA § 402(a)(1); BPJ TBEL
Total Residual Chlorine (Final)	—	—	0.5	—	1.6	25 Pa. Code § 92a.47(a)(8)
Ammonia-Nitrogen	Report	—	Report	Report (Daily Max)	—	25 Pa. Code § 92a.61(b)
Total Nitrogen	—	—	—	Report (Daily Max)	—	25 Pa. Code § 92a.61(b)
Total Phosphorus	—	—	—	Report (Daily Max)	—	25 Pa. Code § 92a.61(b)
Aluminum, Total	—	—	Report	Report (Daily Max)	—	25 Pa. Code § 92a.61(b)
Perfluorooctanoic acid (PFOA)	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Perfluorooctanesulfonic acid (PFOS)	—	—	—	Report	—	25 Pa. Code § 92a.61(b)

Table 7 (cont'd). Effluent Limits and Monitoring Requirements for Outfall 001

Parameter	Mass (pounds)		Concentration (mg/L)			Basis
	Average Monthly	Weekly Average	Average Monthly	Weekly Average	Instant. Maximum	
Perfluorobutanesulfonic acid (PFBS)	—	—	—	Report	—	25 Pa. Code § 92a.61(b)
Hexafluoropropylene oxide dimer acid (HFPO-DA)	—	—	—	Report	—	25 Pa. Code § 92a.61(b)

Monitoring frequencies and sample types are established pursuant to Table 6-3 in DEP's "Technical Guidance for the Development and Specification of Effluent Limitations. and Other Permit Conditions in NPDES Permits" and DEP's "Standard Operating Procedure for Clean Water Program Establishing Effluent Limitations for Individual Sewage Permits". Dissolved oxygen, TRC, and pH must be sampled 1/day using grab sampling. CBOD5, TSS, and ammonia-nitrogen must be sampled 1/day using 24-hour composite sampling. Fecal coliform must be sampled 2/week using grab sampling. *E. coli* must be sampled 1/month using grab sampling. Total nitrogen and total phosphorus must be sampled 1/quarter using 24-hour composite sampling. Aluminum must be sampled 1/week using 24-hour composite sampling. Flow must be measured continuously using a flow meter. Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Perfluorobutanesulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA) will require grab sampling 1/quarter.

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 one (1) year after the Permit Effective 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	Average Monthly	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	1.0	XXX	3.3	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1250	1875	25.0	37.5 Wkly Avg	XXX	50.0	1/day	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/day	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/day	24-Hr Composite
Total Suspended Solids	1500	2250	30.0	45.0 Wkly Avg	XXX	60.0	1/day	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/day	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/day	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
Ammonia-Nitrogen	1250	XXX	XXX	25.0	XXX	50	1/day	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Total Aluminum	XXX	XXX	Report	XXX	Report Daily Max	XXX	1/week	24-Hr Composite

Outfall 001, Effective Period: Permit Effective Date through one (1) year after the Permit Effective 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	Average Monthly	Average Monthly	Maximum	Instant. Maximum		
PFOA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFOS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFBS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
HFPO-DA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

Compliance Sampling Location: Outfall 001

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: one (1) Year After the 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	Average Monthly	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	1250	1875	25.0	37.5 Wkly Avg	XXX	50.0	1/day	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/day	24-Hr Composite
TSS Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/day	24-Hr Composite
Total Suspended Solids	1500	2250	30.0	45.0 Wkly Avg	XXX	60.0	1/day	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/day	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/day	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
Ammonia-Nitrogen	1250	XXX	XXX	25.0	XXX	50	1/day	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	24-Hr Composite
Total Aluminum	XXX	XXX	Report	XXX	Report Daily Max	XXX	1/week	24-Hr Composite

Outfall 001, Effective Period: one (1) Year After the 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	Average Monthly	Average Monthly	Maximum	Instant. Maximum		
PFOA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFOS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFBS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
HFPO-DA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

Compliance Sampling Location: Outfall 001

ATTACHMENT A

Construction Verification

Polakoski, Grace

From: Linda French <Linda.French@mottmac.com>
Sent: Thursday, February 17, 2022 1:05 PM
To: Polakoski, Grace
Cc: 'drowe@msank.org'; Christopher Henry
Subject: [External] MSANK project completion date

ATTENTION: *This email message is from an external sender. Do not open links or attachments from unknown sources. To report suspicious email, forward the message as an attachment to CWOPA_SPAM@pa.gov.*

Hi Grace,

Regarding the Municipal Sanitary Authority of the City of New Kensington's Wastewater Treatment Plant Upgrades Project, my understanding is that April 2025 is the expected completion date for the project.

Please let me know if you need any additional information.

Thanks.

Linda French
Project Scientist
D +1 412 497-2912
linda.french@mottmac.com

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ATTACHMENT B

Whole Effluent Toxicity (WET) Evaluation

Whole Effluent Toxicity (WET)

For Outfall 001, ☐ **Acute** ☒ **Chronic** WET Testing was completed:

☐ For the permit renewal application (4 tests).
☐ Quarterly throughout the permit term.
☐ Quarterly throughout the permit term and a TIE/TRE was conducted.
☒ Other: Annually throughout the permit term.

The dilution series used for the tests was: 100%, 60%, 30%, 2%, and 1%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 2.0%. MSANK should note that the TIWC listed in the permit is 1%. If the wrong TIWC is used, WETT limits could be imposed in future cycles.

Summary of Four Most Recent Test Results

TST Data Analysis

(NOTE – In lieu of recording information below, the application manager may attach the DEP WET Analysis Spreadsheet).

Test Date	*Ceriodaphnia* Results (Pass/Fail)		*Pimephales* Results (Pass/Fail)	
	Survival	Reproduction	Survival	Growth
10/12/2020	PASS	PASS	—	—
10/13/2020	—	—	PASS	PASS
11/2/2021	PASS	PASS	PASS	PASS
10/10/2022	PASS	PASS	—	—
10/11/2022	—	—	PASS	PASS
10/24/2023	PASS	PASS	PASS	PASS
11/25/2024	PASS	PASS	—	—
11/26/2024	—	—	PASS	PASS

***** *A "passing" result is that in which the replicate data for the TIWC is not statistically significant from the control condition. This is exhibited when the calculated t value ("T-Test Result") is greater than the critical t value. A "failing" result is exhibited when the calculated t value ("T-Test Result") is less than the critical t value.*

Is there reasonable potential for an excursion above water quality standards based on the results of these tests? (*NOTE – In general, reasonable potential is determined anytime there is at least one test failure in the previous four tests).*

☐ **YES** ☒ **NO**

Comments: None

Evaluation of Test Type, IWC and Dilution Series for Renewed Permit

Acute Partial Mix Factor (PMFa): **0.086** Chronic Partial Mix Factor (PMFc):**0.596**

1. Determine IWC – Acute (IWCa):

$(Q_d \times 1.547) / ((Q_{7\text{-}10} \times PMFa) + (Q_d \times 1.547))$
$[(6.0\ MGD \times 1.547) / ((2{,}390\ cfs \times 0.086) + (6.0\ MGD \times 1.547))] \times 100 =$ **4.32%**

Is IWCa < 1%? ☐ **YES** ☒ **NO (YES - Acute Tests Required OR NO - Chronic Tests Required)**

If the discharge is to the tidal portion of the Delaware River, indicate how the type of test was determined:

N/A

Type of Test for Permit Renewal: **Chronic**

2a. Determine Target IWCa (If Acute Tests Required)

TIWCa = IWCa / 0.3 = **% — N/A, ACUTE TEST NOT REQUIRED**

2b. Determine Target IWCc (If Chronic Tests Required)

$(Q_d \times 1.547) / (Q_{7\text{-}10} \times PMFc) + (Q_d \times 1.547)$

[(6.0 MGD x 1.547) / ((2390 cfs x 0.596) + (6.0 MGD x 1.547))] x 100 = **0.647% — Use 1.0%**

3. Determine Dilution Series

(NOTE – check Attachment C of WET SOP for dilution series based on TIWCa or TIWCc, whichever applies).

Dilution Series = **100%, 60%, 30%, 2%, and 1%.**

WET Limits

Has reasonable potential been determined? ☐ YES ☒ NO

Will WET limits be established in the permit? ☐ YES ☒ NO

If WET limits will be established, identify the species and the limit values for the permit (TU).

N/A

If WET limits will not be established, but reasonable potential was determined, indicate the rationale for not establishing WET limits:

N/A

NOTES

- As stated above, the Target Instream Waste Concentration (TIWC) used to analyze MSANK's WETT results was 2.0%. However, the existing permit identifies the TIWC as 1%. If the wrong TIWC is used, WETT limits could be imposed in future cycles. However, the effluent passed all tests using a higher TIWC, so passing at a lower TIWC would be expected.

- The following WET Analysis Spreadsheets do not list results for 2023. WET testing was completed in 2023 and passing results were reported, but the more detailed reports and data sheets were not sent by the lab to MSANK. MSANK should ensure that all WETT data, lab sheets, reports, and summaries are supplied by the lab.

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.1
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: New Kensington STP

Permit No.: PA0027111

Replicate No.	Test Completion Date: 10/12/2020 Control	TIWC	Test Completion Date: 11/2/2021 Control	TIWC
1	1	1	1	1
2	1	1	1	1
3	1	1	1	0
4	1	1	1	1
5	1	1	1	1
6	1	1	1	1
7	1	1	1	1
8	1	1	1	1
9	1	1	1	1
10	1	1	1	1
11				
12				
13				
14				
15				
Mean	1.000	1.000	1.000	0.900
Std Dev.	0.000	0.000	0.000	0.316
# Replicates	10	10	10	10
T-Test Result				
Deg. of Freedom				
Critical T Value				
Pass or Fail	PASS		PASS	

Replicate No.	Test Completion Date: 10/10/2022 Control	TIWC	Test Completion Date: 11/25/2024 Control	TIWC
1	1	1	1	1
2	1	1	1	
3	1	1	1	1
4	1	1	1	1
5	1	1	1	
6	1	1	1	1
7	1	1	1	1
8	1	1		1
9	1	1	1	1
10	0	1	1	1
11				
12				
13				
14				
15				
Mean	0.900	1.000	1.000	1.000
Std Dev.	0.316	0.000	0.000	0.000
# Replicates	10	10	9	8
T-Test Result				
Deg. of Freedom				
Critical T Value				
Pass or Fail	PASS		PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.1
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: New Kensington STP

Permit No.: PA0027111

Replicate No.	Test Completion Date: 10/12/2020 Control	TIWC	Test Completion Date: 11/2/2021 Control	TIWC
1	30	31	30	25
2	33	28	27	28
3	24	21	25	27
4	31	28	28	24
5	30	34	25	27
6	27	30	31	25
7	24	25	25	23
8	29	36	28	25
9	27	24	28	28
10	25	29	25	29
11				
12				
13				
14				
15				
Mean	28.000	28.600	27.200	26.100
Std Dev.	3.091	4.526	2.201	1.969
# Replicates	10	10	10	10
T-Test Result	4.7257		7.0147	
Deg. of Freedom	15		17	
Critical T Value	0.8662		0.8633	
Pass or Fail	PASS		PASS	

Replicate No.	Test Completion Date: 10/10/2022 Control	TIWC	Test Completion Date: 11/25/2024 Control	TIWC
1	25	32	30	33
2	26	28	39	
3	26	29	32	34
4	29	30	27	26
5	29	31	30	
6	0	0	26	28
7	28	36	20	20
8	27	33		26
9	29	27	31	22
10	17	28	14	24
11				
12				
13				
14				
15				
Mean	23.600	27.400	27.667	26.625
Std Dev.	9.021	10.002	7.228	4.926
# Replicates	10	10	9	8
T-Test Result	2.5402		2.3408	
Deg. of Freedom	16		14	
Critical T Value	0.8647		0.8681	
Pass or Fail	PASS		PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.1
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: New Kensington STP

Permit No.: PA0027111

Replicate No.	Test Completion Date 10/13/2020 Control	TIWC	Test Completion Date 11/2/2021 Control	TIWC
1	1	1	1	0.9
2	0.9	1	1	0.9
3	0.9	0.7	1	1
4	1	0.9	1	1
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	0.950	0.900	1.000	0.950
Std Dev.	0.058	0.141	0.000	0.058
# Replicates	4	4	4	4
T-Test Result	5.2122		14.6031	
Deg. of Freedom	4		3	
Critical T Value	0.7407		0.7649	
Pass or Fail	PASS		PASS	

Replicate No.	Test Completion Date 10/11/2022 Control	TIWC	Test Completion Date 11/26/2024 Control	TIWC
1	1	0.9	10	9
2	1	1	10	10
3	1	1	10	9
4	1	1	10	10
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	1.000	0.975	10.000	9.500
Std Dev.	0.000	0.050	0.000	0.577
# Replicates	4	4	4	4
T-Test Result	17.8623		5.7714	
Deg. of Freedom	3		3	
Critical T Value	0.7649		0.7649	
Pass or Fail	PASS		PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.1
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: New Kensington STP

Permit No.: PA0027111

Replicate No.	Test Completion Date 10/13/2020 Control	TIWC	Test Completion Date 11/2/2021 Control	TIWC
1	0.546	0.49	0.328	0.235
2	0.473	0.5267	0.311	0.248
3	0.414	0.353	0.282	0.319
4	0.438	0.456	0.256	0.318
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	0.468	0.456	0.294	0.280
Std Dev.	0.058	0.075	0.032	0.045
# Replicates	4	4	4	4
T-Test Result	2.4474		2.3385	
Deg. of Freedom	5		5	
Critical T Value	0.7267		0.7267	
Pass or Fail	PASS		PASS	

Replicate No.	Test Completion Date 10/11/2022 Control	TIWC	Test Completion Date 11/26/2024 Control	TIWC
1	0.354	0.365	0.354	0.286
2	0.368	0.371	0.426	0.319
3	0.35	0.41	0.483	0.425
4	0.372	0.396	0.369	0.382
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	0.361	0.386	0.408	0.353
Std Dev.	0.011	0.021	0.059	0.062
# Replicates	4	4	4	4
T-Test Result	10.1550		1.2303	
Deg. of Freedom	4		5	
Critical T Value	0.7407		0.7267	
Pass or Fail	PASS		PASS	

WET Summary and Evaluation

Facility Name	Glassport Borough STP
Permit No.	PA0021113
Design Flow (MGD)	6
Q_{7-10} Flow (cfs)	2390
PMF_a	0.086
PMF_c	0.596

		Test Results (Pass/Fail)			
		Test Date	**Test Date**	**Test Date**	**Test Date**
Species	**Endpoint**	10/12/20	11/2/21	10/10/22	11/25/24
Ceriodaphnia	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	**Test Date**	**Test Date**	**Test Date**
Species	**Endpoint**	10/12/20	11/2/21	10/10/22	11/25/24
Ceriodaphnia	Reproduction	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	**Test Date**	**Test Date**	**Test Date**
Species	**Endpoint**	10/13/20	11/2/21	10/11/22	11/26/24
Pimephales	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	**Test Date**	**Test Date**	**Test Date**
Species	**Endpoint**	10/13/20	11/2/21	10/11/22	11/26/24
Pimephales	Growth	PASS	PASS	PASS	PASS

Reasonable Potential? NO

Permit Recommendations

Test Type	**Chronic**
TIWC	**1** % Effluent
Dilution Series	**1, 2, 30, 60, 100** % Effluent
Permit Limit	**None**
Permit Limit Species	

ATTACHMENT C

USGS StreamStats Report at Outfall 001

StreamStats Report

Region ID: PA
Workspace ID: PA20211202200207592000
Clicked Point (Latitude, Longitude): 40.54978, -79.76521
Time: 2021-12-02 15:02:33 -0500

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	11500	square miles
ELEV	Mean Basin Elevation	1600	feet
PRECIP	Mean Annual Precipitation	44	inches

Low-Flow Statistics Parameters [97.7 Percent (11200 square miles) Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	11500	square miles	2.33	1720
ELEV	Mean Basin Elevation	1600	feet	898	2700
PRECIP	Mean Annual Precipitation	44	inches	38.7	47.9

Low-Flow Statistics Parameters [2.2 Percent (256 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	11500	square miles	2.26	1400
ELEV	Mean Basin Elevation	1600	feet	1050	2580

Low-Flow Statistics Disclaimers [97.7 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 [97.7 Percent (11200 square miles) Low Flow Region 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	1510	ft^3/s
30 Day 2 Year Low Flow	1910	ft^3/s
7 Day 10 Year Low Flow	1010	ft^3/s
30 Day 10 Year Low Flow	1200	ft^3/s
90 Day 10 Year Low Flow	1620	ft^3/s

Low-Flow Statistics Disclaimers [2.2 Percent (256 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 [2.2 Percent (256 square miles) Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	1510	ft^3/s
30 Day 2 Year Low Flow	1910	ft^3/s
7 Day 10 Year Low Flow	984	ft^3/s
30 Day 10 Year Low Flow	1070	ft^3/s
90 Day 10 Year Low Flow	1480	ft^3/s

Low-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
7 Day 2 Year Low Flow	1510	ft^3/s
30 Day 2 Year Low Flow	1910	ft^3/s
7 Day 10 Year Low Flow	1010	ft^3/s
30 Day 10 Year Low Flow	1200	ft^3/s
90 Day 10 Year Low Flow	1620	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: 4.6.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2

ATTACHMENT D

US Army Corps. Of Engineers Regulated Minimum Flows

Q_{7-10} 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

ATTACHMENT E

Summary of Site Visit Findings

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

June 30, 2022

VIA ELECTRONIC MAIL:

Daniel Rowe
Municipal Sanitary Authority of the City of New Kensington
120 Logans Ferry Rd
New Kensington, PA 15068-2004

Re: Preliminary Effluent Limitations - Comments Prior to Issuance of Draft Permit - Response
New Kensington STP
Permit No. PA0027111
Authorization ID No. 1376035
New Kensington City, Westmoreland County

Dear Daniel Rowe:

On May 20, 2022, PADEP received comments on the preliminary effluent limits letter dated April 21, 2022 and the Pre-Draft letter dated February 1, 2022. The comment letter and the NPDES Permit Renewal Application, submitted to the PADEP on November 3, 2021, indicated that the outfall coordinates were 40° 33' 3", -79° 45' 42". During a meeting with MSANK personnel, Mott MacDonald personnel, and DEP personnel conducted on May 17, 2022, concerns were expressed about the location of the outfall. The coordinates provided to the PADEP on the NPDES Renewal Application were contested. Further documentation could not be produced and the outfall location was not accessible during the same site visit on May 17, 2022.

PADEP staff conducted a site visit on June 6, 2022 to verify the location of the outfall from the New Kensington STP to Pucketa Creek. The correct latitude and longitude of the outfall to Pucketa Creek was determined to be 40° 33' 1.96", -79° 45' 44.94". PADEP advises Mott MacDonald and MSANK to update their records with the correct latitude and longitude. Please resubmit any relevant permit application documents with the correct latitude and longitude within 7 days of the receipt of this letter.

If you have any questions, please contact me at 412-346-8422 or grpolakosk@pa.gov.

Sincerely,

Grace Polakoski

Grace Polakoski
Environmental Engineering Specialist
Clean Water Program

Enclosures
cc: Christopher Henry – Mott MacDonald
Lisa French – Mott MacDonald
Kemal Niksic – Mott MacDonald

ATTACHMENT F

WQM 7.0 Modeling Results for Outfall 001

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
18A	42122	ALLEGHENY RIVER	**17.940**	734.00	11500.00	0.00010	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	0.208	0.00	2390.00	0.000	0.000	0.0	1400.00	12.00	25.00	7.60	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
Outfall 001	PA0027111	6.0000	0.0000	0.0000	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
18A	42122	ALLEGHENY RIVER	**13.340**	733.00	11550.00	0.00010	9.20	☑

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	0.207	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

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

Parameter Data

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

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
18A	42122	ALLEGHENY RIVER

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												
17.940	2390.00	0.00	2390.00	9.282	0.00010	12	1400	116.67	0.14	1.968	24.98	7.60
Q1-10 Flow												
17.940	1529.60	0.00	1529.60	9.282	0.00010	NA	NA	NA	0.09	3.069	24.97	7.59
Q30-10 Flow												
17.940	3250.40	0.00	3250.40	9.282	0.00010	NA	NA	NA	0.19	1.449	24.99	7.60

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	Uniform Treatme	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18A	42122	ALLEGHENY 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
17.940	Outfall 001	NA	50	5.3	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
17.940	Outfall 001	NA	25	.92	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)		
17.94	Outfall 001	25	25	25	25	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18A	42122	ALLEGHENY RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
17.940	6.000	24.981	7.595
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1400.000	12.000	116.667	0.143
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.09	0.018	0.10	1.027
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.363	0.132	O'Connor	5
Reach Travel Time (days)			
1.968			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.197	2.08	0.08	7.54
0.394	2.07	0.06	7.54
0.591	2.06	0.05	7.54
0.787	2.05	0.04	7.54
0.984	2.04	0.04	7.54
1.181	2.04	0.03	7.54
1.378	2.03	0.02	7.54
1.575	2.02	0.02	7.54
1.772	2.01	0.02	7.54
1.968	2.00	0.01	7.54

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18A	42122	ALLEGHENY 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)
17.940	Outfall 001	PA0027111	6.000	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

ATTACHMENT G

TRC Modeling Results

TRC EVALUATION – Outfall 001

2,390	**= Q stream (cfs)**	**0.5**	**= CV Daily**
6.0	**= Q discharge (MGD)**	**0.5**	**= CV Hourly**
30	**= no. samples**	**0.086**	**= AFC_Partial Mix Factor**
0.3	**= Chlorine Demand of Stream**	**0.596**	**= CFC_Partial Mix Factor**
0	**= Chlorine Demand of Discharge**	**15**	**= AFC_Criteria Compliance Time (min)**
0.5	**= BAT/BPJ Value**	**720**	**= CFC_Criteria Compliance Time (min)**
	= % Factor of Safety (FOS)		**=Decay Coefficient (K)**

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	**1.3.2.iii**	WLA afc = 7.083	**1.3.2.iii**	WLA cfc = 47.738
PENTOXSD TRG	**5.1a**	LTAMULT afc = 0.373	**5.1c**	LTAMULT cfc = 0.581
PENTOXSD TRG	**5.1b**	LTA_afc= 2.639	**5.1d**	LTA_cfc = 27.753

Source	Reference	Effluent Limit Calculations		
PENTOXSD TRG	**5.1f**	AML MULT =	1.231	
PENTOXSD TRG	**5.1g**	AVG MON LIMIT (mg/l) =	0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) =	1.635	

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc)) + Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc)) + Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**

ATTACHMENT H

Pre-Draft Survey Letter

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

July 11, 2022

VIA ELECTRONIC MAIL:

Daniel Rowe
Municipal Sanitary Authority of the City of New Kensington
120 Logans Ferry Road
New Kensington, PA 15068

Dear Daniel Rowe:

The Department of Environmental Protection (DEP) has reviewed your NPDES permit application and has reached a preliminary finding that new or more stringent water quality-based effluent limitations (WQBELs) for toxic pollutant(s) should be established in the permit. This finding is based on DEP's assessment that reasonable potential exists to exceed water quality criteria under Chapter 93 in the receiving waters during design flow conditions. The following WQBELs are anticipated based on the updated outfall location confirmed by PADEP Personnel on June 7, 2022:

Outfall No.	Pollutant	Average Monthly (µg/L)	Maximum Daily (µg/L)	IMAX (µg/L)
001	Hexchlorobutadiene	Report	Report	Report
001	1,2,4-Trichlorobenzene	Report	Report	Report

Attached is a survey that DEP requests that you complete and return to DEP in 30 days. Completion of this survey will help DEP understand your current capabilities or plans to treat or control these pollutant(s). Your response to this notice does not constitute an official comment for DEP response but will be taken under consideration. When the draft NPDES permit is formally noticed in the *Pennsylvania Bulletin*, you may make official comments for DEP's further consideration and response.

In addition to completion of the survey, you may elect to collect a minimum of four (4) additional effluent samples, as 24-hour composites, and have the samples analyzed for the pollutant(s) identified above, using a quantitation limit (QL) that is no greater than the Target QLs identified in the table above. The samples should be collected at least one week apart. If you elect this option, please check the appropriate box on the survey and return the survey to DEP. Review of your application will remain on hold until the additional sampling results are provided to DEP.

Please contact me if you have any questions about this information or the attached survey.

Sincerely,

Grace Polakoski

Grace Polakoski, E.I.T.
Environmental Engineering Specialist
Clean Water Program

Enclosures

cc: Linda French – Mott MacDonald
Chris Henry – Mott MacDonald
US EPA Region III
Southwest Regional Office

ATTACHMENT I

Pre-Draft Survey Results

MOTT MACDONALD

Ms. Grace Polakoski, EIT
Environmental Engineering Specialist
Clean Water Program
PA Department of Environmental Protection
400 Waterfront Drive
Pittsburgh, PA 15222-4745

Municipal Sanitary Authority of the City of New Kensington
NPDES Permit PA0027111
Updated WQBEL Survey

Our Reference
106173-003

Mott MacDonald
Two Allegheny Center
Nova Tower Two, Suite 1301
Pittsburgh PA 15212
United States of America

T +1 (412) 497 2900
F +1 (412) 497 2901
mottmac.com

July 18, 2022

Dear Ms. Polakoski:

On behalf of the Municipal Sanitary Authority of the City of New Kensington (MSANK), please see attached Water Quality Based Effluent Limitation (WQBEL) updated survey, as requested in your letter dated July 11, 2022.

The pollutants identified by DEP that may require WQBELs include the following:

- Hexechlorobutadiene
- 1,2,4 Trichlorobenzene

A copy of the updated survey is attached.

It is noted that the influent and effluent sample results for these parameters were all non-detectable in the NPDES permit application.

Additionally, MSANK intends to conduct effluent sampling for these two parameters once per week for four weeks. Once the results are received from the laboratory, they will be submitted to you. The sampling will begin in the next week or so.

If you have any questions regarding this matter, please contact me or Daniel H. Rowe, Jr, Manager of MSANK at 724-335-9813.

MOTT MACDONALD

Sincerely,

Linda French

Linda French
Project Scientist
T 412.497.2912
Linda.French@mottmac.com

/lf

Enclosure

cc: Daniel H. Rowe, Jr. (MSANK)
Christopher Henry (Mott MacDonald)

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Clean Water

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **Municipal Sanitary Authority of New Kensington** Permit No.: **PA0027111**

Pollutant(s) identified by DEP that may require WQBELs: Hexechlorobutadiene 1,2,4 Trichlorobenzene

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☒ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☒ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☒ No ☐ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.
Unknown

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☒ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☒ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP regional office that is reviewing the permit application within 30 days of receipt.

ATTACHMENT J

Toxics Management Spreadsheet Results for Outfall 001

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **New Kensington STP** NPDES Permit No.: **PA0027111** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Treated sewage**

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
6	79	7.6						

					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		440		166.5			0.5227				
	Chloride (PWS)	mg/L		142		21.25			0.662				
	Bromide	mg/L		0.804									
	Sulfate (PWS)	mg/L		44.5		52.43			0.8347				
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		281		451.57			1.3143				
	Total Antimony	µg/L		0.5									
	Total Arsenic	µg/L		1									
	Total Barium	µg/L		49		46.05			0.3164				
	Total Beryllium	µg/L	<	0.4									
	Total Boron	µg/L		146									
	Total Cadmium	µg/L	<	0.4									
	Total Chromium (III)	µg/L		5									
	Hexavalent Chromium	µg/L		7									
	Total Cobalt	µg/L		3									
	Total Copper	µg/L		0.013		4.477			0.3211				
	Free Cyanide	µg/L		11									
	Total Cyanide	µg/L		6									
	Dissolved Iron	µg/L		163									
	Total Iron	µg/L		371		1219.6			1.3686				
	Total Lead	µg/L		3		1.408			0.5701				
	Total Manganese	µg/L		109		187.9			0.812				
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		17									
	Total Phenols (Phenolics) (PWS)	µg/L		2.5									
	Total Selenium	µg/L		7									
	Total Silver	µg/L		0.07									
	Total Thallium	µg/L		0.3									
	Total Zinc	µg/L		0.068		14.55			0.4755				
	Total Molybdenum	µg/L		9									
	Acrolein	µg/L	<	1.5									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	1.5									
	Benzene	µg/L	<	1.5									
	Bromoform	µg/L	<	1									

Group 3	Carbon Tetrachloride	µg/L	<	1									
	Chlorobenzene	µg/L	<	0.5									
	Chlorodibromomethane	µg/L		1.3									
	Chloroethane	µg/L	<	1									
	2-Chloroethyl Vinyl Ether	µg/L	<	0.5									
	Chloroform	µg/L		6.3									
	Dichlorobromomethane	µg/L		4.8									
	1,1-Dichloroethane	µg/L	<	1									
	1,2-Dichloroethane	µg/L	<	0.5									
	1,1-Dichloroethylene	µg/L	<	0.5									
	1,2-Dichloropropane	µg/L	<	0.5									
	1,3-Dichloropropylene	µg/L	<	0.5									
	1,4-Dioxane	µg/L	<	2.9									
	Ethylbenzene	µg/L	<	0.5									
	Methyl Bromide	µg/L	<	0.5									
	Methyl Chloride	µg/L	<	1									
	Methylene Chloride	µg/L		1.2									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5									
	Tetrachloroethylene	µg/L	<	0.5									
	Toluene	µg/L		0.44									
	1,2-trans-Dichloroethylene	µg/L	<	0.5									
	1,1,1-Trichloroethane	µg/L	<	0.5									
	1,1,2-Trichloroethane	µg/L	<	0.5									
	Trichloroethylene	µg/L	<	0.5									
	Vinyl Chloride	µg/L	<	0.5									
Group 4	2-Chlorophenol	µg/L	<	2.9									
	2,4-Dichlorophenol	µg/L	<	2.9									
	2,4-Dimethylphenol	µg/L	<	2.9									
	4,6-Dinitro-o-Cresol	µg/L	<	5.9									
	2,4-Dinitrophenol	µg/L	<	2.9									
	2-Nitrophenol	µg/L	<	2.9									
	4-Nitrophenol	µg/L	<	2.9									
	p-Chloro-m-Cresol	µg/L	<	2.9									
	Pentachlorophenol	µg/L	<	5.9									
	Phenol	µg/L	<	7.8									
	2,4,6-Trichlorophenol	µg/L	<	2.9									
Group 5	Acenaphthene	µg/L	<	1.5									
	Acenaphthylene	µg/L	<	1.5									
	Anthracene	µg/L	<	1.5									
	Benzidine	µg/L	<	2.9									
	Benzo(a)Anthracene	µg/L	<	1.5									
	Benzo(a)Pyrene	µg/L	<	1.5									
	3,4-Benzofluoranthene	µg/L	<	1.5									
	Benzo(ghi)Perylene	µg/L	<	1.5									
	Benzo(k)Fluoranthene	µg/L	<	1.5									
	Bis(2-Chloroethoxy)Methane	µg/L	<	2.9									
	Bis(2-Chloroethyl)Ether	µg/L	<	2.9									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	2.9									
	Bis(2-Ethylhexyl)Phthalate	µg/L		1.3									
	4-Bromophenyl Phenyl Ether	µg/L	<	1.5									
	Butyl Benzyl Phthalate	µg/L	<	2.9									
	2-Chloronaphthalene	µg/L	<	2.9									
	4-Chlorophenyl Phenyl Ether	µg/L	<	2.9									
	Chrysene	µg/L	<	1.5									
	Dibenzo(a,h)Anthrancene	µg/L	<	1.5									
	1,2-Dichlorobenzene	µg/L	<	1									
	1,3-Dichlorobenzene	µg/L	<	1									
	1,4-Dichlorobenzene	µg/L	<	1									
	3,3-Dichlorobenzidine	µg/L	<	1									
	Diethyl Phthalate	µg/L	<	1.5									
	Dimethyl Phthalate	µg/L	<	2.9									
	Di-n-Butyl Phthalate	µg/L	<	2.9									
	2,4-Dinitrotoluene	µg/L	<	2.9									

	2,6-Dinitrotoluene	µg/L	<	2.9									
	Di-n-Octyl Phthalate	µg/L		0.98									
	1,2-Diphenylhydrazine	µg/L	<	2.9									
	Fluoranthene	µg/L	<	1.5									
	Fluorene	µg/L	<	1.9									
	Hexachlorobenzene	µg/L	<	2.9									
	Hexachlorobutadiene	µg/L	<	0.248									
	Hexachlorocyclopentadiene	µg/L	<	2.9									
	Hexachloroethane	µg/L	<	2.9									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	1.5									
	Isophorone	µg/L	<	2.9									
	Naphthalene	µg/L	<	2.9									
	Nitrobenzene	µg/L	<	2.9									
	n-Nitrosodimethylamine	µg/L	<	2.9									
	n-Nitrosodi-n-Propylamine	µg/L	<	2.9									
	n-Nitrosodiphenylamine	µg/L	<	2.9									
	Phenanthrene	µg/L	<	1.5									
	Pyrene	µg/L	<	1.5									
	1,2,4-Trichlorobenzene	µg/L	<	0.254									
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											

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

New Kensington STP, NPDES Permit No. PA0027111, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Allegheny 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	042122	17.94	734	11500	0.001		Yes
End of Reach 1	042122	13.34	733	11550	0.001	9.2	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	17.94	0.208	2390			1400	12					79	7.6		
End of Reach 1	13.34	0.207				1100	12								

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	17.94														
End of Reach 1	13.34														

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

New Kensington STP, NPDES Permit No. PA0027111, Outfall 001

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

☑ ***Hydrodynamics***

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

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)
17.94	2,390		2,390	9.282	0.001	12.	1400.	116.667	0.143	1.968	2027.893
13.34	2400.350	14.232	2386.1176								

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)
17.94	6663.59		6663.59	9.282	0.001	18.821	1400.	74.385	0.253	1.11	1037.552
13.34	6688.809	14.232	6674.58								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.086 Analysis Hardness (mg/l): 79 Analysis pH: 7.60

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)	166500	0.5227		0	N/A	N/A	N/A	
Chloride (PWS)	21250	0.662		0	N/A	N/A	N/A	
Sulfate (PWS)	52430	0.8347		0	N/A	N/A	N/A	
Total Aluminum	451.57	1.3143		0	750	750	-1.41E+04	
Total Antimony	0	0		0	1,100	1,100	25,460	
Total Arsenic	0	0		0	340	340	7,869	Chem Translator of 1 applied
Total Barium	46.05	0.3164		0	21,000	21,000	484,433	
Total Boron	0	0		0	8,100	8,100	187,476	
Total Cadmium	0	0		0	1.601	1.68	38.9	Chem Translator of 0.954 applied
Total Chromium (III)	0	0		0	469.733	1,486	34,405	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	377	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	2,199	
Total Copper	4.477	0.3211		0	10.763	11.2	101	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	509	

Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	1219.6198	1.3686		0	N/A	N/A	N/A	
Total Lead	1.408	0.5701		0	49.917	60.5	1,335	Chem Translator of 0.825 applied
Total Manganese	187.9	0.812		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	38.1	Chem Translator of 0.85 applied
Total Nickel	0	0		0	383.581	384	8,896	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	2.145	2.52	58.4	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	1,504	
Total Zinc	14.55	0.4755		0	95.965	98.1	1,660	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	69.4	
Acrylonitrile	0	0		0	650	650	15,044	
Benzene	0	0		0	640	640	14,813	
Bromoform	0	0		0	1,800	1,800	41,661	
Carbon Tetrachloride	0	0		0	2,800	2,800	64,807	
Chlorobenzene	0	0		0	1,200	1,200	27,774	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	416,613	
Chloroform	0	0		0	1,900	1,900	43,976	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	347,178	
1,1-Dichloroethylene	0	0		0	7,500	7,500	173,589	
1,2-Dichloropropane	0	0		0	11,000	11,000	254,597	
1,3-Dichloropropylene	0	0		0	310	310	7,175	
Ethylbenzene	0	0		0	2,900	2,900	67,121	
Methyl Bromide	0	0		0	550	550	12,730	
Methyl Chloride	0	0		0	28,000	28,000	648,065	
Methylene Chloride	0	0		0	12,000	12,000	277,742	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	23,145	
Tetrachloroethylene	0	0		0	700	700	16,202	
Toluene	0	0		0	1,700	1,700	39,347	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	157,387	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	69,436	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	78,694	
Trichloroethylene	0	0		0	2,300	2,300	53,234	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	12,961	
2,4-Dichlorophenol	0	0		0	1,700	1,700	39,347	
2,4-Dimethylphenol	0	0		0	660	660	15,276	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	1,852	
2,4-Dinitrophenol	0	0		0	660	660	15,276	
2-Nitrophenol	0	0		0	8,000	8,000	185,162	
4-Nitrophenol	0	0		0	2,300	2,300	53,234	
p-Chloro-m-Cresol	0	0		0	160	160	3,703	
Pentachlorophenol	0	0		0	15.943	15.9	369	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	10,647	

Acenaphthene	0	0		0	83	83.0	1,921	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	6,944	
Benzo(a)Anthracene	0	0		0	0.5	0.5	11.6	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	694,356	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	104,153	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	6,249	
Butyl Benzyl Phthalate	0	0		0	140	140	3,240	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	18,979	
1,3-Dichlorobenzene	0	0		0	350	350	8,101	
1,4-Dichlorobenzene	0	0		0	730	730	16,896	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	92,581	
Dimethyl Phthalate	0	0		0	2,500	2,500	57,863	
Di-n-Butyl Phthalate	0	0		0	110	110	2,546	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	37,032	
2,6-Dinitrotoluene	0	0		0	990	990	22,914	
1,2-Diphenylhydrazine	0	0		0	15	15.0	347	
Fluoranthene	0	0		0	200	200	4,629	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	231	
Hexachlorocyclopentadiene	0	0		0	5	5.0	116	
Hexachloroethane	0	0		0	60	60.0	1,389	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	231,452	
Naphthalene	0	0		0	140	140	3,240	
Nitrobenzene	0	0		0	4,000	4,000	92,581	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	393,468	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	6,944	
Phenanthrene	0	0		0	5	5.0	116	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	3,009	

☑ ***CFC*** CCT (min): 720 PMF: 0.596 Analysis Hardness (mg/l): 79 Analysis pH: 7.60

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)	166500	0.5227		0	N/A	N/A	N/A	

Chloride (PWS)	21250	0.662		0	N/A	N/A	N/A	
Sulfate (PWS)	52430	0.8347		0	N/A	N/A	N/A	
Total Aluminum	451.57	1.3143		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	33,974	
Total Arsenic	0	0		0	150	150	23,164	Chem Translator of 1 applied
Total Barium	46.05	0.3164		0	4,100	4,100	624,110	
Total Boron	0	0		0	1,600	1,600	247,082	
Total Cadmium	0	0		0	0.209	0.23	35.1	Chem Translator of 0.919 applied
Total Chromium (III)	0	0		0	61.103	71.0	10,972	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	1,605	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	2,934	
Total Copper	4.477	0.3211		0	7.322	7.63	296	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	803	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	1219.6198	1.3686		0	1,500	1,500	-3.31E+05	WQC = 30 day average; PMF = 1
Total Lead	1.408	0.5701		0	1.945	2.36	34.9	Chem Translator of 0.825 applied
Total Manganese	187.9	0.812		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	140	Chem Translator of 0.85 applied
Total Nickel	0	0		0	42.604	42.7	6,599	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	770	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	2,008	
Total Zinc	14.55	0.4755		0	96.750	98.1	11,959	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	463	
Acrylonitrile	0	0		0	130	130	20,075	
Benzene	0	0		0	130	130	20,075	
Bromoform	0	0		0	370	370	57,138	
Carbon Tetrachloride	0	0		0	560	560	86,479	
Chlorobenzene	0	0		0	240	240	37,062	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	540,492	
Chloroform	0	0		0	390	390	60,226	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	478,722	
1,1-Dichloroethylene	0	0		0	1,500	1,500	231,640	
1,2-Dichloropropane	0	0		0	2,200	2,200	339,738	
1,3-Dichloropropylene	0	0		0	61	61.0	9,420	
Ethylbenzene	0	0		0	580	580	89,567	
Methyl Bromide	0	0		0	110	110	16,987	
Methyl Chloride	0	0		0	5,500	5,500	849,345	
Methylene Chloride	0	0		0	2,400	2,400	370,623	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	32,430	
Tetrachloroethylene	0	0		0	140	140	21,620	
Toluene	0	0		0	330	330	50,961	

1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	216,197	
1,1,1-Trichloroethane	0	0		0	610	610	94,200	
1,1,2-Trichloroethane	0	0		0	680	680	105,010	
Trichloroethylene	0	0		0	450	450	69,492	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	16,987	
2,4-Dichlorophenol	0	0		0	340	340	52,505	
2,4-Dimethylphenol	0	0		0	130	130	20,075	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	2,471	
2,4-Dinitrophenol	0	0		0	130	130	20,075	
2-Nitrophenol	0	0		0	1,600	1,600	247,082	
4-Nitrophenol	0	0		0	470	470	72,580	
p-Chloro-m-Cresol	0	0		0	500	500	77,213	
Pentachlorophenol	0	0		0	12.231	12.2	1,889	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	14,053	
Acenaphthene	0	0		0	17	17.0	2,625	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	9,111	
Benzo(a)Anthracene	0	0		0	0.1	0.1	15.4	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	926,558	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	140,528	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	8,339	
Butyl Benzyl Phthalate	0	0		0	35	35.0	5,405	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	24,708	
1,3-Dichlorobenzene	0	0		0	69	69.0	10,655	
1,4-Dichlorobenzene	0	0		0	150	150	23,164	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	123,541	
Dimethyl Phthalate	0	0		0	500	500	77,213	
Di-n-Butyl Phthalate	0	0		0	21	21.0	3,243	
2,4-Dinitrotoluene	0	0		0	320	320	49,416	
2,6-Dinitrotoluene	0	0		0	200	200	30,885	
1,2-Diphenylhydrazine	0	0		0	3	3.0	463	
Fluoranthene	0	0		0	40	40.0	6,177	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	309	

Hexachlorocyclopentadiene	0	0		0	1	1.0	154	
Hexachloroethane	0	0		0	12	12.0	1,853	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	324,295	
Naphthalene	0	0		0	43	43.0	6,640	
Nitrobenzene	0	0		0	810	810	125,085	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	525,050	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	9,111	
Phenanthrene	0	0		0	1	1.0	154	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	4,015	

☑ ***THH*** CCT (min): 720 THH PMF: 0.596 Analysis Hardness (mg/l): N/A Analysis pH: N/A PWS PMF: 1

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)	166500	0.5227		0	500,000	500,000	86,743,991	WQC applied at RMI 13.54 with a design stream flow of 2400.55 cfs
Chloride (PWS)	21250	0.662		0	250,000	250,000	59,405,361	WQC applied at RMI 13.54 with a design stream flow of 2400.55 cfs
Sulfate (PWS)	52430	0.8347		0	250,000	250,000	51,342,130	WQC applied at RMI 13.54 with a design stream flow of 2400.55 cfs
Total Aluminum	451.57	1.3143		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	865	
Total Arsenic	0	0		0	10	10.0	1,544	
Total Barium	46.05	0.3164		0	2,400	2,400	363,558	
Total Boron	0	0		0	3,100	3,100	478,722	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	4.477	0.3211		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	4	4.0	618	
Dissolved Iron	0	0		0	300	300	46,328	
Total Iron	1219.6198	1.3686		0	N/A	N/A	N/A	
Total Lead	1.408	0.5701		0	N/A	N/A	N/A	
Total Manganese	187.9	0.812		0	1,000	1,000	125,598	
Total Mercury	0	0		0	0.050	0.05	7.72	
Total Nickel	0	0		0	610	610	94,200	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	1,298	WQC applied at RMI 13.54 with a design stream flow of 2400.55 cfs
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	37.1	
Total Zinc	14.55	0.4755		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	463	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	

Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	15,443	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	880	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	5,096	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	10,501	
Methyl Bromide	0	0		0	100	100.0	15,443	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	8,802	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	15,443	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	1,544,264	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	4,633	
2,4-Dichlorophenol	0	0		0	10	10.0	1,544	
2,4-Dimethylphenol	0	0		0	100	100.0	15,443	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	309	
2,4-Dinitrophenol	0	0		0	10	10.0	1,544	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	617,706	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	10,810	
Anthracene	0	0		0	300	300	46,328	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	30,885	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	

Butyl Benzyl Phthalate	0	0		0	0.1	0.1	15.4	
2-Chloronaphthalene	0	0		0	800	800	123,541	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	154,426	
1,3-Dichlorobenzene	0	0		0	7	7.0	1,081	
1,4-Dichlorobenzene	0	0		0	300	300	46,328	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	92,656	
Dimethyl Phthalate	0	0		0	2,000	2,000	308,853	
Di-n-Butyl Phthalate	0	0		0	20	20.0	3,089	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	3,089	
Fluorene	0	0		0	50	50.0	7,721	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	618	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	5,250	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	1,544	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	3,089	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	10.8	

☑ ***CRL*** CCT (min): 720 PMF: 0.833 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)	166500	0.5227		0	N/A	N/A	N/A	
Chloride (PWS)	21250	0.662		0	N/A	N/A	N/A	
Sulfate (PWS)	52430	0.8347		0	N/A	N/A	N/A	
Total Aluminum	451.57	1.3143		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	46.05	0.3164		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	

Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	4.477	0.3211		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	1219.6198	1.3686		0	N/A	N/A	N/A	
Total Lead	1.408	0.5701		0	N/A	N/A	N/A	
Total Manganese	187.9	0.812		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	14.55	0.4755		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	35.9	
Benzene	0	0		0	0.58	0.58	347	
Bromoform	0	0		0	7	7.0	4,193	
Carbon Tetrachloride	0	0		0	0.4	0.4	240	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	479	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	0.95	0.95	569	
1,2-Dichloroethane	0	0		0	9.9	9.9	5,930	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	539	
1,3-Dichloropropylene	0	0		0	0.27	0.27	162	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	11,981	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	120	
Tetrachloroethylene	0	0		0	10	10.0	5,990	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	329	
Trichloroethylene	0	0		0	0.6	0.6	359	
Vinyl Chloride	0	0		0	0.02	0.02	12.0	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	

2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	18.0	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	899	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.06	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.6	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.06	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.6	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	5.99	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	18.0	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	192	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.12	0.12	71.9	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.06	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	30.0	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	30.0	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	30.0	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	18.0	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.048	
Hexachlorobutadiene	0	0		0	0.01	0.01	5.99	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	59.9	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.6	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.42	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	3.0	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	1,977	

Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	

☑ ***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	750	AFC	Discharge Conc > 10% WQBEL (no 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).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	86,744	mg/L	Discharge Conc ≤ 10% WQBEL
Chloride (PWS)	59,405	mg/L	Discharge Conc ≤ 10% WQBEL
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	51,342	mg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	865	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	1,544	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	310,502	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	120,165	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	24.9	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	10,972	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	242	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	1,409	µg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	65.0	µg/L	Discharge Conc ≤ 10% WQBEL
Free Cyanide	326	µg/L	Discharge Conc ≤ 25% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	46,328	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	-3.31E+05	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	34.9	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	125,598	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	7.72	µg/L	Discharge Conc < TQL
Total Nickel	5,702	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)	1,298	µg/L	Discharge Conc ≤ 10% WQBEL
Total Selenium	770	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	37.4	µg/L	Discharge Conc ≤ 10% WQBEL
Total Thallium	37.1	µg/L	Discharge Conc ≤ 10% WQBEL

Total Zinc	1,064	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	44.5	µg/L	Discharge Conc < TQL
Acrylonitrile	35.9	µg/L	Discharge Conc < TQL
Benzene	347	µg/L	Discharge Conc ≤ 25% WQBEL
Bromoform	4,193	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	240	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	15,443	µg/L	Discharge Conc < TQL
Chlorodibromomethane	479	µg/L	Discharge Conc ≤ 25% WQBEL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	267,032	µg/L	Discharge Conc < TQL
Chloroform	880	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	569	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	5,930	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	5,096	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	539	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	162	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	10,501	µg/L	Discharge Conc < TQL
Methyl Bromide	8,159	µg/L	Discharge Conc < TQL
Methyl Chloride	415,384	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	11,981	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2,2-Tetrachloroethane	120	µg/L	Discharge Conc < TQL
Tetrachloroethylene	5,990	µg/L	Discharge Conc < TQL
Toluene	8,802	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-trans-Dichloroethylene	15,443	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	44,505	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	329	µg/L	Discharge Conc < TQL
Trichloroethylene	359	µg/L	Discharge Conc < TQL
Vinyl Chloride	12.0	µg/L	Discharge Conc < TQL
2-Chlorophenol	4,633	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	1,544	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	9,791	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	309	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	1,544	µg/L	Discharge Conc < TQL
2-Nitrophenol	118,681	µg/L	Discharge Conc < TQL
4-Nitrophenol	34,121	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	2,374	µg/L	Discharge Conc < TQL
Pentachlorophenol	18.0	µg/L	Discharge Conc < TQL
Phenol	617,706	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	899	µg/L	Discharge Conc < TQL
Acenaphthene	1,231	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	46,328	µg/L	Discharge Conc < TQL

Benzidine	0.06	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.6	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.06	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.6	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	5.99	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	18.0	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	30,885	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	192	µg/L	Discharge Conc ≤ 25% WQBEL
4-Bromophenyl Phenyl Ether	4,005	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	15.4	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	123,541	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	71.9	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.06	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	12,165	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	1,081	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	10,830	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	30.0	µg/L	Discharge Conc < TQL
Diethyl Phthalate	59,341	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	37,088	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	1,632	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	30.0	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	30.0	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	18.0	µg/L	Discharge Conc < TQL
Fluoranthene	2,967	µg/L	Discharge Conc < TQL
Fluorene	7,721	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.048	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	5.99	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	74.2	µg/L	Discharge Conc < TQL
Hexachloroethane	59.9	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.6	µg/L	Discharge Conc < TQL
Isophorone	5,250	µg/L	Discharge Conc < TQL
Naphthalene	2,077	µg/L	Discharge Conc ≤ 25% WQBEL
Nitrobenzene	1,544	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.42	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	3.0	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	1,977	µg/L	Discharge Conc < TQL
Phenanthrene	74.2	µg/L	Discharge Conc < TQL
Pyrene	3,089	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	10.8	µg/L	Discharge Conc < TQL