pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0205681**
Facility Type	**Municipal**	APS ID	**1058207**
Major / Minor	**Minor**	Authorization ID	**1387464**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Somerset Township Municipal Authority**	Facility Name	**SCI Somerset STP**
Applicant Address	PO Box 247	Facility Address	1450 Walters Mill Rd
	Somerset, PA 15501-0247		Somerset, PA 15501-0247
Applicant Contact	Carolyn Zambanini	Facility Contact	Same as applicant
Applicant Phone	(814) 445-5842	Facility Phone	Same as applicant
Client ID	25312	Site ID	487079
Ch 94 Load Status	Not Overloaded	Municipality	Black Township
Connection Status	No Limitations	County	Somerset
Date Application Received	March 7, 2022	EPA Waived?	Yes
Date Application Accepted	March 14, 2022	If No, Reason	

Purpose of Application: Application for renewal of NPDES permit for the discharge of treated sewage.

Summary of Review

The applicant has applied for the renewal of NPDES Permit No. PA0205671. The previous permit was issued on August 10, 2017 and expired on August 31, 2022. The permit is currently under administrative extension.

Sewage from this plant is treated with oxidation ditches, clarifiers, aerobic digestors, a sand filter, and sodium hypochlorite disinfection.

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

The Act 14-PL 834 Municipal Notification was provided by the January 18, 2022 letters and no comments were received.

Below is a summary of changes made to this permit:

- *E. Coli* monitoring was imposed.
- Ammonia-nitrogen and total residual chlorine limits have become more stringent.
- Weekly average ammonia-nitrogen limits were removed.
- Weekly average mass loading limitations for ammonia-nitrogen have been imposed.
- All instances of 8-hr composite sampling have been changed to 24-hr composite sampling.
- Annual monitoring for total aluminum, total iron, and total manganese have been imposed because the receiving waters are subject to two TMDLs.
- WQBELs were imposed for total copper and total zinc.

Approve	Deny	Signatures	Date
X		Grace Polakoski Grace Polakoski, E.I.T. / Environmental Engineering Specialist	July 1, 2022
x		Mahbuba Iasmin Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineer Manager	September 9, 2022

Summary of Review
Sludge use and disposal description and location(s): Mostollars Landfill, 7095 Glades Pike Rd, Somerset, 15501 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)	0.42
Latitude	39º 57' 42"	Longitude	-79º 2' 51"
Quad Name	Murdock	Quad Code	39079H1
Wastewater Description:	Sewage Effluent		
Receiving Waters	UNT to Laurel Run	Stream Code	38976
NHD Com ID	69917491	RMI	1.15
Drainage Area	0.45 sq. mi.	Yield (cfs/mi^2)	0.0104
Q_{7-10} Flow (cfs)	0.0047	Q_{7-10} Basis	USGS StreamStats (Attachment A)
Elevation (ft)	2423	Slope (ft/ft)	
Watershed No.	19-F	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	**pH; siltation; total suspended solids; turbidity; aluminum; iron; manganese; pH, low**		
Source(s) of Impairment	**Abandoned mine drainage (AMD)**		
TMDL Status	Final, Final	Name	Coxes Creek Watershed, Laurel Run Somerset County

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

Nearest Downstream Public Water Supply Intake		Indian Creek Valley Water Authority	
PWS Waters	Youghiogheny	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	41.95

Changes Since Last Permit Issuance:

Coxes Creek Watershed TMDL

A TMDL for the Coxes Creek watershed was approved on April 9, 2009 for the control of abandoned mine drainage pollutants: pH, iron, aluminum, and manganese. In accordance with 40 CFR § 122.44(d)(1)(vii)(B), when developing WQBELs, the permitting authority shall ensure that effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation (WLA) for the discharge prepared by the State and approved by the EPA pursuant to 40 CFR § 130.7.
The SCI Somerset STP was not assigned wasteload allocations for iron, aluminum, and manganese by the Clearfield Creek Watershed TMDL, therefore the Department will impose annual monitoring for aluminum, iron, and manganese.

Laurel Run Somerset County TMDL

A TMDL for Laurel Run Somerset County was approved on July 10, 2008 for the control of abandoned mine drainage pollutants: pH, iron, aluminum, manganese, and metals. In accordance with 40 CFR § 122.44(d)(1)(vii)(B), when developing WQBELs, the permitting authority shall ensure that effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation (WLA) for the discharge prepared by the State and approved by the EPA pursuant to 40 CFR § 130.7.

The SCI Somerset STP was not assigned wasteload allocations for iron, aluminum, and manganese by the Clearfield Creek Watershed TMDL, therefore the Department will impose annual monitoring for aluminum, iron, and manganese.

Treatment Facility Summary

Treatment Facility Name: Sci Somerset STP

WQM Permit No.	Issuance Date
5692401-A4	11/18/1998
5692401-A5	4/20/2000
5692401-A6	6/6/2003

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Activated Sludge	Gas Chlorine	0.42

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.42	788	Not Overloaded		Landfill

Changes Since Last Permit Issuance: N/A

Compliance History

Facility: SCI Somerset STP
NPDES Permit No.: PA0205681
Compliance Review Period: 3/2017 – 3/2022

Inspection Summary:

INSP ID	INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC
3308594	11/16/2021	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted
3308591	11/16/2021	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted
3308599	11/16/2021	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted
2861056	02/26/2019	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted
2692233	02/05/2018	Routine/Partial Inspection	PA Dept of Environmental Protection	No Violations Noted
2600727	03/16/2017	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted

Violation Summary: No violations

Open Violations by Client ID: No open CW violations for client id 25312
Enforcement Summary: No enforcements

DMR Violation Summary:

MONITORING END DATE	OUTFALL	PARAMETER	STATISTICAL BASE CODE	PERMIT VALUE	SAMPLE VALUE	UNIT OF MEASURE
7/31/2018	1	Fecal Coliform	Instantaneous Maximum	1000	1330	No./100 ml
3/31/2019	1	Ammonia-Nitrogen	Weekly Average	4.2	6.1	mg/L
9/30/2019	1	Total Residual Chlorine (TRC)	Instantaneous Maximum	0.18	0.22	mg/L
7/31/2020	1	Fecal Coliform	Instantaneous Maximum	1000	2495	No./100 ml
8/31/2020	1	Fecal Coliform	Instantaneous Maximum	1000	12997	No./100 ml
8/31/2020	1	Fecal Coliform	Geometric Mean	200	1875	No./100 ml
10/31/2020	1	Total Suspended Solids	Weekly Average	52.5	119	lbs/day
10/31/2020	1	Total Suspended Solids	Average Monthly	10	13	mg/L
10/31/2020	1	Total Suspended Solids	Weekly Average	15	45	mg/L
5/31/2021	1	Fecal Coliform	Geometric Mean	200	208	No./100 ml
6/30/2021	1	Total Suspended Solids	Weekly Average	15	22	mg/L
11/30/2021	1	Fecal Coliform	Instantaneous Maximum	10000	24196	No./100 ml

Compliance Status: State owned facility
Completed by: John Murphy
Completed date: 3/18/2022

Compliance History

DMR Data for Outfall 001 (from February 1, 2021 to January 31, 2022)

Parameter	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21
Flow (MGD) Average Monthly	0.292	0.294	0.285	0.278	0.273	0.266	0.276	0.277	0.377	0.304	0.321	0.315
Flow (MGD) Daily Maximum	0.336	0.346	0.328	0.331	0.379	0.312	0.333	0.371	0.458	0.337	0.424	0.356
pH (S.U.) Minimum	6.5	6.8	6.1	6.3	6.5	7.1	7.0	6.9	7.0	7.1	7.1	7.4
pH (S.U.) Maximum	7.2	7.3	7.8	7.9	7.9	7.8	7.5	7.5	8.1	7.8	7.8	7.7
DO (mg/L) Minimum	6.4	6.3	6.1	5.0	5.2	5.6	5.3	5.3	5.3	5.5	5.9	6.7
TRC (mg/L) Average Monthly	0.12	0.01	0.01	0.03	0.03	0.02	0.03	0.03	0.04	0.02	0.02	0.03
TRC (mg/L) Instantaneous Maximum	1.51	0.04	0.04	0.09	0.16	0.05	0.12	0.18	0.18	0.09	0.11	0.08
CBOD5 (lbs/day) Average Monthly	7.0	9.0	5.0	5.0	5.0	7.0	7.0	8.0	7.0	6.0	6.0	6.0
CBOD5 (lbs/day) Weekly Average	11.0	13.0	5.0	5.0	6.0	10.0	13.0	12.0	12.0	8.0	9.0	8.0
CBOD5 (mg/L) Average Monthly	3.0	4.0	2.0	2.0	2.0	3.0	3.0	4.0	3.0	2.0	2.0	2.0
CBOD5 (mg/L) Weekly Average	4.0	5.0	2.0	2.0	2.0	4.0	5.0	6.0	5.0	3.0	3.0	3.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	289.0	489	263	280	457	483	412	356	459	394	349	417
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	364.0	565	349	327	649	514	508	582	670	586	394	457
BOD5 (mg/L) Raw Sewage Influent Average Monthly	95.0	171	94	94	146	150	139	118	125	107	98	118
TSS (lbs/day) Average Monthly	7.0	6.0	7.0	9.0	11.0	12.0	13.0	22.0	13.0	7.0	7.0	6.0

TSS (lbs/day) Raw Sewage Influent Average Monthly	371.0	392	446	349	383	462	628	244	417	328	412	564
TSS (lbs/day) Raw Sewage Influent Daily Maximum	425.0	540	625	644	556	526	801	560	558	527	561	683
TSS (lbs/day) Weekly Average	11.0	8.0	14.0	12.0	15.0	16.0	23.0	45.0	17.0	11.0	9.0	6.0
TSS (mg/L) Average Monthly	3.0	2.0	3.0	4.0	4.0	5.0	6.0	10.0	5.0	3.0	2.0	2.0
TSS (mg/L) Raw Sewage Influent Average Monthly	121.0	136	157	114	125	144	211	79	114	89	115	160
TSS (mg/L) Weekly Average	4.0	3.0	6.0	5.0	6.0	6.0	10.0	22.0	7.0	4.0	3.0	2.0
Fecal Coliform (No./100 ml) Geometric Mean	4	71	263	51	11	24	161	59	208	8	1	11
Fecal Coliform (No./100 ml) Instantaneous Maximum	21	964	24196	965	460	34	356	989	866	35	2	772
Total Nitrogen (mg/L) Daily Maximum		< 2.83										
Ammonia (mg/L) Average Monthly	0.1	0.3	0.2	0.3	0.2	< 0.1	0.2	0.9	0.3	0.1	0.1	0.1
Ammonia (mg/L) Weekly Average	0.1	0.9	0.3	1.0	0.7	< 0.1	0.4	2.9	0.7	0.1	0.1	0.1
Total Phosphorus (mg/L) Daily Maximum		2.10										

Compliance History

Effluent Violations for Outfall 001, from: March 1, 2021 To: January 31, 2022

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TRC	01/31/22	Avg Mo	0.12	mg/L	.06	mg/L
TRC	01/31/22	Avg Mo	0.12	mg/L	.06	mg/L
TRC	01/31/22	IMAX	1.51	mg/L	.18	mg/L
TRC	01/31/22	IMAX	1.51	mg/L	.18	mg/L
TSS	06/30/21	Wkly Avg	22.0	mg/L	15.0	mg/L
Fecal Coliform	05/31/21	Geo Mean	208	No./100 ml	200	No./100 ml
Fecal Coliform	11/30/21	IMAX	24196	No./100 ml	10000	No./100 ml

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.42
Latitude 39º 57' 42.00" **Longitude** -79º 2' 51.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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)

Other Comments: During the last permit cycle, TSS limits that were more stringent than the above TBELs were imposed. To comply with anti-backsliding regulations, the more stringent of the TSS limits will be imposed during this permit cycle.

Water Quality-Based Limitations

WQM7.0 was used to evaluate the discharge parameters of $CBOD_5$, ammonia-nitrogen, and dissolved oxygen. TRC_CALC was used to evaluate the total residual chlorine in the discharge. The modeling results show that the technology-based effluent limitations for $CBOD_5$ are appropriate. However, during the last permit cycle, more stringent $CBOD_5$ limits were imposed. To comply with anti-backsliding regulations, the more stringent $CBOD_5$ limits will be imposed during this permit cycle. The modeling results confirm that water-quality based effluent limitations are necessary for ammonia-nitrogen, dissolved oxygen, and total residual chlorine. Weekly average limitations for ammonia-nitrogen were present in the previous permit but have been removed in this permit because they are not called for in the most recent DEP SOP "Establishing Effluent Limitations for Individual Sewage Permits" (BCW-PMT-033, Rev. March 24, 2021). A compliance schedule to achieve the proposed TRC limits will likely be necessary. The DEP proposes to give the permittee one year to meet the proposed WQBELs for TRC. Details on the compliance schedule can be found in Part C of the NPDES Permit. Based on a review of eDMR data for the past permit cycle, SCI Somerset STP should be able to immediately comply with the more stringent ammonia-nitrogen limits.

The following limitations were determined through water quality modeling (Attachments B, C, and D):

Parameter	Limit (mg/l)	SBC	Model
Dissolved Oxygen	5	Minimum	WQM7.0
Ammonia Nitrogen (Nov 1 – Apr 30)	2.65	Average Monthly	WQM7.0
Ammonia Nitrogen (May 1 – Oct 31)	1.9	Average Monthly	WQM7.0
Total Residual Chlorine	0.009	Average Monthly	TRC_CALC

A Pre-Draft Survey (Attachment E) was sent to the permittee on March 29, 2022. The Pre-Draft Survey included the option for the permittee to resample the effluent since the target quantitation limits (QLs) were not met in the first round of testing. The Pre-Draft Survey Response (Attachment F) was returned on April 28, 2022 and indicated that the permittee would conduct resampling to achieve the target QLs. The resampling results were returned on June 30, 2022. The average of the 4 provided values for hardness was 96.93 mg/L. A "Reasonable Potential Analysis" was performed using the "Toxics Management Spreadsheet" (Attachment G) and the following WQBELs were recommended for this facility:

Pollutant	Average Monthly (µg/L)	Maximum Daily (µg/L)	IMAX (µg/L)
Total Copper	9.15	13.7	13.7
Total Zinc	117	118	118

Refer to Part C.III of the permit for more details on performing a Toxics Reduction Evaluation (TRE) and the associated proposed compliance schedule.

Best Professional Judgment (BPJ) Limitations

Typically, 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 judgment. However, since the WQM7.0 suggested the value of 5.0 mg/L, the more stringent of the two will be imposed during this permit cycle.

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.**

The facility is not seeking to revise the previously permitted effluent limits.

Mass Loading Limitations

Per Department SOP "Establishing Effluent Limitations for Individual Sewage Permits" (BCW-PMT-033), mass loading limits will be established for POTWs for $CBOD_5$, TSS, and ammonia nitrogen. Average monthly mass loading limits will be established for $CBOD_5$, TSS, and ammonia nitrogen. Average weekly mass loading limits will be established for $CBOD_5$ and TSS. Mass loading limits will be calculated according to the formula below:

$$average\ annual\ design\ flow\ (MGD) \times concentration\ limit\ \left(\frac{mg}{L}\right) \times 8.34\ (converstion\ factor)$$
$$= mass\ loading\ limit\ \left(\frac{lbs}{day}\right)$$

The following mass loading limitations were calculated:

Parameter	Average Monthly (lbs/day)	Average Weekly (lbs/day)
$CBOD_5$	35	52.5

TSS	35	52.5
Ammonia Nitrogen (May 1 – Oct 31)	6.66	-
Ammonia Nitrogen (Nov 1 – Apr 30)	9.28	-

Influent Monitoring

Per Department SOP "New and Reissuance Sewage Individual NPDES Permit Applications" (BCW-PMT-002), POTWs with design flows greater than 2,000 GPD, influent BOD_5 and TSS monitoring will be established in the permit. The influent monitoring will be established with the same frequency and sample type as the effluent sampling.

Additional Considerations

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

The receiving stream is not impaired for nutrients, therefore, annual sampling for nitrogen and phosphorus will be imposed per 25 PA Code §92.61b.

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.

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 End of 1st Year from 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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.06	XXX	0.18	1/day	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" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through End of 2nd Year from 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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Copper, Total (ug/L)	XXX	XXX	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Zinc, Total (ug/L)	XXX	XXX	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite

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

Outfall 001, Effective Period: Beginning of 2nd Year from Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.009	XXX	0.031	1/day	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" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Beginning of 3rd Year From Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Copper, Total (ug/L)	XXX	XXX	XXX	9.15	13.7 Daily Max	13.7	1/week	24-Hr Composite
Zinc, Total (ug/L)	XXX	XXX	XXX	117.0	118.0 Daily Max	118.0	1/week	24-Hr Composite

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" (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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	0.420	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	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	35.0	52.5	XXX	10.0	15.0	20	1/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids	35.0	52.5	XXX	10.0	15.0	20	1/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	9.28	XXX	XXX	2.65	XXX	5.3	1/week	24-Hr Composite

Outfall 001 , Continued (from Permit Effective Date through Permit Expiration Date)

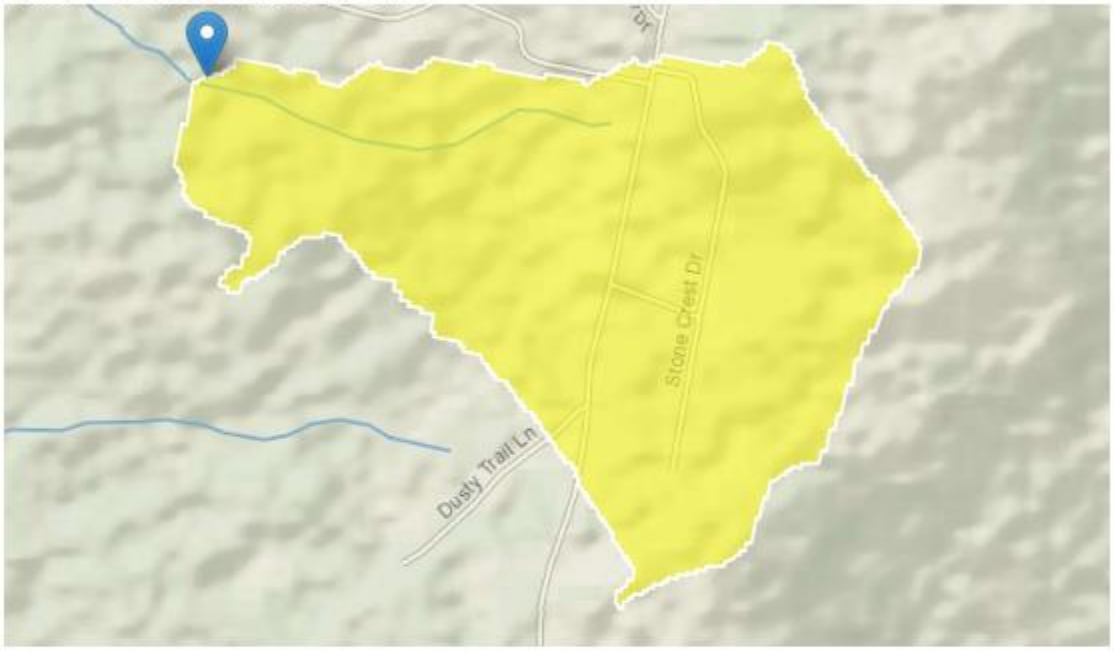
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ammonia-Nitrogen May 1 - Oct 31	6.66	XXX	XXX	1.9	XXX	3.8	1/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	24-Hr Composite
Aluminum, Total	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	24-Hr Composite
Iron, Total	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	24-Hr Composite
Manganese, Total	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	24-Hr Composite

Compliance Sampling Location: Outfall 001

ATTACHMENT A:
USGS STREAMSTATS

StreamStats Report

Region ID: PA
Workspace ID: PA20220328142949009000
Clicked Point (Latitude, Longitude): 39.96171, -79.04734
Time: 2022-03-28 10:30:08 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.45	square miles
ELEV	Mean Basin Elevation	2568	feet

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.45	square miles	2.26	1400

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
ELEV	Mean Basin Elevation	2568	feet	1050	2580

Low-Flow Statistics Disclaimers [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 [Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0213	ft^3/s
30 Day 2 Year Low Flow	0.0447	ft^3/s
7 Day 10 Year Low Flow	0.0047	ft^3/s
30 Day 10 Year Low Flow	0.0115	ft^3/s
90 Day 10 Year Low Flow	0.029	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/)

ATTACHMENT B:
WQM 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
19F	38976	Trib 38976 to Laurel Run	**1.150**	2423.00	0.45	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	0.010	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
SCI Somerset	PA0205681	0.0000	0.0000	0.4200	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	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
19F	38976	Trib 38976 to Laurel Run	**1.050**	2413.00	0.47	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	0.011	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

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

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

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19F	38976	Trib 38976 to Laurel Run

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
1.150	0.00	0.00	0.00	.6497	0.01894	.491	6.05	12.33	0.22	0.028	20.04	7.00
Q1-10 Flow												
1.150	0.00	0.00	0.00	.6497	0.01894	NA	NA	NA	0.22	0.028	20.02	7.00
Q30-10 Flow												
1.150	0.01	0.00	0.01	.6497	0.01894	NA	NA	NA	0.22	0.028	20.05	7.00

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19F	38976	Trib 38976 to Laurel Run

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.150	0.420	20.036	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
6.048	0.491	12.330	0.221
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.83	1.499	1.89	0.702
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.023	29.468	Owens	5
Reach Travel Time (days)			
0.028			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.003	24.73	1.88	5.18
0.006	24.63	1.88	5.33
0.008	24.53	1.87	5.47
0.011	24.43	1.87	5.59
0.014	24.32	1.87	5.71
0.017	24.22	1.86	5.82
0.019	24.12	1.86	5.92
0.022	24.02	1.86	6.01
0.025	23.92	1.85	6.10
0.028	23.82	1.85	6.18

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19F	38976	Trib 38976 to Laurel Run

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.150	SCI Somerset	16.73	16.81	16.73	16.81	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
1.150	SCI Somerset	1.88	1.9	1.88	1.9	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)		
1.15	SCI Somerset	25	25	1.9	1.9	5	5	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19F	38976	Trib 38976 to Laurel Run

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
1.150	SCI Somerset	PA0205681	0.000	CBOD5	25		
				NH3-N	1.9	3.8	
				Dissolved Oxygen			5

ATTACHMENT C:
WQM MODELING RESULTS (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
19F	38976	Trib 38976 to Laurel Run	**1.150**	2423.00	0.45	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	0.021	0.00	0.00	0.000	0.000	0.0	0.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
SCI Somerset	PA0205681	0.0000	0.0000	0.4200	0.000	15.00	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
19F	38976	Trib 38976 to Laurel Run	**1.050**	2413.00	0.47	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	0.021	0.00	0.00	0.000	0.000	0.0	0.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

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

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

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19F	38976	Trib 38976 to Laurel Run

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
1.150	0.00	0.00	0.00	.6497	0.01894	.491	6.05	12.33	0.22	0.028	14.93	7.00
Q1-10 Flow												
1.150	0.00	0.00	0.00	.6497	0.01894	NA	NA	NA	0.22	0.028	14.95	7.00
Q30-10 Flow												
1.150	0.01	0.00	0.01	.6497	0.01894	NA	NA	NA	0.22	0.028	14.90	7.00

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19F	38976	Trib 38976 to Laurel Run

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.150	0.420	20.036	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
6.048	0.491	12.330	0.221
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.83	1.499	1.89	0.702
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.023	29.468	Owens	5
Reach Travel Time (days)			
0.028			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.003	24.73	1.88	5.18
0.006	24.63	1.88	5.33
0.008	24.53	1.87	5.47
0.011	24.43	1.87	5.59
0.014	24.32	1.87	5.71
0.017	24.22	1.86	5.82
0.019	24.12	1.86	5.92
0.022	24.02	1.86	6.01
0.025	23.92	1.85	6.10
0.028	23.82	1.85	6.18

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19F	38976	Trib 38976 to Laurel Run

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
1.150	SCI Somerset	16.73	16.81	16.73	16.81	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
1.150	SCI Somerset	1.88	1.9	1.88	1.9	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)		
1.15	SCI Somerset	25	25	1.9	1.9	5	5	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19F	38976	Trib 38976 to Laurel Run

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
1.150	SCI Somerset	PA0205681	0.000	CBOD5	25		
				NH3-N	2.65	5.3	
				Dissolved Oxygen			5

ATTACHMENT D:
TRC_CALC RESULTS

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.0047	= Q stream (cfs)	0.5	= CV Daily
0.42	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= 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)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 0.021	1.3.2.iii	WLA cfc = 0.013
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.008	5.1d	LTA_cfc = 0.008

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.009	CFC
		INST MAX LIMIT (mg/l) = 0.031	

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 E:
PRE-DRAFT SURVEY

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

March 29, 2022

VIA ELECTRONIC MAIL:

Carolyn Zambanini
Somerset Township Municipal Authority
PO Box 247
Somerset, PA 15501

Re: Draft NPDES Permit- Sewage
SCI Somerset STP
Application No. PA0205681
Authorization ID No. 1387464
Black Township, Somerset County

Dear Permittee:

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 information available to DEP during its review:

Outfall No.	Pollutant	Average Monthly (µg/L)	Maximum Daily (µg /L)	IMAX (µg/L)	Target Quantitation Limits (µg/L)
001	Total Aluminum	Report	Report	Report	10
001	Total Copper	9.4	14.1	14.1	4
001	Total Lead	3.2	5.0	8.01	1
001	Total Zinc	120	121	121	5

Attached is a survey that DEP requests that you complete and return to DEP in 30 days (by April 28, 2022). Completion of this survey will help DEP develop the draft NPDES permit and allow DEP to understand your current capabilities or plans to treat or control these pollutant(s). If you decide not to complete and return the survey, DEP will proceed with developing the draft NPDES permit based on all available information and certain assumptions. 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: Darryl J. Hunt – Somerset Engineering, LLC
Southwest Regional Office

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Clean Water

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

Permittee Name: **Somerset Township Municipal Authority Somerset County** Permit No.: **PA0205681**

Pollutant(s) identified by DEP that may require WQBELs:

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.

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 F:
PRE-DRAFT SURVEY RESPONSE

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Clean Water

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

Permittee Name: **Somerset Township Municipal Authority** Permit No.: **PA0205681**
Somerset County

Pollutant(s) identified by DEP that may require WQBELs: Total Aluminum, Total Copper, Total Lead, Total Zinc

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.

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 G:
TMS MODELING RESULTS

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **SCI Somerset STP** NPDES Permit No.: **PA0205681** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **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
0.42	96.93	7.37						

					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		390									
	Chloride (PWS)	mg/L		119									
	Bromide	mg/L	<	0.2									
	Sulfate (PWS)	mg/L		58.2									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		53.7									
	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		12.5									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	µg/L	<	1									
	Total Manganese	µg/L											
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	µg/L		70									
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

SCI Somerset STP, NPDES Permit No. PA0205681, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **UNT to Laurel Run**

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	038976	1.15	2423	0.45			Yes
End of Reach 1	038976	1.05	2413	0.47			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	1.15	0.0104										100	7		
End of Reach 1	1.05	0.0106													

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	1.15														
End of Reach 1	1.05														

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

SCI Somerset STP, NPDES Permit No. PA0205681, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | (●) All ( ) Inputs ( ) Results ( ) Limits

☑ ***Hydrodynamics***

Q_{7-10}

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
1.15	0.00		0.00	0.65	0.019	0.491	6.048	12.33	0.221	0.028	0.00005
1.05	0.00		0.005								

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)
1.15	0.07		0.07	0.65	0.019	0.511	6.048	11.837	0.232	0.026	0.009
1.05	0.071		0.07								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.000 PMF: 1 Analysis Hardness (mg/l): 104.96 Analysis pH: 7.37

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	755	
Total Copper	0	0		0	14.067	14.7	14.8	Chem Translator of 0.96 applied
Total Lead	0	0		0	68.077	86.8	87.5	Chem Translator of 0.784 applied
Total Zinc	0	0		0	122.091	125	126	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 0.000 PMF: 1 Analysis Hardness (mg/l): 104.96 Analysis pH: 7.37

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

Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	8.722	9.09	9.15	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.433	3.06	3.08	Chem Translator of 0.796 applied
Total Zinc	0	0		0	115.081	117	118	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 0.000 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 0.009 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

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

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

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	0.032	0.048	9.15	13.7	13.7	µg/L	9.15	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	0.41	0.41	117	118	118	µg/L	117	AFC	Discharge Conc ≥ 50% WQBEL (RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	750	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	N/A	N/A	Discharge Conc < TQL