pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0036269**
Facility Type	**Municipal**	APS ID	**313723**
Major / Minor	**Minor**	Authorization ID	**1301158**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Stewartstown Borough Authority York County**	Facility Name	**Stewartstown STP**
Applicant Address	6 North Main Street	Facility Address	3750 Stewartstown Road
	Stewartstown, PA 17363-4132		Stewartstown, PA 17363
Applicant Contact	Ira Walker	Facility Contact	Ira Walker
Applicant Phone	(717) 993-6463	Facility Phone	(717) 993-6463
Client ID	74634	Site ID	1924
Ch 94 Load Status	Not Overloaded	Municipality	Stewartstown Borough
Connection Status	No Limitations	County	York
Date Application Received	December 17, 2019	EPA Waived?	No
Date Application Accepted	January 10, 2020	If No, Reason	Significant CB Discharge

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

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	June 16, 2021
X		Daniel W. Martin, P.E. / Environmental Engineer Manager Maria D. Bebenek for Daniel W. Martin	June 21, 2021
x		Maria D. Bebenek, P.E. / Environmental Program Manager Maria D. Bebenek	June 21, 2021

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Stewartstown WWTP located at 3750 Stewartstown Road, Stewartstown, PA 17363 in York County, municipality of Hopewell. The existing permit became effective on July 1, 2015 and expired on June 30, 2020. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on December 17, 2019.

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

The subject facility is a 0.625 MGD treatment facility. The applicant does not anticipate any proposed upgrades to the treatment facility in the next five years. The NPDES application has been processed as a Minor Sewage Facility (Level 2) due to the type of sewage and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to York County Commissioners and Hopewell Township and the notice was received by the parties on December 3, 2019. A planning approval letter was not necessary as the facility is neither new or expanding.

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

The Ebaughs Creek is a Category 5 stream listed in the 2020 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an impaired stream for aquatic life due to chlorine from municipal point sources. The receiving waters is not subject to a total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **Monitoring shall be required for E. Coli, total copper, total lead, and total zinc.**

Sludge use and disposal description and location(s): Sewage sludge was disposed at the following locations: Manifold Farm, McGinnis Farm, and Wisnom Farm in York County.

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

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

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

1.0 Applicant

1.1 General Information

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

Facility Name:	Stewartstown WWTP
NPDES Permit #	PA0036269
Physical Address:	3750 Stewartstown Road Stewartstown, PA 17363
Mailing Address:	6 North Main Street Stewartstown, PA 17363
Contact:	Ira Walker Stewartstown Borough Sewer/Water Supervisor sbplant@stewartstown.org
Consultant:	Charles Kehew, II, PE Project Engineer ckehew@jrholley.com

1.2 Permit History

Description of Facility

- The permit was amended in April 2016 to eliminate monitoring for Bis(2-Ethylhexyl) Phthalate.
- Special conditions apply to the permit due to receipt of landfill leachate.

Permit submittal included the following information.

- NPDES Application
- Flow Diagrams

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is 3750 Stewartstown Road, Stewartstown, PA 17363. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

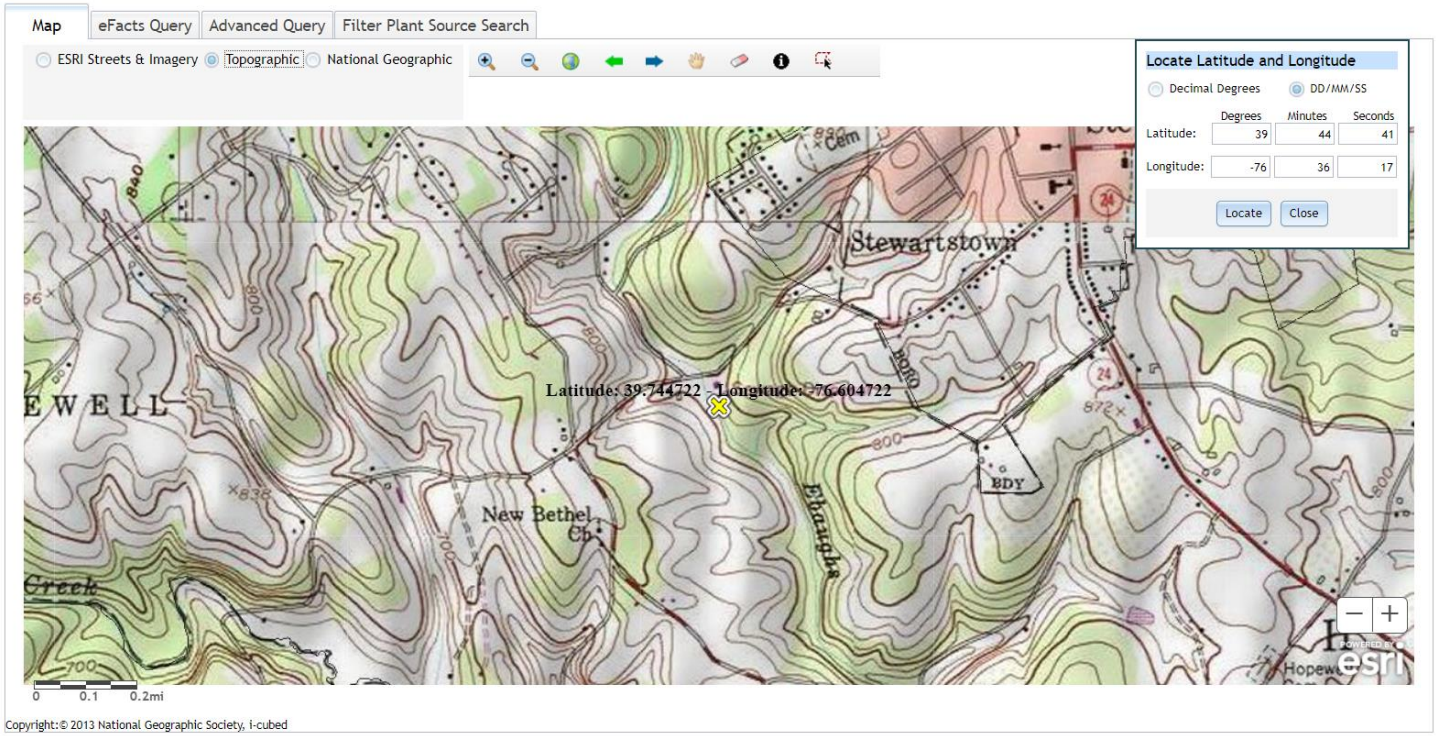
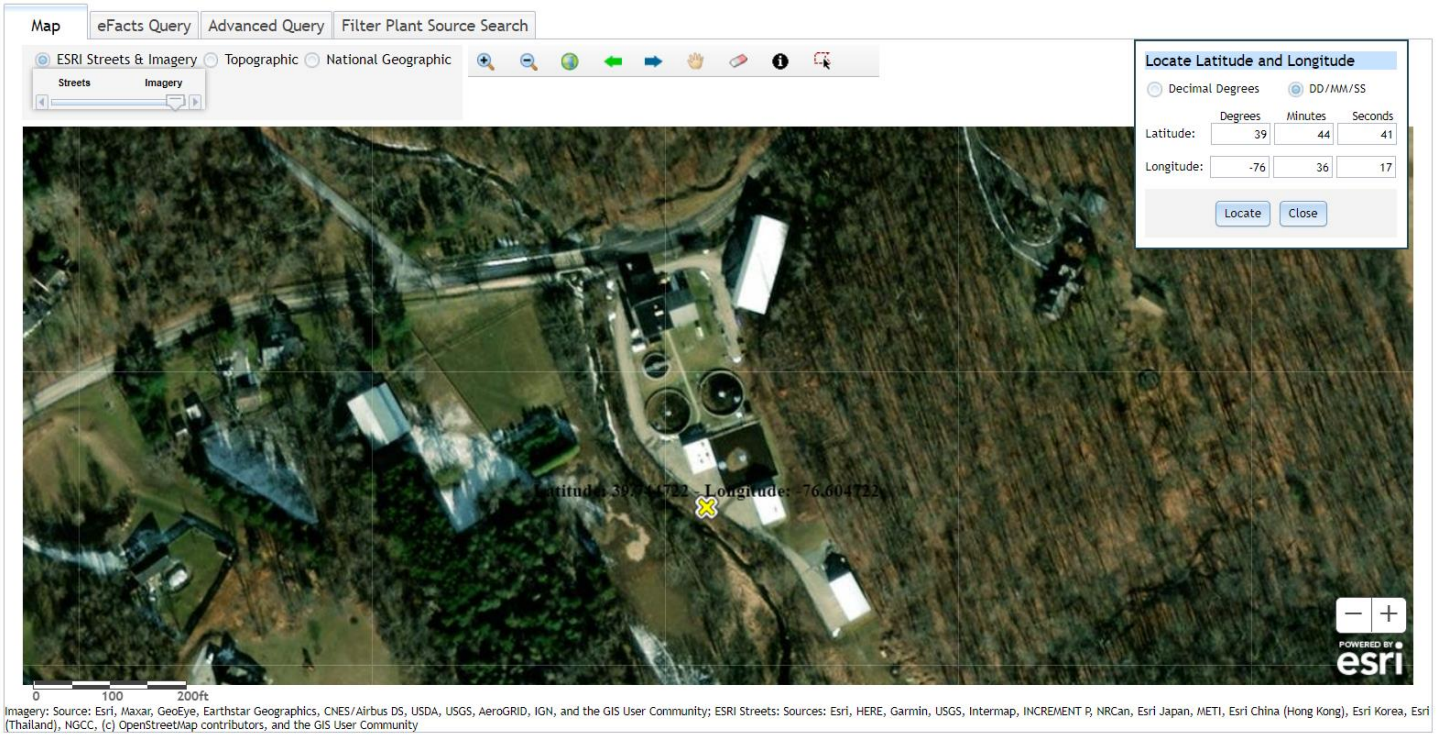


Figure 2: Aerial Photograph of the subject facility



2.1.2 Sources of Wastewater/Stormwater

The wastewater treatment plant receives wastewater contributions from the following municipalities:

Stewartstown Borough 50.4%
Hopewell Township 49.6%

The facility receives wastewater contributions from industrial users. See the table summary.

INDUSTRIAL/COMMERCIAL/INSTITUTIONAL WASTEWATER CONTRIBUTIONS

Address Type	Account Name	Usage	Usage/Day	EDU	Business Type
Commercial	SHORES, MICHAEL	46,000	142	4	Residence
Commercial	M&T BANK	15,000	46	4	Bank
Commercial	Word for the World Community Church	4,000	12	4	Church
Commercial	Word for the World Community Church	101,000	311	4	Church
Commercial	UNITED STATES POST OFFICE	19,000	58	4	Post Office
Commercial	Aaron Beiler	42,000	129	4	Residence
Commercial	STEWARTSTOWN VFW	27,000	83	8	Veterans of Foreign Wars
Commercial	DAVID WILLIAMS	234,000	720	4	Dentist office
Commercial	RICHLAND PARTNERS, LLC	2,000	6	2	Fuel Office
Commercial	Carroll Independent Fuel, LLC	2,000	6	3	Gas station
Commercial	Carroll Independent Fuel, LLC	32,000	98	4	Gas station
Commercial	VERIZON	4,000	12	4	Phone/internet hub/office
Commercial	COUNTY OF YORK	17,000	52	8	District Justice
Commercial	CHR CORP. RUTTERS	90,000	277	4	Rutter's Farm Store
Commercial	STEWART. SERVICE CENTER INC.	11,000	34	16	Service Center/Garage
Commercial	Farley Rentals, LLC	17,000	52	4	Residence/apt building
Commercial	COUNTY OF YORK	14,000	43	8	District Justice
Commercial	Beatty Property Group, LLC	0	0	0	Car Wash/Laundromat
Commercial	RED LION BUS, INC.	12,000	37	4	Bus Company
Commercial	SHARAR, BENTLEY & ANDREA	1,000	3	4	Flooring sales
Commercial	SVEC PROPERTIES, LLC	10,000	31	8	Office building
Commercial	Hartenstein Funeral & Cremation Care, Inc.	37,000	114	4	Funeral home
Commercial	WELLS FARGO BANK	14,000	43	4	Bank
Commercial	JOINES, RALPH & SHIRLEY	32,000	98	4	Residence/apt building
Commercial	RGRG Partners	52,000	160	4	Residence/apt building
Commercial	SGL INVESTMENT GROUP INC	23,000	71	8	Dog groomers
Commercial	SGL INVESTMENT GROUP INC	8,000	25	8	Office building
Commercial	ESTATE OF STANLEY LLOYD	0	0	4	Office building
Commercial	ESTATE OF STANLEY LLOYD	1,000	3	4	Strip mall/business offices
Commercial	STANLEY LLOYD	4,000	12	4	Financial office
Commercial	ESTATE OF STANLEY LLOYD	0	0	20	Vacant bldg/previous restaurant

Commercial	ESTATE OF STANLEY LLOYD	11,000	34	4 Strip mall/business offices
Commercial	WISNOM PROPERTIES LLC	29,000	89	4 Service Center/Garage
Commercial	GORDON'S BODY SHOP	79,000	243	4 Service Center/Garage
Commercial	HAMMOND BODY SHOP	16,000	49	4 Service Center/Garage
Commercial	LIMITED, HILL STREET PROPERTIES	6,000	18	4 Service Center/Garage
Commercial	MILL STREET MINI STORAGE LLC	36,000	111	4 Service Center/Garage
Commercial	CAPTAIN BOB'S CRABS, LLC	0	0	4 Seasonal restaurant/take-out sales
Commercial	Amy & Joseph A. Miller, III	16,000	49	12 Dental office
Commercial	ORIGINAL PIZZA	87,000	268	4 Restaurant
Commercial	MANE STREET STATION, LLC	77,000	237	12 Hair salon
Commercial	Kenton Kurtz	604,000	1,858	4 Residence
Commercial	CHR CORP-RUTTERS FARM STORE #45	301,000	926	16 Rutter's Farm Store
Commercial	Stewartstown Railroad	3,000	9	4 Railroad office
Commercial	OLD MILL RENTALS	26,000	80	4 Office building
Commercial	STEWARTSTOWN RAILROAD CO.	9,000	28	4 Railroad office
Commercial	KURTZ, KENTON	0	0	4 Residence
Commercial	STEWARTSTOWN STATION SHOP	8,000	25	4 Shopping center/grocery store
Commercial	STEWARTSTOWN STATION SHOP	57,000	175	4 Shopping center/grocery store
Commercial	STEWARTSTOWN STATION SHOP	347,000	1,068	24 Shopping center/grocery store
Commercial	BAILEY SPRINGS HOMEOWNERS ASSOC.	4,000	12	4 Condo office
Commercial	STATEWIDE PROPERTIES, LP	82,000	252	24 Strip mall/business offices
Commercial	CHR CORP-RUTTERS CAR WASH	1,168,000	3,594	52 Rutter's Farm Store
Commercial	NEAL, WILLIAM	0	0	0 Vacant movie theater
Commercial	Olsen Accounting Services, LLC	3,000	9	3 Vacant accounting office
Commercial	Stewartstown Borough	0	0	1 Borough Office
Commercial	Dollar General Store	9,000	28	4 Retail store
Commercial	Bailey Springs Plaza	491,000	1,511	3 Office building
Commercial	Bailey Springs, LP	158,000	486	2 Office building
Commercial	Cornerstone Investment Group, LLC	2,000	6	4 Office building
Institutional	EUREKA FIRE COMPANY	73,000	225	4 Fire Station
Institutional	SOUTH EASTERN SCHOOL DISTRICT	330,000	1,015	36 Elementary School
Institutional	PRESBYTERIAN CHURCH	17,000	52	4 Church
Institutional	PRESBYTERIAN CHURCH	18,000	55	4 Church

Institutional	STEWARTSTOWN METHODIST CHURCH	85,000	262	4 Church
Institutional	MASON DIXON LIBRARY	8,000	25	4 Library
Institutional	STEWARTSTOWN POST 455 AMERICAN LEGN	206,000	634	8 American Legion
Industrial	York County Solid Waste Authority	945,396	3110	113 Landfill

Notes:

1. None of the above customers is considered to be a Significant Industrial User (SIU) or a Non-Significant Categorical Industrial User (NSCIU).

2. None of the above customers hauls in wastewater to the treatment facility.

3. "Usage" in the table above is water usage in gallons from 1/1/19 through 11/21/19, except for the Industrial customer (York County Solid Waste Authority), where "Usage" is gallons pumped from the landfill from 1/1/19 through 10/31/19.

The facility does not have any pretreatment requirements.

The facility reported hauled-in waste contributions. The estimated volume of septage received in the past three years was 1,371,033 gallons. The facility anticipates receiving 1.5 – 2.0 million gallons over the next five years.

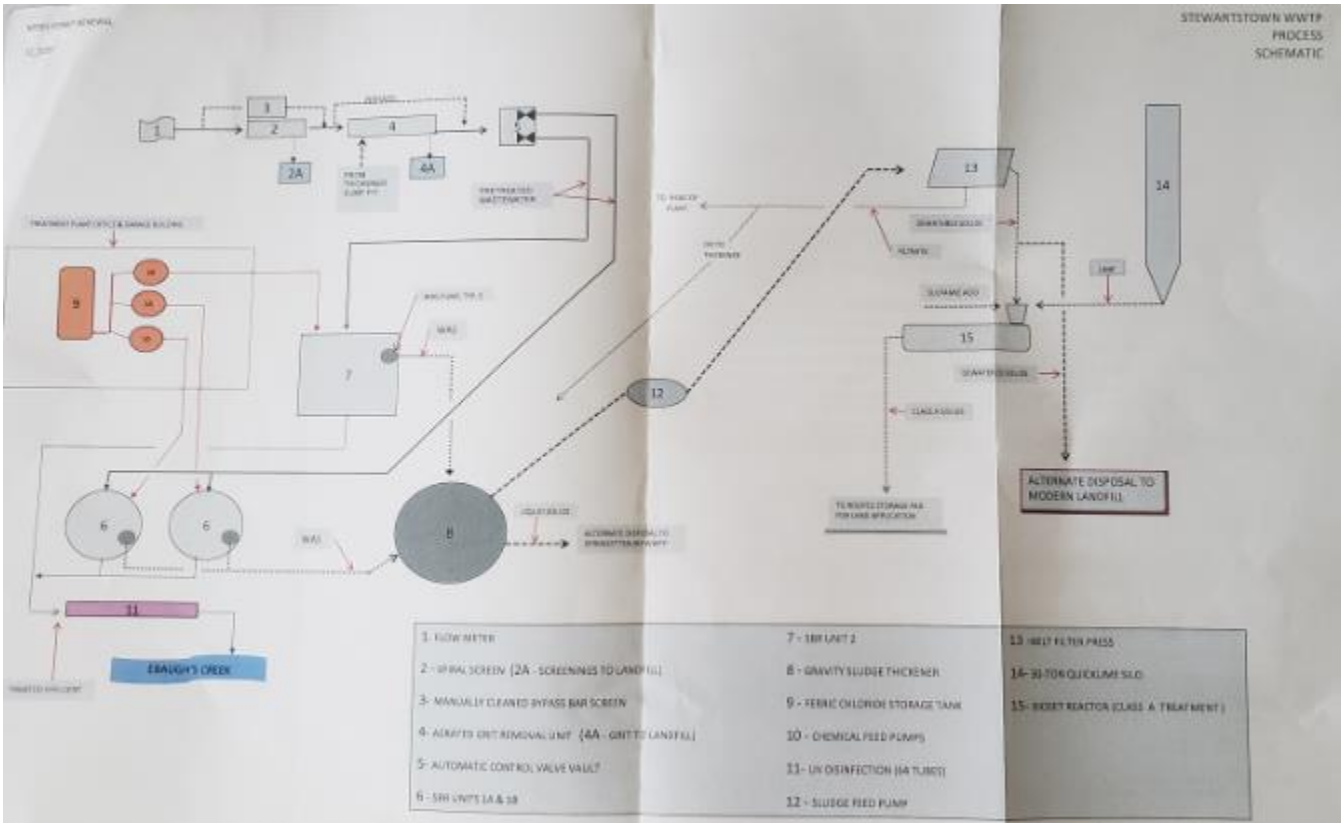
2.2 Description of Wastewater Treatment Process

The subject facility is a 0.625 MGD design flow facility. The subject facility treats wastewater using a bar screen/grit chamber, a sequencing batch reactor(s) (SBR) with nitrification/denitrification, and uv disinfection prior to discharge through the outfall. The facility is being evaluated for flow, pH, dissolved oxygen, UV transmittance, CBOD5, TSS, fecal coliform, nitrogen species, phosphorus, and total zinc. The existing permits limits for the facility is summarized in Section 2.4.

The treatment process is summarized in the table.

Treatment Facility Summary				
Treatment Facility Name: Stewartstown STP				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Sequencing Batch Reactor	Ultraviolet	0.625
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.7	1543	Not Overloaded	Dewatering	Landfill

A schematic of the process flow diagram is shown.



2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No.	001	**Design Flow (MGD)**	.625
Latitude	39º 44' 41.00"	**Longitude**	-76º 36' 17.00"
Wastewater Description:	Sewage Effluent		

2.3.1 Operational Considerations- Chemical Additives

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

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

- Ferric chloride for controlling phosphorus

2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

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

I. A. For Outfall 001 , **Latitude** 39° 44' 41.00" , **Longitude** 76° 36' 17.00" , **River Mile Index** 3.3 , **Stream Code** 06810

Receiving Waters: Ebaughs Creek

Type of Effluent: Treated Sewage

1. The permittee is authorized to discharge during the period from July 1, 2015 through June 30, 2020.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2] Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Specific Conductance (µmhos/cm) [3] May 1 - Oct 31	XXX	XXX	XXX	XXX	Report	XXX	1/day	Grab
CBOD5 May 1 - Oct 31	78	115	XXX	15	22	30	1/week	8-Hr Composite
CBOD5 Nov 1 - Apr 30	130	209	XXX	25	40	50	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Total Suspended Solids	156	235	XXX	30	45	60	1/week	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab

Outfall 001, Continued (from July 1, 2015 through June 30, 2020)

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	17	XXX	XXX	3.5	XXX	7.0	2/week	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	44	XXX	XXX	8.5	XXX	17	2/week	8-Hr Composite
Total Phosphorus	10.4	XXX	XXX	2.0	XXX	4.0	2/week	8-Hr Composite
Total Zinc	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	8-Hr Composite

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

at Outfall 001

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

I. B. For Outfall 001 , **Latitude** 39° 44' 41.00" , **Longitude** 76° 36' 17.00" , **River Mile Index** 3.3 , **Stream Code** 06810

Receiving Waters: Ebaughs Creek

Type of Effluent: Treated Sewage

1. The permittee is authorized to discharge during the period from July 1, 2015 through June 30, 2020.

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

Parameter [1]	Effluent Limitations					Monitoring Requirements	
	Mass Units (lbs)		Concentrations (mg/L)			Minimum [2] Measurement Frequency	Required Sample Type
	Monthly	Annual	Minimum	Monthly Average	Maximum		
Ammonia---N	Report	Report	XXX	Report	XXX	2/week	8-Hr Composite
Kjeldahl---N	Report	XXX	XXX	Report	XXX	2/week	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	2/week	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	2/week	8-Hr Composite
Net Total Nitrogen	Report	11,415	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	1,522	XXX	XXX	XXX	1/month	Calculation

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

Footnotes:
(1) See Part C for Chesapeake Bay Requirements.
(2) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events required.

3.0 Facility NPDES Compliance History

3.1 Summary of Inspections

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

The DEP inspector noted the following during the inspection.

03/16/2016:

- The facility noted that the permit is being amended to remove bis(2-ethylhexyl)phthalate
- The tank next to sludge pad is used as a holding tank only to store waste there until hauler can haul to alternate WWTP.
- The facility stated that the facility receives leachate from the landfill. The landfill keeps track of permitting requirements in DMRs.
- DEP advised the facility to collect influent/effluent composite samples using flow proportion

03/30/2016:

- The inspection was a follow up on violations during a previous inspection. Outfall 001 was not discharging at the time. Rags and feminine hygiene were noted on the rip rap as was in previous inspections. Solids was observed on the same side as the discharge for roughly 40 feet. Stringy growth was also observed hanging from debris in the stream. Solids were also observed 25 feet upstream of the outfall.
- The facility intends to do the following (a) install a gate at the outfall to provide more effective access, (b) ensure flow-proportioned composite sampling (c) no longer receive residential septic system waste for the purposes of temporary storage until either a permit or authorization has been received from DEP.

04/05/2016:

- The inspection was a follow-up to a report of an overflow from an onsite wet well. The wet well was no longer overflowing. It was not full and appeared to have plenty of freeboard. There was lime and solids adjacent and downslope of the wet well. The solids and lime traveled downslope to a storm drain. Debris was noted on top of the storm drain grate. Lime appeared going from the discharge pipe of the storm drain downslope to the edge of the stream.

07/22/2016:

- Rag materials was observed on the UV lamps.
- Upstream and downstream on the bank closest to the STP was overgrown.

04/25/2017:

- The membranes were replaced in SBR tank #2. Membranes in SBR 1a and 1B will be replaced later this year.

02/11/2017:

- The facility was advised the following (a) adopt and maintain a temperature calibration log system for biosolids testing (b) maintain thermometers in the influent/effluent samplers.

11/01/2019:

- On October 31, 2019, Tank #2 was being cleaned out to be placed back into service. During the cleaning process, the debris was collected and placed on the storage pad with the other screenings. The pad drains to a catch basin that drains to the headworks of the plant. The rags and debris from the collection emptied into the catch basin and clogged the screening in the influent channel. The channel overflowed and spilled toward the control building and onto the grassy area with a stormwater catch basin. The facility stated some raw sewage travelled to the catch basin which drains to Ebaughs Creek.

12/30/2019:

- The purpose of the inspection was for Chesapeake Bay inspection. Minor discrepancies in reporting existed for TKN and ammonia

02/04/2020:

- There was nothing significant to report.

04/16/2020:

- This inspection report was to report an overflow of sewage from pump station #4 (Ecker Ave). The facility stated the electrical breaker was tripped and the entire pump station had lost power and communication. Pump #2 had failed and potentially caused the breaker to trip. Sewage overflowed from the pump station to the ground surface and into UNT to Ebaughs Creek. Twelve bags of lime were spread on the impacted area.

04/27/2020:

- An administrative inspection was conducted. Aqua Aerobics made changes to the blower aeration times. This increased the efficiency while increasing the quality of the effluent improving operations. The facility also ceased receiving hauled in waste for about 2 weeks. Hauled in waste was not to be accepted until a new unit at the headworks is installed. Issues have occurred with the headworks screw getting clogged and backing up flow in the headworks area / flow recording.

05/28/2020:

- This inspection report was to report sewage solids being discharge to Outfall 001 to Ebaughs Creek. Approximately 15,000 to 18,000 gallons of partially treated sewage was discharged. Maintenance was being conducted on Blower #2 which services SBR #2. The blower was exercised during the settle and decant cycles. The aeration during the decant caused mixed liquor to be discharged in to the UV channel, post EQ tank, and Ebaughs Creek.

3.2 Summary of DMR Data

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility below the design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 0.318 MGD in May 2020. The design capacity of the treatment system is 0.625 MGD.

The off-site laboratory used for the analysis of the parameters was LABS, Inc located at 125 Enterprise Drive, New Oxford, PA 17350.

DMR Data for Outfall 001 (from May 1, 2020 to April 30, 2021)

Parameter	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20
Flow (MGD) Average Monthly	0.288	0.293	0.264	0.286	0.274	0.257	0.257	0.244	0.261	0.244	0.279	0.318
Flow (MGD) Daily Maximum	0.451	0.350	0.385	0.326	0.478	0.306	0.327	0.265	0.355	0.268	0.307	0.360
pH (S.U.) Minimum	6.9	6.9	6.9	6.9	6.9	6.9	6.9	7.0	6.9	6.9	6.8	6.6
pH (S.U.) Instantaneous Maximum	7.3	7.9	7.2	7.3	7.3	7.3	7.2	7.2	7.2	7.5	7.3	7.2
DO (mg/L) Minimum	5.2	5.5	6.0	5.5	5.3	5.1	5.7	5.0	5.5	5.2	5.1	5.7
Specific Conductance (µmhos/cm) Weekly Average							371	351	336	355	350	338
CBOD5 (lbs/day) Average Monthly	< 6	< 6	< 6	< 7	< 6	< 6	3	6	6	6	5	< 8
CBOD5 (lbs/day) Weekly Average	8	< 6	< 6	< 7	< 7	< 7	3	6	6	6	7	< 8
CBOD5 (mg/L) Average Monthly	< 2.6	< 2.4	< 2.7	< 3	< 3	< 3	7	3	3	3	2.2	< 3
CBOD5 (mg/L) Weekly Average	3.1	< 2.4	< 3	< 3	3	< 3	8	3	3	3	3	< 4
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	370	472	302	376	363	324	367	306	289	315	391	497
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	442	586	363	462	428	377	423	352	317	357	494	607
BOD5 (mg/L) Raw Sewage Influent Average Monthly	161	194	140	162	170	151	171	151	143	158	167	192
TSS (lbs/day) Average Monthly	12	8	7	12	11	10	8	8	8	6	6	19
TSS (lbs/day) Raw Sewage Influent Average Monthly	276	386	171	278	250	238	272	213	159	117	240	316

TSS (lbs/day) Raw Sewage Influent Daily Maximum	376	719	222	380	397	304	327	287	183	155	297	398
TSS (lbs/day) Weekly Average	17	11	9	25	14	20	14	12	17	8	8	36
TSS (mg/L) Average Monthly	5	3	3	5	5	5	3	4	4	3	3	8
TSS (mg/L) Raw Sewage Influent Average Monthly	121	156	79	120	118	111	127	106	78	58	103	122
TSS (mg/L) Weekly Average	7	4	4	10	7	9	5	6	8	4	3	16
Fecal Coliform (CFU/100 ml) Geometric Mean	< 3	3	< 2	< 1	< 1	< 4	9	13	5	1	< 8	5
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	11	8	8	2	3	84	63	2420	25	2	980	10
UV Transmittance (%) Minimum	61.6	75.1	69.7	57.1	72.7	71.2	74.4	68.1	75.4	76	76.5	77.4
Nitrate-Nitrite (mg/L) Average Monthly	< 0.7	1.4	2.4	2.2	2.2	2.0	1.6	1.0	1.3	1.1	2.2	4.2
Nitrate-Nitrite (lbs) Total Monthly	< 55.7	102.6	147.9	159.7	146.3	126	103.8	61.5	87.1	66.7	154	339
Total Nitrogen (mg/L) Average Monthly	< 3.6	< 2	< 3.1	< 2.9	3.1	3.5	2.5	2.5	2.3	2.5	3.1	5.4
Total Nitrogen (lbs) Effluent Net Total Monthly	< 259.9	< 150.5	< 188.8	< 208.6	203.6	221.1	165.2	152.8	160	154.1	217.1	430
Total Nitrogen (lbs) Total Monthly	< 259.9	< 150.5	< 188.8	< 208.6	203.6	221.1	165.2	152.8	160	154.1	217.1	430
Total Nitrogen (lbs) Effluent Net Total Annual								< 4987				
Total Nitrogen (lbs) Total Annual								< 4987				
Ammonia (lbs/day) Average Monthly	4	< 0.3	< 0.2	< 0.2	< 0.2	< 0.9	< 0.2	< 1.3	< 0.2	< 0.3	0.2	< 0.3
Ammonia (mg/L) Average Monthly	1.7	< 0.1	< 0.1	< 0.1	< 0.1	< 0.4	< 0.1	< 0.7	< 0.1	< 0.2	< 0.1	< 0.1
Ammonia (lbs) Total Monthly	121.2	< 9.3	< 6	< 7.3	< 6.9	< 26.6	< 6.6	38.8	< 6.9	< 10.2	< 7	< 8

Ammonia (lbs) Total Annual								< 585				
TKN (mg/L) Average Monthly	2.9	< 0.6	< 0.7	< 0.7	0.9	1.5	0.9	1.5	1.1	1.4	0.9	1.2
TKN (lbs) Total Monthly	204.2	< 47.9	< 40.9	< 48.9	57.3	95.1	61.4	91.2	72.9	87.4	63.1	91.1
Total Phosphorus (lbs/day) Average Monthly	0.4	< 0.3	0.4	0.3	0.4	0.6	0.4	< 0.3	0.5	0.4	0.9	1.1
Total Phosphorus (mg/L) Average Monthly	0.2	< 0.1	0.2	0.2	0.2	0.3	< 0.2	< 0.2	0.3	0.2	0.4	0.4
Total Phosphorus (lbs) Effluent Net Total Monthly	13.1	< 9.4	9.8	10.7	11.6	18	< 12.9	< 9.1	16.9	12.4	26.5	33.7
Total Phosphorus (lbs) Total Monthly	13.1	< 9.4	9.8	10.7	11.6	18	< 12.9	< 9.1	16.9	12.4	26.5	33.7
Total Phosphorus (lbs) Effluent Net Total Annual								< 240				
Total Phosphorus (lbs) Total Annual								< 240				
Total Zinc (mg/L) Daily Maximum					0.05							

3.3 Non-Compliance

3.3.1 Non-Compliance- NPDES Effluent

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

From the DMR data beginning on July 1, 2015 to June 1, 2021, the following were the observed effluent non-compliances.

Summary of Non-Compliance with NPDES Effluent Limits
Beginning July 1, 2015 and Ending June 1, 2021

NON COMPLIANCE DATE	NON COMPLIANCE CATEGORY	PARAMETER	SAMPLE VALUE	VIOLATION CONDITION	PERMIT VALUE	UNIT OF MEASURE	STATISTICAL BASE CODE
04/11/2017	Concentration 2 Effluent Violation	Ammonia-Nitrogen	9.0	>	8.5	mg/L	Average Monthly
09/20/2017	Concentration 1 Effluent Violation	Dissolved Oxygen	4.7	<	5.0	mg/L	Minimum
06/06/2019	Concentration 1 Effluent Violation	Dissolved Oxygen	4.8	<	5.0	mg/L	Minimum
11/14/2019	Concentration 1 Effluent Violation	Dissolved Oxygen	3.8	<	5.0	mg/L	Minimum
10/20/2020	Concentration 3 Effluent Violation	Fecal Coliform	2420	>	1000	CFU/100 ml	Instantaneous Maximum

3.3.2 Non-Compliance- Enforcement Actions

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

Beginning in July 1, 2015 to June 1, 2021, the following were observed enforcement actions.

Summary of Enforcement Actions
Beginning July 1, 2015 and Ending June 1, 2021

ENF ID	ENF TYPE	ENF TYPE DESC	ENF CREATION DATE	EXECUTED DATE	VIOLATIONS	# OF VIOLATIONS	ENF FINALSTATUS	ENF CLOSED DATE
344296	NOV	Notice of Violation	06/24/2016	03/18/2016	92A.41(A)5; CSL201	2	Comply/Closed	04/04/2016
335042	NOV	Notice of Violation	02/29/2016	02/23/2016	271.917(A)	1	Comply/Closed	03/04/2016
345339	NOV	Notice of Violation	07/20/2016	04/21/2016	92A.41(A)5; CSL201	2	Comply/Closed	05/05/2016

3.4 Summary of Sewage Sludge Disposal

A summary of the sewage sludge disposed of from the facility is as follows.

2020			
Sewage Sludge / Biosolids Production Information			
Hauled Off-Site			
Date (YEAR)	Tons Dewatered	% Solids	Dry Tons
January	733.8	1.83	11.88
February	733.8	1.63	11.88
March	1355.3	1.3	17.47
April	746.5	1.44	10.83
May	742	1.25	9.32
June	763.16	0.93	7.08
July	903.5	1	9.03
August	813.1	0.83	6.79
September	688.05	0.98	6.75
October	984.2	1.4	13.22
November	550.5	1.3	7.99
December	654	1.8	11.83
Notes:			
Sewage sludge disposed at Manifold Farm, McGinnis Farm, Wisnom Farm in York County			

Sewage sludge was disposed at the following locations: Manifold Farm, McGinnis Farm, and Wisnom Farm in York County.

3.5 Open Violations

No open violations existed as of June 2021.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be Ebaughs Creek. The sequence of receiving streams that the Ebaughs Creek discharges into are Deer Creek and the Susquehanna River which eventually drains into the Chesapeake Bay.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is near the PA-MD State Border located approximately 2.5 miles downstream of the subject facility on the Ebaughs Creek. Based upon the distance and the flow rate of the facility, the PWS should not be impacted. (Information abstracted from Fact Sheet dated for February 10, 2015)

4.3 Class A Wild Trout Streams

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

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

4.4 2020 Integrated List of All Waters (303d Listed Streams):

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

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

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

The receiving waters is listed in the 2020 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 5 waterbody. The surface waters is impaired stream for aquatic life due to chlorine from municipal point sources. The designated use has been classified as protected waters for cold water fishes (CWF) and migratory fishes (MF).

4.5 Low Flow Stream Conditions

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

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

The closest gauge station to the subject facility is the Deer Creek station at Rocks, Maryland (USGS station number 0158000).

For WQM modeling, default values were used for pH and stream water temperature data. The default value for pH was 7.0 and the default stream water temperature was 20 C.

A default value for hardness of the stream of 100 mg/l $CaCO_3$ was used for modeling.

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

Gauge Station Data			
USGS Station Number	0158000		
Station Name	Deer Creek at Rocks, Maryland		
Q710	22.8	ft^3/sec	
Drainage Area (DA)	94.4	mi^2	
Calculations			
The low flow yield of the gauge station is:			
Low Flow Yield (LFY) = Q710 / DA			
LFY =	(22.8 ft^3/sec / 94.4 mi^2)		
LFY =	0.2415	$ft^3/sec/mi^2$	
The low flow at the subject site is based upon the DA of		4.79	mi^2
Q710 = (LFY@gauge station)(DA@Subject Site)			
Q710 = (0.2415 $ft^3/sec/mi^2$)(4.79 mi^2)			
Q710 =	1.157	ft^3/sec	

4.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.625
Latitude	39º 44' 40.58"	Longitude	-76º 36' 17.24"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		

Receiving Waters	Ebaughs Creek (CWF, MF)	Stream Code	51008
NHD Com ID	57474977	RMI	3.43
Drainage Area	4.79	Yield (cfs/mi^2)	0.2415
Q_{7-10} Flow (cfs)	1.157	Q_{7-10} Basis	StreamStats/Streamgage
Elevation (ft)	685	Slope (ft/ft)	
Watershed No.	7-I	Chapter 93 Class.	CWF, MF
Existing Use	Chapter 93 class	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired for aquatic life		
Cause(s) of Impairment	CHLORINE		
Source(s) of Impairment	MUNICIPAL POINT SOURCE DISCHARGES		
TMDL Status	Not applicable	Name	

Background/Ambient Data		Data Source
pH (SU)	7.0	Default
Temperature (°C)	20	Default
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake		PA-MD State Border	
PWS Waters	Ebaughs	Flow at Intake (cfs)	
PWS RMI	0.8	Distance from Outfall (mi)	2.5

5.0: Overview of Presiding Water Quality Standards

5.1 General

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

5.2.1 Technology-Based Limitations

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

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

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	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)

5.2.2 Mass Based Limits

For publicly owned treatment works (POTW), mass loadings are calculated based upon design flow rate of the facility and the permit limit concentration. The generalized calculation for mass loadings is shown below:

$$Quantity\ \left(\frac{lb}{day}\right) = (MGD)(Concentration)(8.34)$$

5.3 Water Quality-Based Limitations

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

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

5.3.1 Water Quality Modeling 7.0

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

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

Four types of limits may be recommended. The limits are

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

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

The input values utilized for the modeling are summarized in the table which can be found in Attachment B.

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

5.3.2 Toxics Modeling

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

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

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

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

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

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

The input values utilized for the modeling are summarized in the table which can be found in Attachment B.

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

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

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

(a) When reasonable potential is demonstrated, establish limits where the maximum reported concentration equals or exceeds 50% of the WQBEL.
(b) For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
(c) For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

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

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

5.3.3 Whole Effluent Toxicity (WET)

Prior renewals did include WET testing. This was critical since Stewartstown failed two WET tests out of four tests completed. Although Stewartstown was not required to include WET testing, DEP requested them based on the facility receiving landfill leachate. DEP and the permittee concurred that WET limits and specific conductance limits would be removed in lieu of daily monitoring of the specific conductance level (Fact Sheet dated February 2015).

The specific conductance level of 1,200 µmhos/cm was based on the past analysis conducted by Stewartstown and York County Solid Waste and Refuse Authority (YCSWRA) showing that the likelihood of WET failures increased when the final plant effluent specific conductance exceeds 1,200 µmhos/cm.

The table summarizes the facility's specific conductance from July 2015 to October 2020. Results indicate that the specific conductance does not exceed 1,200 µmhos/cm.

Summary of Specific Conductance
Beginning July 2015 and Ending October 2020

Monitoring Period Begin Date	Monitoring Period End Date	DMR Value	Units	Statistical Base Code
07/01/2015	07/31/2015	312	µmhos/cm	Weekly Average
08/01/2015	08/31/2015	349	µmhos/cm	Weekly Average
09/01/2015	09/30/2015	315	µmhos/cm	Weekly Average
10/01/2015	10/31/2015	322	µmhos/cm	Weekly Average
05/01/2016	05/31/2016	291	µmhos/cm	Weekly Average
06/01/2016	06/30/2016	317	µmhos/cm	Weekly Average
07/01/2016	07/31/2016	335	µmhos/cm	Weekly Average
08/01/2016	08/31/2016	338	µmhos/cm	Weekly Average
09/01/2016	09/30/2016	333	µmhos/cm	Weekly Average
10/01/2016	10/31/2016	338	µmhos/cm	Weekly Average
05/01/2017	05/31/2017	326	µmhos/cm	Weekly Average
06/01/2017	06/30/2017	334	µmhos/cm	Weekly Average
07/01/2017	07/31/2017	342	µmhos/cm	Weekly Average
08/01/2017	08/31/2017	352	µmhos/cm	Weekly Average
09/01/2017	09/30/2017	346	µmhos/cm	Weekly Average
10/01/2017	10/31/2017	351	µmhos/cm	Weekly Average
05/01/2018	05/31/2018	328	µmhos/cm	Weekly Average
06/01/2018	06/30/2018	328	µmhos/cm	Weekly Average
07/01/2018	07/31/2018	345	µmhos/cm	Weekly Average
08/01/2018	08/31/2018	326	µmhos/cm	Weekly Average
09/01/2018	09/30/2018	310	µmhos/cm	Weekly Average
10/01/2018	10/31/2018	306	µmhos/cm	Weekly Average
05/01/2019	05/31/2019	304	µmhos/cm	Weekly Average
06/01/2019	06/30/2019	323	µmhos/cm	Weekly Average
07/01/2019	07/31/2019	329	µmhos/cm	Weekly Average
08/01/2019	08/31/2019	360	µmhos/cm	Weekly Average
09/01/2019	09/30/2019	371	µmhos/cm	Weekly Average
10/01/2019	10/31/2019	368	µmhos/cm	Weekly Average
05/01/2020	05/31/2020	338	µmhos/cm	Weekly Average
06/01/2020	06/30/2020	350	µmhos/cm	Weekly Average
07/01/2020	07/31/2020	355	µmhos/cm	Weekly Average
08/01/2020	08/31/2020	336	µmhos/cm	Weekly Average
09/01/2020	09/30/2020	351	µmhos/cm	Weekly Average
10/01/2020	10/31/2020	371	µmhos/cm	Weekly Average

Since Stewartstown continues to accept leachate, daily monitoring of the specific conductance level shall continue to the proposed permit with the same Part A footnote.

A Part C condition shall exist as a part of an alternate method of controlling toxicity in lieu of WET testing. The Q710 flow of 21.3 cfs from the USGS gage station on Deer Creek (USGS 0158000) was previously calculated by Susquehanna River Basin Commission (SRBC). The study prepared by Stewartstown correlates between various stream flows, leachate conductivity, and leachate flows for examination. As a result, establishing a threshold using a critical flow condition was necessary to avoid exceedance of no observed effect concentration (NOEC).

Consistent with the Fact Sheet dated for February 2015, Deer Creek was addressed since the receiving stream (Ebaughs Creek) is a tributary of Deer Creek and real time data are available through the USGS website. DEP has determined that 21.3 cfs is still a reasonable value for the critical flow condition since the most recent USGS streamflow statistics report is showing an estimated Q710 of 22.8 cfs at this gage. According to the previous fact sheet, the elevation of 905 ft msl is used by YCSWRA as the level it should not exceed to ensure compliance with its Waste Management Permit. The existing Part C condition shall continue in the proposed permit.

Refer to Section 6.3.2 for applicable Part A and C Conditions

5.4 Total Maximum Daily Loading (TMDL)

5.4.1 TMDL

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

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

5.4.1.1 Local TMDL

The subject facility does not discharge into a local TMDL.

5.4.1.2 Chesapeake Bay TMDL Requirement

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

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

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

The Bay TMDL is a comprehensive pollution reduction effort in the Chesapeake Bay watershed identifying the necessary pollution reductions of nitrogen, phosphorus and sediment across the seven Bay watershed jurisdictions of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia to meet applicable water quality standards in the Bay and its tidal waters.

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

Phase 3 WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. The latest revision of the supplement was December 17, 2019.

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

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

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

Based upon the supplement the subject facility has been categorized as a Sector A discharger. The supplement defines Sector A as a sewage facility that is considered significant if it has a design flow of at least 0.4 MGD. For rollout of its permitting strategy, DEP classified these facilities into three phases. Thirty IW facilities have individual WLAs in the TMDL.

Table 5 presents all NPDES permits for Significant Sewage dischargers with Cap Loads. The NPDES Permit No., phase, facility name, latest permit issuance date, expiration date, Cap Load compliance start date, TN and TP Cap Loads, and TN and TP Delivery Ratios are presented. In addition, if TN Offsets were incorporated into the TN Cap Loads when the permit was issued, the amount is shown; these Offsets will be removed from Cap Loads upon issuance of renewed permits to implement Section IV of the WIP document (i.e., a facility may use Offsets for compliance but may not register them as credits).

The total nitrogen (TN) and total phosphorus (TP) cap loads itemized by Table 5 for the subject facility are as follows:

TN Cap Load (lbs/yr)	11,415
TN Delivery Ratio	1
TP Cap Load (lbs/yr)	1,522
TP Delivery Ratio	1

Expansions by any Significant Sewage discharger will not result in any increase in Cap Loads. Where non-significant facilities expand to a design flow of 0.4 MGD or greater, the lesser of baseline Cap Loads of 7,306 lbs/yr TN and 974 lbs/yr TP or existing performance will be used for permits, and the load will be moved from the Non-Significant sector load to the Significant Sewage sector load. If considered necessary for environmental protection, DEP may decide to move load from the Point Source Reserve to the Significant Sewage sector in the future.

The minimum monitoring frequency for TN species and TP in new or renewed NPDES permits for Significant Sewage dischargers is 2/week.

This facility is subject to Sector A monitoring requirements. Consistent with the Phase 3 WIP Wastewater Supplement, the facility shall have a cap load flow of 0.625 mg/l. Monitoring shall be required at least 2x/wk for nitrogen species and phosphorus.

Reporting

Cap Loads will be established in permits as Net Annual TN and TP loads (lbs/yr) that apply during the period of October 1 – September 30.

Facilities with NPDES permits must use DEP's eDMR system for reporting, except small flow treatment facilities. An Annual DMR must be submitted by the end of the Truing Period, November 28. As attachments to the Annual DMR a facility must submit a completed Annual Chesapeake Bay Spreadsheet, available through DEP's Supplemental Reports website, which contains an Annual Nutrient Monitoring worksheet and an Annual Nutrient Budget worksheet. This Spreadsheet will be submitted once per Compliance Year only, and reflect all nutrient sample results (for the period October 1 – September 30), Credit transactions (including the Truing Period) and Offsets applied during the Compliance Year.

5.5 Anti-Degradation Requirement

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

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

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

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

5.6 Anti-Backsliding

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

6.0 NPDES Parameter Details

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

The reader will find in this section:

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

6.1 Recommended Monitoring Requirements and Effluent Limitations

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

6.1.1 Conventional Pollutants and Disinfection

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection
Stewartstown WWTP; PA0036269

Parameter	Permit Limitation Required by[1]:	Recommendation	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 95.2(1).
Dissolved Oxygen	BPJ	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits shall be greater than 5.0 mg/l.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by best professional judgement.
CBOD	WQBEL	Monitoring:	The monitoring frequency shall be 1x/wk as an 8-hr composite sample (Table 6-3).
		Effluent Limit:	During the months of May 1, to October 31, effluent limits shall not exceed 78 lbs/day and 15 mg/l as an average monthly. During the months of November 1 to April 30, effluent limits shall not exceed 130 lbs/day and 25 mg/l as an average monthly
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). WQM modeling indicates that the WQBEL is more stringent than the TBEL. Thus, the permit limit is confined to WQBEL.
TSS	TBEL	Monitoring:	The monitoring frequency shall be 1/week as an 8-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 156 lbs/day and 30 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). While there is no WQM modeling for this parameter, the permit limit for TSS is generally assigned similar effluent limits as CBOD or BOD. Since the TBEL is more stringent than TBEL, TBEL will apply.
Specific Conductance	BPJ	Monitoring:	The monitoring frequency is 1/day as a grab sample.
		Effluent Limit:	No effluent requirements.
		Rationale:	Since Stewartstown continues to accept leachate, daily monitoring of the specific conductance level shall continue to the proposed permit. A Part A footnote from the existing permit shall continue to the proposed permit. Stewartstown and York County Solid Waste and Refuse Authority (YCSWRA) projects WET failures will increase when the final plant effluent specific conductance is greater than 1,200 µmhos/cm.
UV disinfection	SOP	Monitoring:	The monitoring frequency is 1/day. The facility will be required to recording the UV transmittance
		Effluent Limit:	No effluent requirements.
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised January 10, 2019), the facility will be required to have routine monitoring for UV transmittance, UV dosage, or UV intensity.
Fecal Coliform	TBEL	Monitoring:	The monitoring frequency shall be 1x/wk as a grab sample (Table 6-3).
		Effluent Limit:	Summer effluent limits shall not exceed 200 No./100 mL as a geometric mean. Winter effluent limits shall not exceed 2000 No./100 mL as a geometric mean.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(4) and 92a.47(a)(5).
E. Coli	SOP; Chapter 92a.61	Monitoring:	The monitoring frequency shall be 1x/quarter as a grab sample (SOP).
		Effluent Limit:	No effluent requirements.
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised March 22, 2019) and under the authority of Chapter 92a.61, the facility will be required to monitor for E.Coli.

Notes:

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

2 Monitoring frequency based on flow rate of 0.625 MGD.

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

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

5 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

6.1.2 Nitrogen Species and Phosphorus

Summary of Proposed NPDES Parameter Details for Nitrogen Species and Phosphorus

Stewartstown WWTP; PA0036269

Parameter	Permit Limitation Required by[1]:	Recommendation	
Ammonia-Nitrogen	WQBEL	Monitoring:	The monitoring frequency shall be 2x/wk as an 8-hr composite sample
		Effluent Limit:	During the months of May 1, to October 31, effluent limits shall not exceed 17 lbs/day and 3.5 mg/l as an average monthly. During the months of November 1 to April 30, effluent limits shall not exceed 44 lbs/day and 8.5 mg/l as an average monthly
		Rationale:	Water quality modeling recommends water quality based effluent limits.
Nitrate-Nitrite as N	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 2x/wk as an 8-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 2x/wk.
Total Nitrogen	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/mo as a calculation.
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 1x/month.
TKN	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 2x/wk as an 8-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 2x/wk.
Total Phosphorus	Antibacksliding	Monitoring:	The monitoring frequency shall be 2x/wk as an 8-hr composite sample
		Effluent Limit:	Effluent limits shall not exceed 10.4 lbs/day and 2.0 mg/l as an average monthly.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 2x/wk. The effluent limits from the current permit shall continue to the proposed permit because of anti-backsliding.
Net Total Nitrogen	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/mo as a calculation.
		Effluent Limit:	Effluent limit shall not exceed 11,415 lbs/yr.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 2x/yr.
Net Total Phosphorus	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/mo as a calculation.
		Effluent Limit:	Effluent limit shall not exceed 1,522 lbs/yr.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 2x/yr.

Notes:

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

2 Monitoring frequency based on flow rate of 0.625 MGD.

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

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

5 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

6.1.3 Toxics

Summary of Proposed NPDES Parameter Details for Toxics

Stewartstown WWTP; PA0036269

Parameter	Permit Limitation Required by[1]:	Recommendation	
Total Copper	WQBEL	Monitoring:	The monitoring frequency shall be 2x/yr as an 8-hr composite sample (Table 6-3).
		Effluent Limit:	No effluent requirements.
		Rationale:	Toxics Management Spreadsheet modeling results recommend monitoring. Additional samples should be collected to confirm this parameter during the proposed renewal. Pending favorable sampling results, future renewals may reduce or eliminate this parameter from monitoring.
Total Lead	WQBEL	Monitoring:	The monitoring frequency shall be 2x/yr as an 8-hr composite sample (Table 6-3).
		Effluent Limit:	No effluent requirements.
		Rationale:	While Toxics Management Spreadsheet modeling results recommend an effluent limit, additional samples should be collected to confirm this parameter. Pending favorable sampling results, future renewals may reduce or eliminate this parameter from monitoring.
Total Zinc	WQBEL	Monitoring:	The monitoring frequency shall be 2x/yr as an 8-hr composite sample (Table 6-3).
		Effluent Limit:	No effluent requirements.
		Rationale:	Toxics Management Spreadsheet modeling results recommend monitoring. Additional samples should be collected to confirm this parameter during the proposed renewal. Pending favorable sampling results, future renewals may reduce or eliminate this parameter from monitoring.

Notes:

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

2 Monitoring frequency based on flow rate of 0.625 MGD.

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

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

5 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

6.2 Summary of Changes From Existing Permit to Proposed Permit

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

Changes in Permit Monitoring or Effluent Quality

Parameter	Existing Permit	Draft Permit
E.Coli	No monitoring or effluent limits.	Due to the EPA Triennial review, monitoring shall be required 1x/quarter
Total Copper	No monitoring or effluent limits.	Monitoring shall be on a 2x/yr basis. Future renewals may reduce or eliminate this parameter
Total Lead	No monitoring or effluent limits.	Monitoring shall be on a 2x/yr basis. Future renewals may reduce or eliminate this parameter
Total Zinc	Monitoring is required 1x/yr	Monitoring shall be on a 2x/yr basis. Future renewals may reduce or eliminate this parameter

6.3.1 Summary of Proposed NPDES Effluent Limits

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

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

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

I. A. **For Outfall** 001, **Latitude** 39° 44' 41.00", **Longitude** 76° 36' 17.00", **River Mile Index** 51008, **Stream Code** 3.43

Receiving Waters: Ebaughs Creek (CWF, MF)

Type of Effluent: Sewage Effluent

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2] Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Specific Conductance [3] (µmhos/cm) May 1 - Oct 31	XXX	XXX	XXX	XXX	Report	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) Nov 1 - Apr 30	130	209	XXX	25	40	50	1/week	8-Hr Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) May 1 - Oct 31	78	115	XXX	15	22	30	1/week	8-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Total Suspended Solids	156	235	XXX	30	45	60	1/week	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-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	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum		
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
Ultraviolet light transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Ammonia-Nitrogen Nov 1 - Apr 30	44	XXX	XXX	8.5	XXX	17	2/week	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	17	XXX	XXX	3.5	XXX	7	2/week	8-Hr Composite
Total Phosphorus	10.4	XXX	XXX	2.0	XXX	4	2/week	8-Hr Composite
Copper, Total	Report SEMI AVG	XXX	XXX	Report Daily Max	XXX	XXX	1/6 months	8-Hr Composite
Lead, Total	Report SEMI AVG	XXX	XXX	Report Daily Max	XXX	XXX	1/6 months	8-Hr Composite
Zinc, Total	Report SEMI AVG	XXX	XXX	Report Daily Max	XXX	XXX	1/6 months	8-Hr Composite

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

at Outfall 001

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

I. B. For Outfall 001 , **Latitude** 39° 44' 41.00" , **Longitude** 76° 36' 17.00" , **River Mile Index** 51008 , **Stream Code** 3.43

Receiving Waters: Ebaughs Creek (CWF, MF)

Type of Effluent: Sewage Effluent

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2] Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	2/week	8-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/week	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/week	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/week	8-Hr Composite
Net Total Nitrogen	Report	11415	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	1522	XXX	XXX	XXX	XXX	1/month	Calculation

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

at Outfall 001

Footnotes:
(1) See Part C for Chesapeake Bay Requirements.
(2) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events required.

6.3.2 Summary of Proposed Permit Part A and C Conditions

The subject facility has the following Part A conditions.

- DEP will evaluate conductance levels and may require WET testing with the submission of the next NPDES permit renewal application if conductance levels exceed 1,200 µmhos/cm.

The subject facility has the following Part C conditions.

- SBR Batch Discharge Condition
- Hauled-in Waste Restrictions
- Chesapeake Bay Nutrient Definitions
- Solids Management for Non-Lagoon Treatment Systems
- The permittee shall not accept landfill leachate when the stream flow as measured at USGS Station No 01580000 on Deer Creek (Rocks, MD) is less than or equal to 21.3 cfs unless the level of leachate in the York County Sanitary Landfill (YCSL) storage pond exceeds an elevation of 905 ft above mean sea level (msl). The permittee shall report the daily volume and specific conductance of leachate received at the plant and YCSL leachate elevations on DMR Supplemental Reporting forms and submit the data on a monthly basis as an attachment to the DMR.

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

Attachment A
Stream Stats/Gauge Data

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

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

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

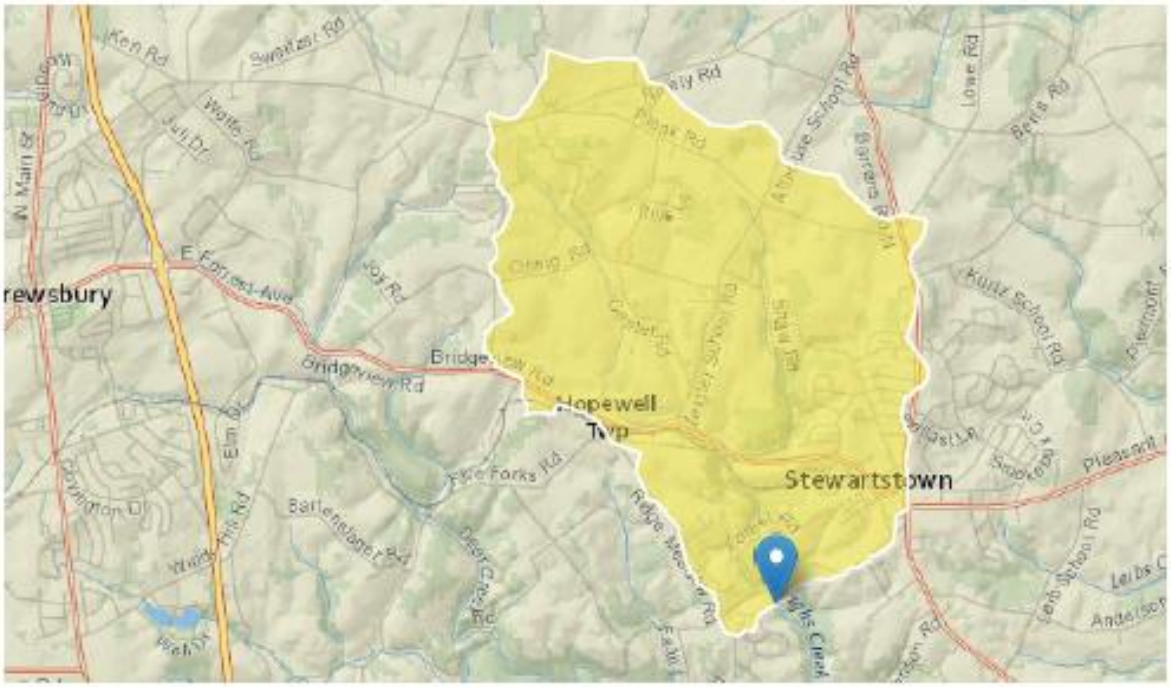
Table 2. Selected low-flow statistics for streamgage locations in and near Pennsylvania.—Continued

[ft³/s; cubic feet per second; —, statistic not computed; <, less than]

Streamgage number	Period of record used in analysis[1]	Number of years used in analysis	1-day, 10-year (ft³/s)	7-day, 10-year (ft³/s)	7-day, 2-year (ft³/s)	30-day, 10-year (ft³/s)	30-day, 2-year (ft³/s)	90-day, 10-year (ft³/s)
01565000	1941–2008	37	17.6	18.6	28.6	20.3	32.4	24.4
01565700	1965–1981	17	.4	.4	.9	.5	1.1	.8
01566000	1913–2008	52	4.3	7.9	18.8	12.4	25.6	19.2
01566500	1932–1958	27	1.7	2.4	4.0	3.2	5.7	4.9
01567000	[2]1974–2008	35	504	534	725	589	857	727
01567000	[3]1901–1972	72	311	367	571	439	704	547
01567500	1955–2008	54	2.0	2.2	3.3	2.6	3.8	3.1
01568000	1931–2008	78	12.7	15.5	25.5	19.2	32.0	26.0
01568500	[2]1943–1997	55	1.8	2.3	4.3	2.7	5.0	3.1
01569000	1939–1974	14	2.6	4.0	7.4	5.1	9.4	7.8
01569800	1978–2008	31	15.9	17.0	24.4	18.4	26.1	20.3
01570000	[3]1913–1969	35	—	63.1	110	76.1	124	95.3
01570000	[2]1971–2008	38	63.1	69.3	109	78.3	125	97.8
01570500	[3]1901–1972	72	2,310	2,440	4,000	2,830	4,950	3,850
01570500	[2]1974–2008	35	3,020	3,200	5,180	3,690	6,490	4,960
01571000	1941–1995	16	.1	.2	.6	.3	1.2	.8
01571500	1911–2008	62	81.6	86.8	115	94.0	124	105
01572000	1921–1984	14	2.1	2.3	4.8	3.0	6.5	4.5
01572025	1990–2008	17	15.2	16.4	26.7	18.5	34.6	27.7
01572190	1990–2008	17	19.1	20.5	36.2	23.9	45.8	35.3
01573000	1920–2008	89	18.0	22.0	52.0	30.8	69.2	50.9
01573086	1965–1981	17	.5	.6	2.6	.8	3.3	1.1
01573160	1977–1994	18	26.9	29.6	46.4	33.6	51.9	39.5
01573500	1939–1958	20	1.3	1.4	2.5	1.8	3.2	2.6
01573560	1977–2008	30	50.3	62.0	104	76.9	131	108
01574000	1930–2008	79	8.0	11.1	32.0	17.7	47.0	33.9
01574500	[2]1968–2008	41	14.2	24.0	35.9	29.4	42.0	33.3
01574500	[3]1930–1966	34	2.3	7.1	11.5	9.3	14.8	12.7
01575000	[2]1973–1995	23	.7	1.4	6.7	3.2	12.0	9.3
01575000	[3]1929–1971	43	.1	.6	10.3	2.3	15.0	6.1
01575500	[2]1948–1996	49	12.1	18.7	41.3	23.9	50.0	33.8
01576000	[3]1933–1972	40	2,100	2,420	4,160	2,960	5,130	4,100
01576000	[2]1974–2008	35	2,990	3,270	5,680	3,980	7,180	5,540
01576085	1984–1995	12	.4	.5	.8	.7	1.2	1.2
01576500	1931–2008	78	27.2	38.6	79.4	49.1	97.3	66.1
01576754	1986–2008	23	74.2	84.9	151	106	189	147
[4]01578310	1969–2008	40	549	2,820	5,650	4,190	7,380	6,140
01578400	1964–1981	18	1.4	1.5	2.7	1.9	3.2	2.5
[4]01580000	1928–2008	81	19.7	22.8	48.1	28.1	51.8	35.4
[4]01581500	1946–2008	28	.2	.3	1.2	.8	1.7	1.5
[4]01581700	1969–2008	40	4.7	5.5	17.5	8.1	18.3	12.0
[4]01582000	1946–2008	63	11.3	12.5	25.0	15.5	28.0	20.3
[4]01582500	1979–2008	27	41.2	43.9	78.8	53.8	90.6	74.1
[4]01583000	1949–1981	33	.3	.3	.7	.3	1.0	.6
[4]01583100	1984–2008	15	2.1	2.4	5.5	3.2	6.0	4.2

StreamStats Report

Region ID: PA
Workspace ID: PA20210614165306069000
Clicked Point (Latitude, Longitude): 39.74455, -76.60490
Time: 2021-06-14 12:53:23 -0400



Stewartstown WWTP PA0036269 Modeling Point #1 June 2021

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	4.79	square miles
BSLOPD	Mean basin slope measured in degrees	4.7632	degrees
ROCKDEP	Depth to rock	5	feet
URBAN	Percentage of basin with urban development	5.5198	percent

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	4.79	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	4.7632	degrees	1.7	6.4
ROCKDEP	Depth to Rock	5	feet	4.13	5.21
URBAN	Percent Urban	5.5198	percent	0	89

Low-Flow Statistics Flow Report [Low Flow Region 1]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

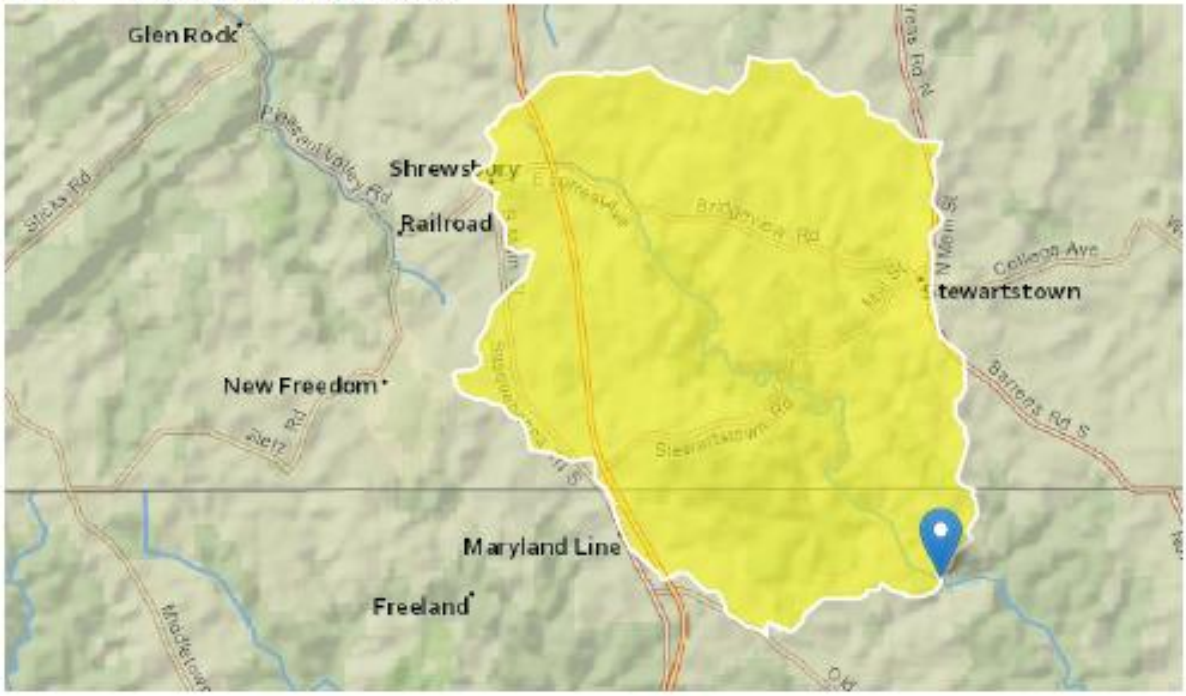
Statistic	Value	Unit	SE	SEp
7 Day 2 Year Low Flow	1.35	ft^3/s	46	46
30 Day 2 Year Low Flow	1.69	ft^3/s	38	38
7 Day 10 Year Low Flow	0.657	ft^3/s	51	51
30 Day 10 Year Low Flow	0.846	ft^3/s	46	46
90 Day 10 Year Low Flow	1.26	ft^3/s	41	41

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/)

StreamStats Report

Region ID: MD
Workspace ID: MD20210614165610557000
Clicked Point (Latitude, Longitude): 39.70752, -76.58992
Time: 2021-06-14 12:56:29 -0400



Stewartstown WWTP PA0036269 Modeling Point #2 June 2021

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	24.3	square miles

Low-Flow Statistics Parameters [Low Flow Eastern Piedmont Subregion C]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	24.3	square miles	2.09	133

Low-Flow Statistics Flow Report [Low Flow Eastern Piedmont Subregion C]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	SEp
7 Day 2 Year Low Flow	10.5	ft^3/s	12	12
7 Day 10 Year Low Flow	5.34	ft^3/s	20.1	20.1
7 Day 20 Year Low Flow	4.28	ft^3/s	25.1	25.1
14 Day 2 Year Low Flow	11.1	ft^3/s	10	10
14 Day 10 Year Low Flow	5.75	ft^3/s	19.1	19.1
14 Day 20 Year Low Flow	4.63	ft^3/s	24.1	24.1
30 Day 2 Year Low Flow	11.8	ft^3/s	8.9	8.9
30 Day 10 Year Low Flow	6.47	ft^3/s	18.1	18.1
30 Day 20 Year Low Flow	5.35	ft^3/s	23.1	23.1

Low-Flow Statistics Citations

Carpenter, D.H., and Hayes, D.C.,1996, Low-flow characteristics of streams in Maryland and Delaware: U.S. Geological Survey Water-Resources Investigations Report 94-4020, 113 p., 10 plates (https://pubs.er.usgs.gov/publication/wri944020)

Application Version: 4.5.3
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2

Attachment B

WQM 7.0 Modeling Output Values
Toxics Management Spreadsheet Output Values

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
17A	51008	UNNAMED

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)
3.430	Stewartstown	PA0036269	0.625	CBOD5	15		
				NH3-N	3.5	7	
				Dissolved Oxygen			5

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
17A	51008	UNNAMED

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
3.430	Stewartstown	8.1	7	8.1	7	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
3.430	Stewartstown	1.66	3.5	1.66	3.5	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)		
3.43	Stewartstown	15	15	3.5	3.5	5	5	0	0

WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name
17A	51008	UNNAMED

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
3.430	0.625	22.276	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
15.930	0.561	28.417	0.238
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
7.92	1.114	1.59	0.834
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.766	20.938	Tsivoglou	5
Reach Travel Time (days)			
0.881			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.088	7.10	1.48	7.68
0.176	6.37	1.38	7.90
0.264	5.71	1.28	7.91
0.353	5.12	1.19	7.91
0.441	4.59	1.10	7.91
0.529	4.12	1.03	7.91
0.617	3.69	0.95	7.91
0.705	3.31	0.88	7.91
0.793	2.97	0.82	7.91
0.881	2.66	0.76	7.91

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	0.86	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.23	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
17A	51008	UNNAMED

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												
3.430	1.16	0.00	1.16	.9869	0.00878	.561	15.93	28.42	0.24	0.881	22.28	7.00
Q1-10 Flow												
3.430	0.99	0.00	0.99	.9869	0.00878	NA	NA	NA	0.23	0.922	22.46	7.00
Q30-10 Flow												
3.430	1.42	0.00	1.42	.9869	0.00878	NA	NA	NA	0.25	0.825	22.02	7.00

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
17A	51008	UNNAMED	**3.430**	685.00	4.79	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	0.242	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Stewartstown	PA0036269	0.6250	0.6250	0.6250	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	15.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	3.50	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
17A	51008	UNNAMED	**0.000**	526.00	24.30	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	0.242	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

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

Parameter Data

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

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Stewartstown WWTP** NPDES Permit No.: **PA0036269** Outfall No.: **001**

Evaluation Type **Major Sewage / Industrial Waste** Wastewater Description: **Sewage effluent**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.625	100	6.36						

					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		410									
	Chloride (PWS)	mg/L		110									
	Bromide	mg/L	<	0.5									
	Sulfate (PWS)	mg/L		29									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	mg/L	<	0.005									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	mg/L	<	0.005									
	Total Manganese	µg/L											
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	mg/L		0.07									
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Stewartstown WWTP, NPDES Permit No. PA0036269, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Ebaughs Creek**

No. Reaches to Model: **1**

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	051008	3.43	685	4.79			Yes
End of Reach 1	051008	0	526	24.3			Yes

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

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	3.43	0.2415										100	7		
End of Reach 1	0	0.2415													

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	3.43														
End of Reach 1	0														

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Stewartstown WWTP, NPDES Permit No. PA0036269, Outfall 001

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

☐ ***Hydrodynamics***

☐ ***Wasteload Allocations***

☑ ***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	Report	Report	Report	Report	Report	mg/L	0.02	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Lead	0.036	0.057	0.007	0.011	0.017	mg/L	0.007	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.17	AFC	Discharge Conc > 10% WQBEL (no RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	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