pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0254223**
Facility Type	**Municipal**	APS ID	**861134**
Major / Minor	**Minor**	Authorization ID	**1359006**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Lincoln Township Municipal Authority**	Facility Name	**Southside STP**
Applicant Address	PO Box 162	Facility Address	Old Shaffer Road
	Sipesville, PA 15561-0162		Sipesville, PA 15561
Applicant Contact	Allen Hay	Facility Contact	Branden Trent
Applicant Phone	(814) 445-7669	Facility Phone	(814) 233-4961
Client ID	25722	Site ID	726695
Ch 94 Load Status	Not Overloaded	Municipality	Lincoln Township
Connection Status	No Limitations	County	Somerset
Date Application Received	June 3, 2021	EPA Waived?	Yes
Date Application Accepted	June 24, 2021	If No, Reason	

Purpose of Application: Application for renewal of a NPDES Permit for treated sewage.

Summary of Review

The permittee has applied for a renewal of NPDES Permit No. PA0254223. PA0254223 was previously issued by the PA Department of Environmental Protection (DEP) on January 11, 2017 and expired January 31, 2022. The renewal application was submitted in a timely manner; therefore, the permit was granted an administrative extension.

Sewage and industrial wastewater at this facility are treated with flow equalization, extended aeration, clarification, and UV disinfection prior to discharge to outfall 001 to Trib 45660 of Quemahoning Creek.

The permittee is currently enrolled in and will continue to use eDMR.

The applicant complied with Act 14 Notification, and no comments were received.

Sewage sludge produced at this facility is hauled by Stutzman Vac LLC and disposed of in the Sandy Run Landfill.

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*

Approve	Deny	Signatures	Date
X		Stephanie Conrad / Environmental Engineering Specialist	February 1, 2022
x		Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	May 11, 2022

Summary of Review
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)	.01
Latitude	40º 4' 25"	Longitude	-79º 4' 39"
Quad Name	Somerset	Quad Code	1813

Wastewater Description: Sewage Effluent

Receiving Waters	Trib 45660 of Quemahoning Creek (CWF)	Stream Code	45660
NHD Com ID	123722624	RMI	1.25
Drainage Area	1.09	Yield (cfs/mi^2)	0.0519
Q_{7-10} Flow (cfs)	0.0566	Q_{7-10} Basis	USGS Stream Stats
Elevation (ft)	2040	Slope (ft/ft)	
Watershed No.	18-E	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	METALS, PH		
Source(s) of Impairment	ACID MINE DRAINAGE, AGRICULTURE		
TMDL Status	Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL

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

Nearest Downstream Public Water Supply Intake	Bethlehem Steel Johnstown PLT		
PWS Waters	Quemahoning Reservoir	Flow at Intake (MGD)	4.0
PWS RMI	4.52	Distance from Outfall (mi)	12.4

Changes Since Last Permit Issuance: None

Other Comments:

Treatment Facility Summary

Treatment Facility Name: Southside STP

WQM Permit No.	Issuance Date
5610101	April 15, 2021

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	UV Disinfection	0.01

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.015	23.6	Not Overloaded	Pump and Haul	Other STP

Changes Since Last Permit Issuance: None

Other Comments:

Compliance History

Facility: Southside STP

NPDES Permit No.: PA0254223

Compliance Review Period: 1/2017 – 1/2022

Inspection Summary:

INSP ID	INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC	UPDATE DATE
3155830	02/26/2021	Compliance Evaluation	PA Dept of Environmental Protection	Violation(s) Noted	10/29/2021
3155511	02/25/2021	Chapter 94 Inspection	PA Dept of Environmental Protection	No Violations Noted	03/03/2021
3152933	02/25/2021	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted	
2881397	04/09/2019	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted	
2720423	04/12/2018	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted	
2567279	02/13/2017	Routine/Partial Inspection	PA Dept of Environmental Protection	No Violations Noted	
2583354	02/01/2017	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted	04/17/2017

Violation Summary:

VIOL ID	VIOLATION DATE	VIOLATION TYPE	VIOLATION TYPE DESC	RESOLVED DATE
909182	02/26/2021	92A.44	NPDES - Violation of effluent limits in Part A of permit	10/29/2021

Open Violations by Client ID:

No open violations for Client ID 25722

Enforcement Summary:

No enforcements

DMR Violation Summary:

MONITORING END DATE	OUTFALL	PARAMETER	STATISTICAL BASECODE	PERMIT VALUE	SAMPLE VALUE	UNIT OF MEASURE
2/29/2016	1	Total Suspended Solids	Average Monthly	30	35	mg/L
2/29/2016	1	Total Suspended Solids	Instantaneous Maximum	60	64	mg/L
9/30/2016	1	Fecal Coliform	Instantaneous Maximum	1000	1986.3	CFU/100 ml
9/30/2016	1	Fecal Coliform	Geometric Mean	200	609.8	CFU/100 ml
5/31/2018	1	Fecal Coliform	Instantaneous Maximum	1000	2419.6	No./100 ml
5/31/2018	1	Iron, Dissolved	Average Monthly	0.3	0.95	mg/L
5/31/2018	1	Iron, Dissolved	Instantaneous Maximum	0.6	1.84	mg/L
6/30/2019	1	Fecal Coliform	Instantaneous Maximum	1000	> 2419.6	No./100 ml
6/30/2019	1	Fecal Coliform	Geometric Mean	200	> 2419.6	No./100 ml
8/31/2019	1	Fecal Coliform	Instantaneous Maximum	1000	1031.6	No./100 ml
8/31/2019	1	Fecal Coliform	Geometric Mean	200	593.72	No./100 ml
2/29/2020	1	Iron, Dissolved	Average Monthly	0.3	0.42	mg/L
6/30/2020	1	Fecal Coliform	Geometric Mean	200	271.4	No./100 ml
1/31/2021	1	Iron, Dissolved	Average Monthly	0.3	0.4	mg/L
1/31/2021	1	Iron, Dissolved	Instantaneous Maximum	0.6	0.7	mg/L

Compliance Status:

Permittee has several DMR exceedances.

Completed by: John Murphy

Completed date: 1/12/2021

Compliance History

DMR Data for Outfall 001 (from December 1, 2020 to November 30, 2021)

Parameter	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20
Flow (MGD) Average Monthly	0.001	0.001	0.002	0.01	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.001
Flow (MGD) Daily Maximum	0.003	0.002	0.005	0.002	0.003	0.002	0.003	0.003	0.004	0.004	0.003	0.003
pH (S.U.) Minimum	7.1	7.3	7.1	7.5	7.3	7.4	7.4	7.3	7.3	7.4	7.5	7.5
pH (S.U.) Maximum	7.5	7.6	7.6	7.7	7.6	7.6	7.6	7.5	7.6	7.8	7.6	7.6
DO (mg/L) Minimum	7.1	6.6	5.8	6.4	5.9	7.1	6.7	6.8	6.4	6.1	7.6	6.9
CBOD5 (mg/L) Average Monthly	< 2.0	< 2.0	< 2.0	2.0	2.5	< 2.0	< 2.0	5.0	4.5	7.5	2.50	< 3.0
BOD5 (lbs/day) Influent Average Monthly	1.47	4.0	3.47	3.64	2.69	3.1	3.2	1.95	1.83	2.7	2.4	2.61
BOD5 (mg/L) Influent Average Monthly	176.0	479.5	416.5	276.5	322.5	267.0	189.0	234.0	174.0	220.0	282.0	313.0
BOD5 (mg/L) Influent Instantaneous Maximum	214.0	593.0	479.0	320.0	341.0	325.0	206.0	348.0	302.0	228.0	296.0	401.0
TSS (lbs/day) Influent Average Monthly	13.2	15.3	4.6	5.6	4.52	3.4	5.1	3.46	19.4	3.4	2.8	3.06
TSS (mg/L) Average Monthly	< 2.0	< 2.0	5.50	< 3.5	< 2.0	< 3.50	3.5	< 2.0	4.5	9.0	4.0	5.50
TSS (mg/L) Influent Average Monthly	1582.5	1840	554.0	386.0	542.5	290.5	305.5	415.0	1470.0	341.0	335.0	366.5
TSS (mg/L) Influent Instantaneous Maximum	2770.0	2700	633	570.0	615.0	353.0	475.0	450.0	2080.0	560.0	410.0	613.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1.0	< 1.0	1.41	2.49	4.09	< 1.0	< 1.0	1.0	1.41	< 10.6	21.3	< 3.61

Fecal Coliform (No./100 ml) Instantaneous Maximum	< 1.0	< 1.0	2.0	3.1	16.7	< 1.0	< 1.0	1.0	2.0	112.8	46.4	13.0
UV Transmittance (%) Average Monthly	00	00	00	00	00	00	00	00	00	00	00	00
UV Transmittance (%) Daily Maximum	00	00	00	00	00	00	00	00	00	00	00	00
Total Nitrogen (mg/L) Daily Maximum											37.9	
Ammonia-Nitrogen (lbs/day) Average Monthly	< 0.0008	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	0.003	< 0.002	< 0.007	0.097	0.01	< 0.009
Ammonia-Nitrogen (mg/L) Average Monthly	< 0.10	< 0.13	< 0.16	< 0.11	< 1.23	< 0.10	< 0.16	< 0.23	< 0.70	6.09	1.45	< 1.09
Total Phosphorus (mg/L) Daily Maximum											0.476	
Total Aluminum (lbs/day) Average Monthly	< 0.0008	< 0.0008	< 0.0008	< 0.001	< 0.0008	< 0.001	< 0.002	< 0.0008	< 0.002	< 0.001	< 0.0008	< 0.0008
Total Aluminum (mg/L) Average Monthly	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aluminum (mg/L) Instantaneous Maximum	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dissolved Iron (lbs/day) Average Monthly	< 0.0004	< 0.0004	< 0.0004	< 0.0006	< 0.0004	< 0.0006	< 0.0008	< 0.0004	0.001	< 0.0009	0.004	< 0.0004
Dissolved Iron (mg/L) Average Monthly	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.07	0.09	0.4	< 0.05
Dissolved Iron (mg/L) Instantaneous Maximum	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.07	0.12	0.7	< 0.05
Total Iron (lbs/day) Average Monthly	< 0.0004	< 0.0004	< 0.0005	< 0.0006	< 0.0004	< 0.0006	< 0.008	< 0.0004	0.002	< 0.001	0.005	< 0.0005
Total Iron (mg/L) Average Monthly	0.05	< 0.05	< 0.05	< 0.05	0.05	< 0.05	< 0.05	< 0.05	0.12	< 0.10	0.5	< 0.07
Total Iron (mg/L) Instantaneous Maximum	< 0.05	< 0.05	0.06	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.13	0.15	0.9	0.08

Total Manganese (lbs/day) Average Monthly	< 0.00008	< 0.00008	< 0.00008	< 0.0001	< 0.00008	< 0.0001	0.0003	< 0.00008	0.0005	< 0.0002	< 0.00008	< 0.00008
Total Manganese (mg/L) Average Monthly	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	0.03	< 0.02	< 0.01	< 0.01
Total Manganese (mg/L) Instantaneous Maximum	0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01	0.03	0.02	< 0.01	< 0.01

Compliance History

Effluent Violations for Outfall 001, from: January 1, 2021 To: November 30, 2021

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Dissolved Iron	01/31/21	Avg Mo	0.4	mg/L	0.3	mg/L
Dissolved Iron	01/31/21	Avg Mo	0.4	mg/L	0.3	mg/L
Dissolved Iron	01/31/21	IMAX	0.7	mg/L	0.6	mg/L
Dissolved Iron	01/31/21	IMAX	0.7	mg/L	0.6	mg/L

Summary of Inspections: This facility was last inspected on February 26, 2021 and no violations were noted.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .01
Latitude 40º 4' 25.00" **Longitude** -79º 4' 39.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations (TBELs)

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

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

Water Quality-Based Limitations (WQBELs)

Pursuant to the EPA's approval of Pennsylvania's 2017 Triennial Review of Water Quality Standards and corresponding regulatory changes published in the *Pennsylvania Bulletin* on July 11, 2020, new water quality criteria for Ammonia-Nitrogen apply to waters of the commonwealth. Therefore, WQBELs for Outfall 001 are being re-evaluated even though there have been no changes to STP.

The effluent was modeled using WQM 7.0 to evaluate the $CBOD_5$, Ammonia-Nitrogen, and Dissolved Oxygen parameters. Modeling confirmed that a technology based effluent limit is appropriate for $CBOD_5$ Winter. The modeling determined that water quality based effluent limits for Ammonia-Nitrogen and $CBOD_5$ Summer are necessary to meet in-stream water quality criterion. WQM 7.0 output files are provided in Attachment A.

The facility is receiving new, more restrictive limits for Ammonia-Nitrogen as well as $CBOD_5$ winter. The facility as currently operating should be able to meet the new, more restrictive limits.

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

Parameter	Limit (mg/l)	SBC	Model
Ammonia-Nitrogen (winter)	10.5	Average Monthly	WQM 7.0
Ammonia-Nitrogen (summer)	9.0	Average Monthly	WQM 7.0
$CBOD_5$ (winter)	24.0	Average Monthly	WQM 7.0

A "Reasonable Potential Analysis" (Toxic Management Spreadsheet Version 1.3) was conducted.

The following limitations were determined through water quality modeling:

Parameter	Limit (mg/l)	SBC	Model
Iron, Dissolved	1.399	Average Monthly	TMS Version 1.3
Iron, Total	Report	Average Monthly	TMS Version 1.3

Permit limits with 2/month sampling for dissolved iron, total iron, total aluminum, and total manganese were previously imposed on the facility due the facility discharging to the Kiskiminetas-Conemaugh River Watershed. The maximum value for the last two years of data was input into the TMS Spreadsheet. It was determined that a monitor and report requirement for total iron and limit for dissolved iron are necessary based on the maximum value reported. Using the Department's TOXCONC spreadsheet and the two years of sample data, an average monthly value and coefficient of variation were calculated for both dissolved iron and total iron. These values were then input into TMS Version 1.3.

Based on the average value, a monitor and report requirement is recommended for dissolved iron. The limit for total iron is sufficiently restrictive and frequent to justify not requiring additional sampling for dissolved iron.

Based on the average value, a monitor and report requirement is no longer recommended for total iron due to the TMS results.

The output files for TMS Version 1.3 and the Department's TOXCONC Spreadsheet are included in Attachment B.

Kiskiminetas-Conemaugh River Watershed TMDL

Section 303(d) of the Clean Water Act and the U.S. Environmental Protection Agency's Water Quality Planning and Management Regulations (codified at Title 40 of the Code of Federal Regulations Part 130) require states to develop a TMDL for impaired water bodies. A TMDL establishes the amount of a pollutant that a water body can assimilate without exceeding water quality criteria for the pollutant. TMDLs also provide a scientific bases for states to establish water quality-based controls for reducing pollution from both point and non-point sources in order to restore and maintain the quality of the state's water resources (USEPA 1991a). Stream reaches within the Kiskiminetas-Conemaugh River Watershed are included in the state's 2008 Section 303(d) because of various impairments including metals, pH, and sediment. A TMDL for this watershed was finalized on January 29, 2010 to address metals, pH, and sediment impairments associated with abandoned mine drainage discharge.

A Final TMDL for the Kiskiminetas-Conemaugh River Watershed ("Kiski-Conemaugh TMDL") was completed on January 29, 2010 for the control of acid mine drainage pollutants: aluminum, iron, manganese, sediment, and pH. In accordance with 40 CFR § 122.44(d)(1)(vii)(B), when developing WQBELs, the permitting authority shall ensure that effluent limits developed to protect a narrative water criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation (WLA) for the discharge. The facility permit, PA0254223, is not listed in the Appendix G of the TMDL as the facility was built after the TMDL was finalized. Department policy states that if an existing discharge is to a receiving water with an approved TMDL, pollutants of concern that are limited under the TMDL have been detected in the discharge, and the TMDL does not assign a site-specific Waste Load Allocation, then the facility will be assigned water quality-based effluent limits that are equivalent to the most stringent water quality criteria. Because total iron, dissolved iron, total manganese, and total aluminum have all been detected in the facility's effluent, WQBELs will be imposed at Outfall 001. Only aluminum, total iron, dissolved iron, and manganese WQBELs will be imposed because the TMDL does not establish waste load allocations for sediment or pH. Instead, the TMDL assumes a surrogate approach where reduction to in-stream concentrations of aluminum, iron, and manganese will result in reduced exceedances for sediment and pH.

Under the TMDL, discharges of aluminum, iron, and manganese are allowed only to the extent that they will not cause or contribute to any violation of the water quality criteria. Therefore, the target concentrations published in the TMDL of 0.75 mg/L total recoverable aluminum, 1.5 mg/L total recoverable iron on a 30 day-average, 0.3 mg/L dissolved iron, and 1.0 mg/L total recoverable manganese were based on established water quality criteria. The methods used to implement water quality criteria are described in 25 Pa Code §§ 96.3 and 96.4. Additionally, Table 1 of the Department's *Water Quality Toxics Management Strategy* (Doc. No. 361-0100-003) addresses design conditions in detail, including the appropriate durations to assign to water quality criteria. The design duration for Criteria Maximum Concentration (CMC) criteria is 1 hour (acute). The design duration for Criteria Continuous Concentration (CCC) criteria is 4 days (chronic). The design duration for Threshold Human Health (THH) criteria is 30 days (chronic). The design duration for Cancer Risk Level (CRL) criteria is 70 years (chronic).

The 0.75 mg/L aluminum criterion in 25 Pa. Code § 93.8c is a CMC criterion with a duration of 1 hour. Therefore, 0.75 mg/L will be imposed as a maximum daily limit. There is no CCC criterion for aluminum which would necessitate a more restrictive monthly average limit. 0.75 mg/L will be imposed both as a maximum daily and average monthly limit.

The 1.5 mg/L iron criterion in 25 Pa. Code § 93.7(a). is expressed as a 30-day average. Therefore, 1.5 mg/L will be imposed as a monthly average limit. A maximum daily effluent limit of 3.0 mg/L was calculated by using a multiplier of two times the average monthly limit in accordance with the Department's Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (Doc. No. 362-0400-001, Chapter 3, pp. 15 – 16).

The 1.0 mg/L potable water supply criterion for manganese in 25 Pa. Code § 93.7(a). is a THH criterion with a duration of 30 days. Therefore, 1mg/L will be imposed as an average monthly limit. A maximum daily effluent limit of 2.0 mg/L was calculated using a multiplier of two times the average monthly limit consistent with the guidance sited above for total iron.

Mass loading limits will also be imposed for aluminum, total iron, dissolved iron, and manganese. Average monthly mass loading limits (lbs/day) are based on the formula: design flow (MGD) x concentration limit (mg/L) x conversion factor (8.34).

The mass loading limit for total iron is becoming more restrictive for total iron due to department rounding guidance. The facility as currently operating should be able to meet the new, more restrictive limit. Additionally, the daily maximum limit for total aluminum is becoming more restrictive because the maximum daily limit was incorrectly assigned during the last permit cycle. The facility as currently operating should be able to meet the new, more restrictive limit.

The following WQBELs are being assigned due to the Kiski-Conemaugh TMDL:

Parameter	Average Monthly (mg/l)	Maximum Daily (mg/L)	Average Monthly (lbs/day)
Aluminum, Total	0.75	0.75	0.06
Iron, Total	1.5	3.0	0.10
Manganese, Total	1.0	2.0	0.08

Best Professional Judgment (BPJ) Limitations

A Dissolved Oxygen minimum limitation of 4.0 mg/L will be implemented based on the standard in 25 PA Code Chapter 93 and best professional judgement.

Anti-Backsliding

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

Previous limits can be used pursuant to EPA's anti-backsliding regulation 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). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.**

Dissolved Iron

The 0.3 mg/L potable water supply dissolved iron criterion in 25 Pa. Code § 93.7(a) is a THH criterion with a duration of 30 days. Therefore, 0.3 mg/L was previously imposed as a monthly average limit. A maximum daily effluent limit of 0.6 mg/L was calculated by using a multiplier of two times the average monthly limit consistent with the guidance sited above for total iron.

The dissolved iron criteria for potable water supply must be met at the point of potable water withdrawal. The nearest potable water intake is Bethlehem Steel Johnstown PLT (PWSID 4110803) which is 12.4 miles downstream of Outfall 001 and located in the Quemahning Reservoir. Trib 45660 of Quemahning River connects to the Quemahning Reservoir via Quemahning Creek. Due to the distance between the water intake and assimilative capacity of the creek and reservoir into which Southside STP drains, the dissolved iron in the facility's effluent has a negligible effect on dissolved iron concentrations at the water supply intake.

While the Kiskiminetas-Conemaugh Watershed TMDL discusses dissolved iron, no dissolved iron wasteload allocations are identified in the TMDL.

Due to both the negligible impact of dissolved iron in regard to drinking water and the lack of dissolved iron wasteload allocations in the TMDL, there is not sufficient justification to impose a dissolved iron limitation. In accordance with 40 CFR 122.44.1.2.i.B.2, an exception can be made to antibacksliding if "the Administrator determines that… mistaken interpretations of law were made in issuing the permit." Because there is insufficient justification to impose dissolved iron limitations, and 40 CFR 122.44.1.2.i.B.2. justifies removing permit limits where a misinterpretation of the law resulted in a permit limit, a dissolved iron limitation will no longer be imposed.

Additional Considerations

Pursuant to EPA's approval of Pennsylvania's 2017 Triennial Review of Water Quality Standards and corresponding with regulatory changes published in the *Pennsylvania Bulletin* on July 11, 2020, sewage discharges will include monitoring, at a minimum for *E. coli,* in new and reissued permits, with a monitoring frequency of 1/year for design lows of 0.002 – 0.05 MGD.

For pH, Dissolved Oxygen (DO), and UV, a monitoring frequency of 1/day has been imposed. In general, less frequent monitoring may be established only when the permittee demonstrates that there will be no discharge on days where monitoring is not required.

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Department's Technical Guidance for the *Development and Specification of Effluent Limitations*. The sampling frequency for toxic parameters is being changed from 2/month to 1/week.

Mass Loading

Mass loading limits are applicable for publicly owned treatment works. Current policy requires average monthly mass loading units be established for CBOD5, TSS, and Ammonia-Nitrogen. Average monthly Mass loading limits (lbs/day) are based on the formula: design flow (MGD x concentration limit (mg/L) x conversion factor (8.34).

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" (362-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
CBOD5 Nov 1 - Apr 30	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
CBOD5 May 1 - Oct 31	XXX	XXX	XXX	24.0	XXX	48.0	2/month	Grab
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	Report	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	Grab
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	Report	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
UV Transmittance (%)	XXX	XXX	XXX	Report	Report	XXX	1/day	Measured

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	Report	XXX	XXX	10.5	XXX	21.0	2/month	Grab
Ammonia May 1 - Oct 31	Report	XXX	XXX	9.0	XXX	18.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Aluminum	0.06	XXX	XXX	0.75	0.75	XXX	1/week	Grab
Total Iron	0.10	XXX	XXX	1.5	3.0	XXX	1/week	Grab
Total Manganese	0.08	XXX	XXX	1.0	2.0	XXX	1/week	Grab

Compliance Sampling Location: Outfall #001

Other Comments:

ATTACHMENT A

WQM 7.0 Modeling Results

Summer

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18E	45660	Trib 45660 to S Fork Beaverdam Cr	1.250	2040.00	1.09	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.052	0.00	0.00	0.000	0.000	0.0	8.00	0.80	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
Southside STP	PA02254223	0.0100	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	9.01	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
18E	45660	Trib 45660 to S Fork Beaverdam Cr	0.010	1880.00	2.25	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.052	0.00	0.00	0.000	0.000	0.0	8.00	0.80	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
18E	45660	Trib 45660 to S Fork Beaverdam Cr

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												
1.250	0.06	0.00	0.06	.0155	0.02444	.8	8	10	0.01	6.732	20.00	7.00
Q1-10 Flow												
1.250	0.04	0.00	0.04	.0155	0.02444	NA	NA	NA	0.01	9.385	20.00	7.00
Q30-10 Flow												
1.250	0.08	0.00	0.08	.0155	0.02444	NA	NA	NA	0.01	5.248	20.00	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18E	45660	Trib 45660 to S Fork Beaverdam Cr

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
1.250	Southside STP	16.76	50	16.76	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.250	Southside STP	1.89	11.27	1.89	11.27	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)		
1.25	Southside STP	23.82	23.82	8.88	8.88	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18E	45660	Trib 45660 to S Fork Beaverdam Cr

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.250	0.010	20.000	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
8.000	0.800	10.000	0.011
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
6.68	0.179	1.91	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.934	1.622	Owens	6
Reach Travel Time (days)			
6.732			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.673	5.92	1.19	6.15
1.346	5.25	0.74	6.35
2.020	4.65	0.46	6.93
2.693	4.13	0.29	7.47
3.366	3.66	0.18	7.88
4.039	3.24	0.11	8.17
4.712	2.87	0.07	8.24
5.386	2.55	0.04	8.24
6.059	2.26	0.03	8.24
6.732	2.00	0.02	8.24

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18E	45660	Trib 45660 to S Fork Beaverdam Cr

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)
1.250	Southside STP	PA02254223	0.010	CBOD5	23.82		
				NH3-N	8.88	17.76	
				Dissolved Oxygen			4

Winter

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18E	45660	Trib 45660 to S Fork Beaverdam Cr	1.250	2040.00	1.09	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.052	0.00	0.00	0.000	0.000	0.0	8.00	0.80	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
Southside STP	PA02254223	0.0100	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	12.51	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
18E	45660	Trib 45660 to S Fork Beaverdam Cr	0.010	1880.00	2.25	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.052	0.00	0.00	0.000	0.000	0.0	8.00	0.80	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
18E	45660	Trib 45660 to S Fork Beaverdam Cr

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												
1.250	0.06	0.00	0.06	.0155	0.02444	.8	8	10	0.01	6.732	20.00	7.00
Q1-10 Flow												
1.250	0.04	0.00	0.04	.0155	0.02444	NA	NA	NA	0.01	9.385	20.00	7.00
Q30-10 Flow												
1.250	0.08	0.00	0.08	.0155	0.02444	NA	NA	NA	0.01	5.248	20.00	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18E	45660	Trib 45660 to S Fork Beaverdam Cr

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
1.250	Southside STP	16.76	50	16.76	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.250	Southside STP	1.89	11.27	1.89	11.27	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)		
1.25	Southside STP	25	25	10.3	10.3	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18E	45660	Trib 45660 to S Fork Beaverdam Cr

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.250	0.010	20.000	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
8.000	0.800	10.000	0.011
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
6.94	0.185	2.21	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
10.683	1.622	Owens	6
Reach Travel Time (days)			
6.732			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.673	6.13	1.38	6.72
1.346	5.41	0.86	6.31
2.020	4.78	0.54	6.77
2.693	4.22	0.34	7.31
3.366	3.73	0.21	7.76
4.039	3.29	0.13	8.09
4.712	2.90	0.08	8.24
5.386	2.56	0.05	8.24
6.059	2.26	0.03	8.24
6.732	2.00	0.02	8.24

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18E	45660	Trib 45660 to S Fork Beaverdam Cr

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)
1.250	Southside STP	PA02254223	0.010	CBOD5	25		
				NH3-N	10.3	20.6	
				Dissolved Oxygen			4

ATTACHMENT B

TMS Version 1.3 and TOXCONC Results

TMS Output File

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Southside STP** NPDES Permit No.: **PA0254223** Outfall No.: **001**

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

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.01	100	7						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L											
	Chloride (PWS)	mg/L											
	Bromide	mg/L											
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		100									
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	µg/L											
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L		480									
	Total Iron	µg/L		540									
	Total Lead	µg/L											
	Total Manganese	µg/L		30									
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	µg/L											
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

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

	2,6-Dinitrotoluene	µg/L	<											
	Di-n-Octyl Phthalate	µg/L	<											
	1,2-Diphenylhydrazine	µg/L	<											
	Fluoranthene	µg/L	<											
	Fluorene	µg/L	<											
	Hexachlorobenzene	µg/L	<											
	Hexachlorobutadiene	µg/L	<											
	Hexachlorocyclopentadiene	µg/L	<											
	Hexachloroethane	µg/L	<											
	Indeno(1,2,3-cd)Pyrene	µg/L	<											
	Isophorone	µg/L	<											
	Naphthalene	µg/L	<											
	Nitrobenzene	µg/L	<											
	n-Nitrosodimethylamine	µg/L	<											
	n-Nitrosodi-n-Propylamine	µg/L	<											
	n-Nitrosodiphenylamine	µg/L	<											
	Phenanthrene	µg/L	<											
	Pyrene	µg/L	<											
	1,2,4-Trichlorobenzene	µg/L	<											
Group 6	Aldrin	µg/L	<											
	alpha-BHC	µg/L	<											
	beta-BHC	µg/L	<											
	gamma-BHC	µg/L	<											
	delta BHC	µg/L	<											
	Chlordane	µg/L	<											
	4,4-DDT	µg/L	<											
	4,4-DDE	µg/L	<											
	4,4-DDD	µg/L	<											
	Dieldrin	µg/L	<											
	alpha-Endosulfan	µg/L	<											
	beta-Endosulfan	µg/L	<											
	Endosulfan Sulfate	µg/L	<											
	Endrin	µg/L	<											
	Endrin Aldehyde	µg/L	<											
	Heptachlor	µg/L	<											
	Heptachlor Epoxide	µg/L	<											
	PCB-1016	µg/L	<											
	PCB-1221	µg/L	<											
	PCB-1232	µg/L	<											
	PCB-1242	µg/L	<											
	PCB-1248	µg/L	<											
	PCB-1254	µg/L	<											
	PCB-1260	µg/L	<											
	PCBs, Total	µg/L	<											
	Toxaphene	µg/L	<											
	2,3,7,8-TCDD	ng/L	<											
Group 7	Gross Alpha	pCi/L												
	Total Beta	pCi/L	<											
	Radium 226/228	pCi/L	<											
	Total Strontium	µg/L	<											
	Total Uranium	µg/L	<											
	Osmotic Pressure	mOs/kg												

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Southside STP, NPDES Permit No. PA0254223, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **UNT Quemahoning Creek**

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	045660	1.25	2040	1.09	0.0155		Yes
End of Reach 1	045660	0.01	1880	2.25			Yes

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

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	1.25	0.052				8	0.8	0.01				100	7		
End of Reach 1	0.01	0.052													

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	1.25														
End of Reach 1	0.01														

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Southside STP, NPDES Permit No. PA0254223, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.608 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	750	750	3,498	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	

☑ ***CFC*** CCT (min): 0.608 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	6,996	WQC = 30 day average; PMF = 1
Total Manganese	0	0		0	N/A	N/A	N/A	

☑ ***THH*** CCT (min): 0.608 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	1,399	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	4,664	

☑ ***CRL*** CCT (min): 0.226 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	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
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	1,399	THH	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 Aluminum	2,242	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	6,996	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	4,664	µg/L	Discharge Conc ≤ 10% WQBEL

Total Iron TOXCONC Outputs

Facility:	Southside STP					
NPDES #:	PA0254223					
Outfall No:	001					
n (Samples/Month):	4					
Reviewer/Permit Engineer:	Conrad					
Parameter Name	Total Iron					
Units	mg/L					
Detection Limit	0.05					
Sample Date	*When entering values below the detection limit, enter "ND" or use the < notation (eg. <0.02)*					
01/14/20	0.54					
01/30/20	0.08					
02/20/20	0.53					
03/04/20	0.41					
03/16/20	0.26					
04/01/20	0.11					
04/15/20	0.05					
04/30/20	0.32					
05/15/20	0.1					
06/01/20	0.1					
06/10/20	0.13					
06/23/20	0.15					
07/14/20	0.06					
08/06/20	<0.05					
08/19/20	<0.05					
09/04/20	<0.05					
09/24/20	0.06					
10/02/20	<0.05					
10/19/20	<0.05					
10/30/20	0.05					
11/16/20	0.06					
11/30/20	<0.05					
12/18/20	<0.05					
12/31/20	0.08					
01/05/21	0.9					
01/20/21	0.18					
02/01/21	0.15					
02/25/21	<0.05					
03/04/21	0.13					
03/17/21	0.1					
04/13/21	<0.05					
04/26/21	<0.05					
05/05/21	<0.05					
05/18/21	<0.05					
06/08/21	<0.05					
06/24/21	<0.05					
07/07/21	<0.05					
07/27/21	<0.05					
08/03/21	<0.05					
08/16/21	<0.05					
09/14/21	<0.05					
09/21/21	0.06					
10/07/21	<0.05					
10/27/21	<0.05					
11/08/21	<0.05					
11/29/21	<0.05					
12/07/21	0.05					
12/20/21	<0.05					

		Reviewer/Permit Engineer:	Conrad
Facility:	Southside STP		
NPDES #:	PA0254223		
Outfall No:	001		
n (Samples/Month):	4		

Parameter	Distribution Applied	Coefficient of Variation (daily)	Avg. Monthly
Total Iron (mg/L)	Delta-Lognormal	1.2742861	0.3355025

Dissolved Iron TOXCONC Outputs

	Facility:	Southside STP				
	NPDES #:	PA0254223				
	Outfall No:	001				
	n (Samples/Month):	4				
	Reviewer/Permit Engineer:	Conrad				
Parameter Name	Dissolved Iron					
Units	mg/L					
Detection Limit	0.05					
Sample Date	*When entering values below the detection limit, enter "ND" or use the < notation (eg. <0.02)*					
01/14/22	0.48					
01/30/20	0.07					
02/20/20	0.48					
03/04/20	0.36					
03/16/20	0.3					
04/01/20	0.15					
04/15/20	<0.05					
04/30/20	0.26					
05/15/20	0.08					
06/01/20	0.08					
06/10/20	0.11					
06/23/20	0.12					
07/14/20	<0.05					
08/06/20	<0.05					
08/19/20	<0.05					
09/04/20	<0.05					
09/24/20	<0.05					
10/02/20	<0.05					
10/19/20	<0.05					
10/30/20	<0.05					
11/16/20	<0.05					
11/30/20	0.06					
12/18/20	<0.05					
12/31/20	<0.05					
01/05/21	0.71					
01/20/21	0.17					
02/01/21	0.12					
02/25/21	<0.05					
03/04/21	0.07					
03/17/21	0.07					
04/13/21	<0.05					
04/26/21	<0.05					
05/05/21	<0.05					
05/18/21	<0.05					
06/08/21	<0.05					
06/24/21	<0.05					
07/07/21	<0.05					
07/27/21	<0.05					
08/03/21	<0.05					
08/16/21	<0.05					
09/14/21	<0.05					
09/21/21	<0.05					
10/07/21	<0.05					
10/27/21	<0.05					
11/08/21	<0.05					
11/29/21	<0.05					
12/07/21	<0.05					
12/20/21	<0.05					

Reviewer/Permit Engineer: Conrad

Facility: Southside STP
NPDES #: PA0254223
Outfall No: 001
n (Samples/Month): 4

Parameter	Distribution Applied	Coefficient of Variation (daily)	Avg. Monthly
Dissolved Iron (mg/L)	Delta-Lognormal	1.3377142	0.3038971

TMS Output Using TOXCONC Outputs

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Southside STP** NPDES Permit No.: **PA0254223** Outfall No.: **001**

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

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.01	100	7						

					0 if left blank	0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L											
	Chloride (PWS)	mg/L											
	Bromide	mg/L											
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		100									
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	µg/L											
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L		303			1.3377						
	Total Iron	µg/L		336			1.2743						
	Total Lead	µg/L											
	Total Manganese	µg/L		30									
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	µg/L											
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

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

	2,6-Dinitrotoluene	µg/L	<										
	Di-n-Octyl Phthalate	µg/L	<										
	1,2-Diphenylhydrazine	µg/L	<										
	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										
	Indeno(1,2,3-cd)Pyrene	µg/L	<										
	Isophorone	µg/L	<										
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<										
	n-Nitrosodimethylamine	µg/L	<										
	n-Nitrosodi-n-Propylamine	µg/L	<										
	n-Nitrosodiphenylamine	µg/L	<										
	Phenanthrene	µg/L	<										
	Pyrene	µg/L	<										
	1,2,4-Trichlorobenzene	µg/L	<										
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Southside STP, NPDES Permit No. PA0254223, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: **UNT Quemahoning Creek**

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	045660	1.25	2040	1.09	0.0155		Yes
End of Reach 1	045660	0.01	1880	2.25			Yes

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

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	1.25	0.052				8	0.8	0.01				100	7		
End of Reach 1	0.01	0.052													

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	1.25														
End of Reach 1	0.01														

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
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Model Results

Southside STP, NPDES Permit No. PA0254223, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.608 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	750	750	3,498	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	

☑ ***CFC*** CCT (min): 0.608 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	6,996	WQC = 30 day average; PMF = 1
Total Manganese	0	0		0	N/A	N/A	N/A	

☑ ***THH*** CCT (min): 0.608 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	300	300	1,399	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	4,664	

☑ ***CRL*** CCT (min): 0.226 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Aluminum	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Manganese	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
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	1,399	THH	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 Aluminum	2,242	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	6,996	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	4,664	µg/L	Discharge Conc ≤ 10% WQBEL

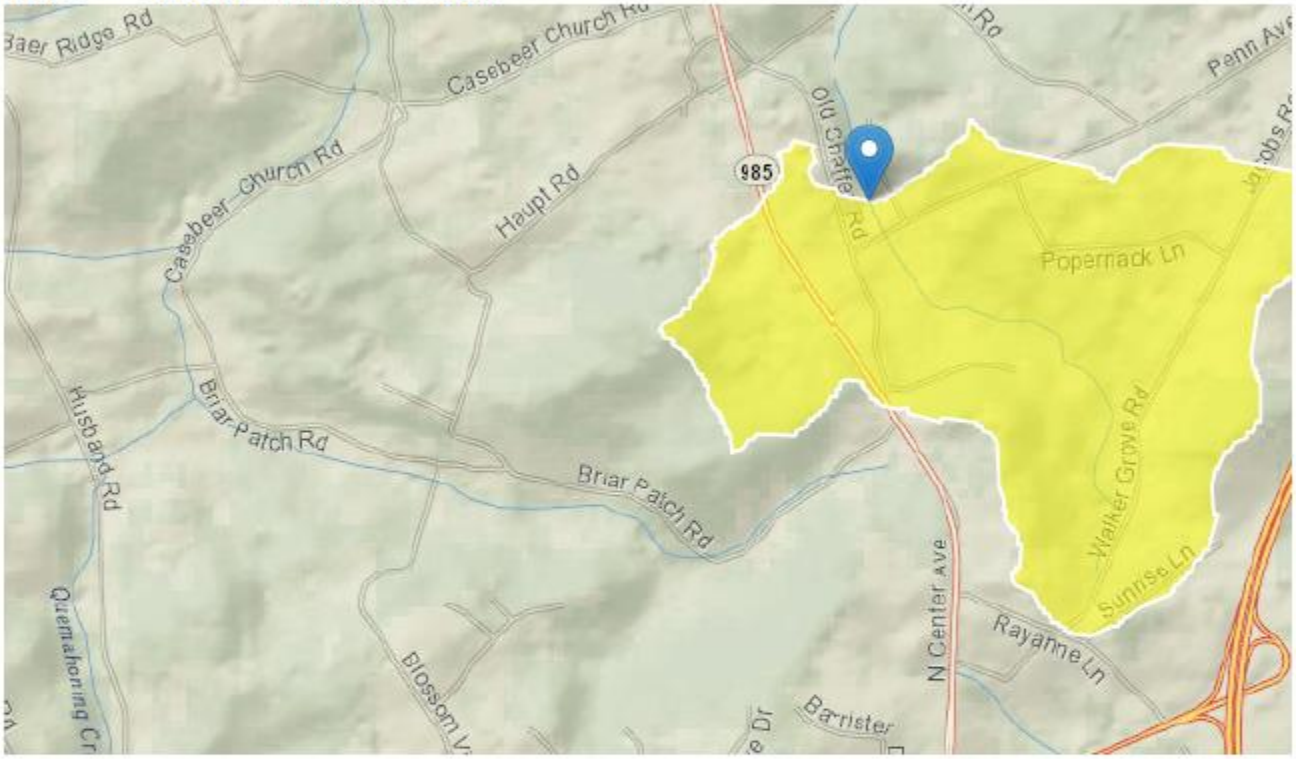
ATTACHMENT C

USGS Stream Stats Output

Point of Discharge

StreamStats Report

Region ID: PA
Workspace ID: PA20220112163146519000
Clicked Point (Latitude, Longitude): 40.07430, -79.07802
Time: 2022-01-12 11:32:06 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1.09	square miles
ELEV	Mean Basin Elevation	2183	feet
PRECIP	Mean Annual Precipitation	43	inches

Low-Flow Statistics Disclaimers [100.0 Percent (1.09 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 [100.0 Percent (1.09 square miles) Low Flow Region 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.142	ft^3/s
30 Day 2 Year Low Flow	0.205	ft^3/s
7 Day 10 Year Low Flow	0.0566	ft^3/s
30 Day 10 Year Low Flow	0.0781	ft^3/s
90 Day 10 Year Low Flow	0.117	ft^3/s

Low-Flow Statistics Citations

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

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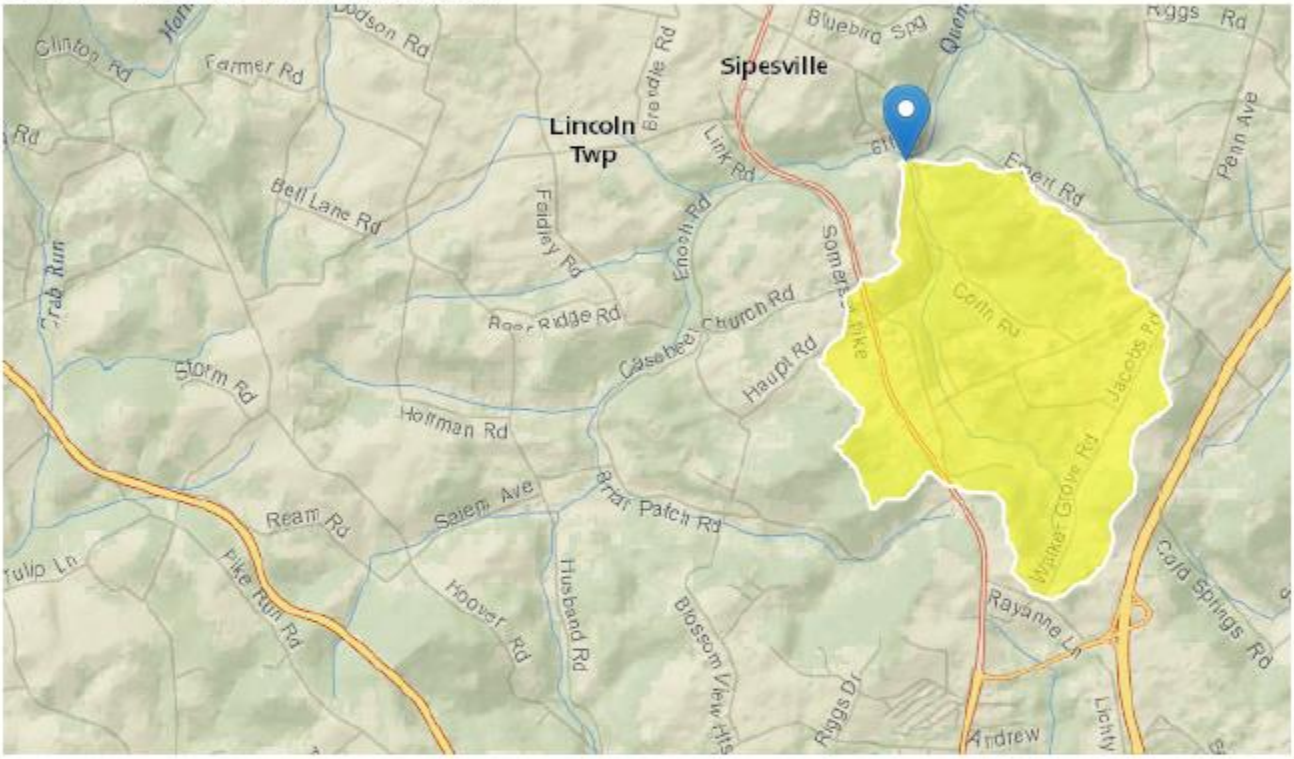
Downstream from the Point of Discharge

StreamStats Report

Region ID: PA
Workspace ID: PA20220112163544908000
Clicked Point (Latitude, Longitude): 40.08994, -79.08087
Time: 2022-01-12 11:36:05 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2.25	square miles
ELEV	Mean Basin Elevation	2162	feet
PRECIP	Mean Annual Precipitation	43	inches