pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0026191**
Facility Type	**Municipal**	APS ID	**320042**
Major / Minor	**Major**	Authorization ID	**1365748**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Huntingdon Borough Huntingdon County**	Facility Name	**Huntingdon STP**
Applicant Address	530 Washington Street, PO Box 592	Facility Address	10477 Snyders Run Road
	Huntingdon, PA 16652-0592		Huntingdon, PA 16652-1505
Applicant Contact	John Stevens	Facility Contact	Roger Shaffer
Applicant Phone	(814) 643-3966	Facility Phone	(814) 643-5123
Client ID	28607	Site ID	252257
Ch 94 Load Status	Not Overloaded	Municipality	Smithfield Township
Connection Status	No Limitations	County	Huntingdon
Date Application Received	August 16, 2021	EPA Waived?	No
Date Application Accepted	August 24, 2021	If No, Reason	Major Facility, Pretreatment, Significant CB Discharge
Purpose of Application	NPDES permit renewal		

Summary of Review

A draft permit was prepared on March 29, 2022 and published in the *Pennsylvania Bulletin* on April 16, 2022 for public comments for 30 days. During the 30-day public comment period, no draft permit comments were received from the public.

On April 15, 2022, the permittee's consultant provided a letter with draft permit comments (*Fact Sheet, pages 62-63*).

On April 29, 2022 the EPA provided draft permit comments (*Fact Sheet, page 64*).

The draft permit is revised and republished in the *Pennsylvania Bulletin* for another 30 days for public comments.

A summary of the comments from Huntingdon's consultant and the Department's responses are as follows.

Draft Fact Sheet:

Comment No. 5-Page 1 **-** the Huntingdon WWTP is located in Smithfield Township, not Huntingdon Borough.
Response: corrected as requested, (*Fact Sheet, page 1*).

Comment No. 6-Page 1**-** Paragraph 2 under the summary of review incorrectly states there are also 7 non-categorical significant industrial users. This statement should read there are 5 non-categorical significant industrial users and 2 non-categorical no-significant users.
Response: corrected as requested, (*Fact Sheet, page 4*).

Comment No. 7-Page 2 **-** Outfall 001 latitude and longitude coordinates do not match those in draft NPDES permit.
Response: corrected as requested, (*Fact Sheet, page 5*).

Comment No. 8-Page 7**-** incorrectly states there are also 7 non-categorical significant industrial users. This statement should read there are 5 non-categorical significant industrial users and 2 non-categorical no-significant users.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H Le / Environmental Engineering Specialist	September 25, 2023
x		*Maria D. Bebenek for* Daniel W. Martin, P.E. / Environmental Engineer Manager	October 6, 2023
x		*Maria D. Bebenek* Maria D. Bebenek, P.E. / Clean Water Program Manager	October 6, 2023

Summary of Review

Response: corrected as requested, (*Fact Sheet, page 10*).

Comment No. 9-Page 15 **- Total Dissolved Solids:** the last comment read, **"**The facility has no record of monitoring these pollutants. However, the application shows a maximum influent concentration of 35.2 mg/L for TDS." This statement is false. One (1) influent sample and (3) effluent samples were analyzed for TDS with an Influent of 460 mg/L and maximum effluent TDS of 540 mg/L, neither of which exceeds 1,000 mg/L.
Response: corrected to "…. However, the application shows a maximum influent concentration of 540 mg/L for TDS….", (*Fact Sheet, page 18-19*).

Comment No. 10-Page 16 **-** Existing permit and permit application show incorrect coordinates for Outfall 005. The correct coordinates are in the fact sheet: 40° 29' 49.75" / -78° 0' 53.00".
Response: corrected as requested, (*Fact Sheet, page 19-20*).

Comment No. 11-Pages 18 &19 - Target IWCc is shown as 5.48% with a dilution series of 100%, 71%, 42%, 21% and 11%. However, page 32 of the dilution series used for the tests was: 100%, 60%, 30%, 4%, and 2%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 4%. ***We request that DEP provide consistency between the draft NPDES permit and the Fact Sheet and determine which Target instream waste concentration and dilution series is correct.***
Response: The correct dilution series used for the tests were 100%, 60%, 30%, 4%, and 2% with 4% Target In-Stream Waste Concentration (TIWC) (*Fact Sheet, page 21*). However, the new testing was performed using the following dilution series: 2%, 5%, 30%, 60% and 100% effluent, with a control, where 5% is the facility-specific Target In-Stream Waste Concentration (TIWC). This will be replaced in the proposed permit under Part C, item VI.3 (*Permit, page 32 & Fact sheet, page 21-25).*

Comment No. 12 - Pages 44-60 **-** The following discrepancies are noted in the Toxics Management Spreadsheet (TMS) prepared by DEP. Bottom line, Aluminum and Copper still have recommended monitoring requirements since the maximum discharge concentrations are > 10% WQBEL but Mercury goes away. GHD incorrectly did not report the (<) symbol on the permit application for Mercury.
Mercury max effluent concentration is < 0.104 ug/L
Chlorobenzene max effluent concentration is < 0.21 ug/L
Chloroethane max effluent concentration is < 0.42 ug/L
Stream Hardness is 228 mg/L, which is found on page 2 of the permit application; DEP used default value of 100 mg/L. Hardness impacts metals that are Hardness dependent.
AFC analysis Hardness is calculated as 221.83 mg/L
CFC analysis Hardness is calculated as 226.83 mg/L
Aluminum WQBEL = 1,7113 ug/L
Copper WQBEL = 67.7 ug/L
Response: removed Mercury monitoring and report requirement from the permit (*Permit, page 2; and Fact Sheet, pages 17*), after re-run the TMS was corrected as above. The recommended WQBELs & Monitoring Requirements screen print is below (*Fact Sheet, pages 32-41*).

<u>Draft NPDES permit</u>:

Comment No. 1-Page 1- the Huntingdon WWTP is located in Smithfield Township, not Huntingdon Borough.
Response: corrected to "Smithfield Township", (*Permit, page 1*).

Comment No. 2-Page 2**–** DEP has added Aluminum, Copper and Mercury testing and reporting as 2/week. Per table 6-3 Self-Monitoring Requirements for Sewage Discharges in DEP's Technical Guidance for the Development and Specification of Effluent Limits, the recommended Toxics monitoring frequency for WWTPs of 1 to 5 MGD is 1/week.
Response: corrected to "1/week", and removed Mercury, (*Permit, page 2*).

Comment No. 3-Page 6 **–** Existing permit and permit application show incorrect coordinates for Outfall 005. The correct coordinates are in the fact sheet: 40° 29' 49.75" / -78° 0' 53.00".
Response: corrected as requested, (*Permit, page 6*).

Comment No. 4-Page 27**–** Part C.IV.C shows two number 4 paragraphs. Renumbered paragraph 5.d should correctly state Superior Huntingdon Composites, LLC.
Response: Part C.IV. Combined Sewer Overflows this section has been revised to reflect the updated permit template language previously agreed upon between EPA and PADEP (per EPA's comments # 4 & 5 on 4/28/2022), (*Permit, pages 25-29*).

Summary of Review

A summary of the comments from EPA and the Department's responses are as follows.

Comment 1. The fact sheet on page 3 indicates that EPA's Permit Writers Manual (EPA-833-K-10-001) specifies a 25% maximum stream width available for acute mixing. It looks like you might be referencing exhibit 6-9 under section 6.2.5.2, a box that illustrates examples of mixing zone requirements in various states. This box does not represent EPA's position, nor does it reflect EPA guidance or recommendations on mixing zone requirements or dilution allowances. This section of the Permit Writers Manual recommends that the permit writer check the state's applicable water quality standards to see if mixing zones are permitted and, if so, to determine the maximum mixing zone size for the waterbody type, pollutant of concern, and specific criterion being considered. PADEP would need to refer to their own mixing regulations to determine what is appropriate mixing and dilution allowances for this permit. EPA offers the following comments related to the PMFa used in the permit:

a. The fact sheet on page 3 indicates that a PMFa of 0.25 was used instead of 0.108 which was recommended by the Toxics Management Spreadsheet (TMS) because that is what EPA's Permit Writers Manual recommends; however, the results from the TMS model show a PMFa of 0.108 was used for the acute evaluation which is inconsistent with the statement in the fact sheet on page 3. If a PMFa of 0.25 was used in the RP analysis based on EPA's Permit Writers Manual, this would be an incorrect interpretation of the permit writers manual and the PMF would need to be reevaluated with the correct application of PADEPs water quality standards regulations. Please clarify the discrepancy between page 3 of the fact sheet and the PMFs shown on page 48 and what PMFa was actually used in the RP analysis.

b. Similarly for the WET analysis, the summary on page 18 shows a PMFa of 0.108 was used for WET but the WET Summary and Evaluation on page 20 indicates a PMFa of 0.728 was used for acute and 1 for chronic. Please clarify this discrepancy and revise the fact sheet to include this clarification.

Response:

a. It has been revised, (*Fact Sheet, page 5*).
b. The difference of PMFa on the WET Summary and Evaluation was due to typo error on design flow $Q_{7\text{-}10}$ flow, PMFa & PMFc. It was corrected, (*WETT, Fact Sheet, pages 21-25*).

Comments 2. It appears that the language in Part C.II (Chesapeake Bay Nutrient Requirements) is not the current template language that should be included in permits. Please revise this section to reflect the current Chesapeake Bay Permit language for all PA permits.

Response: corrected, (*Permit, pages 24-26*).

Comments 3. The fact sheet states that there was an average of 130 CSO events in 2020 with a percent capture rate of 92%. According to EPA's CSO Guidance Document for LTCPs, the two criteria under the presumption approach (85 % capture and no more than an average of 4 overflow events per year) are approximately equal. On pages 3-9 and 3-10 (Chapter 3, Section 3.2.1.2 Presumption Approach) of EPA's CSO Guidance for Long-Term Control Plan, the document states that EPA's analysis has shown that criteria i and ii of the Presumption Approach are approximately equal. The number of overflows corresponding to 85% capture for treatment ranged from 4-6 depending on location. While the actual number of overflows may vary, it should be noted that the guidance states a significant deviation from this range of overflows would not be expected. It is unclear how PADEP determined that 130 CSO events has a percent capture rate of 92%. How has DEP verified this percent capture calculation? Similarly, the fact sheet on page 16 makes reference to the "total combined sewage being discharge to the river" when determining the percent capture. EPA would like to point out that the CSO control policy defines 85% capture as the volume of the combined sewage collected in the CSS during precipitation events (underlined for emphasis). Based on the explanation in the fact sheet, it is unclear whether only wet weather flows during precipitation events are included in the percent capture calculation. Please clarify how PADEP is evaluating the percent capture for wet weather events for this facility. Please note that Section 4 of EPA's CSO Post Construction Compliance Monitoring Guidance addresses evaluating the effectiveness of CSO controls for the various Presumption Approach Criteria, including the 85% capture by volume standard.

Response: The "Borough of Huntingdon CSO Supplemental Report Calendar Year 2020" & spreadsheet for CY2021 documents show a narrative explanation of the calculation combined sewage percent capture for wet weather events of this facility. The percent capture has been calculated based on the work done since the start of the CSO elimination project. The Borough acknowledges that 130 overflows does not meet the presumptive criteria even though they meet the percent capture. The Borough intends to continue with separation projects as per their Long Term Control Plan to further reduce the number of overflows to an acceptable level consistent with the Presumptive Approach. (*Fact Sheet, pages 47-60*).

Summary of Review

Comments 4 & 5: Part C.IV.A (Combined Sewer Overflows) includes old permit language. Please revise this section to reflect the updated permit template language previously agreed upon between EPA and PADEP. And the numbering on page 28 of the permit seems to be off, there are two number fours on this page.

Response: This section has been revised to reflect the updated permit template language previously agreed upon between EPA and PADEP, and this will cover the comment #5, (*Permit, pages 26-30*).

Comment 6: The draft permit includes a WQBEL of 85% capture based on "design conditions"; however, the design conditions are not identified or defined in the permit. EPA recommends the design conditions under which the performance standard will be met be included in the subsequent permit reissuance. Moreover, LTCP (dated 2001) does not identify which approach or standard the permittee chose to meet water quality standards. Has PADEP had discussions with the permittee that the decided standard is 85% capture? While this standard may be appropriate for this facility, EPA recommends including in the fact sheet an explanation of the permittee's chosen method of compliance. EPA also recommends that the permittee update their LTCP to identify the permittee's chosen method of compliance.

Response: The facility currently meets the 85% capture threshold, but the number of discharges is more than an average of four (4) or six (6) overflow events per year. Therefore, the facility will continue to work toward full separation of the combined sewer system during each permit term until the facility achieves compliance with this standard as funding becomes available. The LTCP timeframe for milestones for this permit cycle are as follows (*the company's email on 9/14/2023 is in Fact Sheet, page 61*):

Milestone	Completion Date
Televise 1000 feet of the 7th Street sewer line	Annually beginning first year after permitting effective date
Smoke & dye testing, and nighttime evaluations of the televised lines described above	Annually after line televise
Update Sewer System Mapping	December 31, 2024 and annually thereafter
Update Long-Term Control Plan	At the end of the 5-year permit cycle
Submit Annual CSO Status report with Chapter 94	March 31 of each year
Submit DMR Supplemental Reports for CSOs	Within 28 days of the end of the month

Facility Summary:

GHD, Inc., on behalf of Huntingdon Borough, has applied to the Pennsylvania Department of Environmental Protection (DEP) for issuance of the NPDES permit. The permit was reissued on February 16, 2017 and became effective on March 1, 2017. The permit expired on February 28, 2022.

This facility receives 57% of its flow from Huntingdon Borough, 36.4% from Smithfield Township, 5.5% from Walker Township, 0.8% from Oneida Township, and 0.3% from Penn Township. There are 5 non-categorical significant industrial users and 2 non-categorical non-significant users. The facility has an average annual design flow of 4.0 MGD and hydraulic design capacity of 5.9 MGD. The organic design capacity is 9,100 lbs BOD_5/day. The facility discharge is to Juniata River, which is classified for warm water and migratory fishes (WWF & MF). Currently, other permitted outfalls are combined sewer overflow (CSO) outfalls # 002, # 003, # 004, # 005, & # 006, that discharge to the Juniata River & Muddy Run, and two (2) storm water outfalls # 008 & # 009. CSO outfalls # 002 and # 006 will be eliminated with this renewal.

The WQM Part II permit No. 3104401 was issued on February 17, 2005. The WQM Part II permit No. 3104401 A-1 was issued on February 17, 2022 for construction of a 48" combined sewer screening chamber, and 60" RCP. The WQM Part II, sewer Extensions & Pumping Station, Permit No. 3112402 was issued on July 10, 2012. The WQM permit No. 3186401 was issued in 1986. The WQM permit Nos. 3186401 & 3186401 09-1 amendments were issued on December 11, 2000 & May 28, 2009 to install new ¾ washer and compacted course screen. The WQM Part II No. 3186401 A-3 amendment was issued on 7/6/2022 to replace the existing pipe with a new 30" diameter PCV pipe, remove the existing manhole # 1, and move the outfall to new location

Sludge use and disposal description and location(s): Class A give-away program.

Summary of Review

Changes from the previous permit:

- E. Coli. monitoring and report requirements will be added to the proposed permit.
- $CBOD_5$ limits of 22.0 mg/L AML, 34.0 mg/L AWL, & 44.0 mg/L IMAX and mass limits of 730 lbs/day AML & 1,130 lbs/day AWL which are more stringent and will be replaced in the proposed permit.
- Total Aluminum (Al) monitoring requirements are added to the proposed permit.
- Total Copper limits of 0.067 mg/L average monthly, 0.1 mg/L daily maximum, & 0.17 mg/L IMAX, and mass average monthly of 2.23 lbs/day and daily maximum of 3.49 lbs/day are recommended and will be in the proposed permit.
- Total Zinc limits of 0.53 mg/L average monthly, 0.83 mg/L daily maximum, & 1.33 mg/L IMAX, and mass average monthly of 17.7 lbs/day and daily maximum of 27.7 lbs/day are recommended and will be in the proposed permit.
- The new WET testing using the following dilution series: 2%, 5%, 30%, 60% and 100% effluent, with a control, where 5% is the facility-specific Target In-Stream Waste Concentration (TIWC) will replace the existing series in the proposed permit under Part C, item VI.3 *(Permit, page 33).*
- Part C, item IV.C.3 LTPC Implementation Schedule will include timeframes for milestones (*Permit, page 28*).

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	4.0
Latitude	40º 28' 33.27"	Longitude	-78º 0' 5.54"
Quad Name	Huntingdon	Quad Code	1521
Wastewater Description:	Sewage Effluent		
Receiving Waters	Juniata River (WWF)	Stream Code	11414
NHD Com ID	65607282	RMI	93.22 miles
Drainage Area	979 mi.^{2}	Yield (cfs/mi^2)	0.145
Q_{7-10} Flow (cfs)	142	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	597	Slope (ft/ft)	
Watershed No.	11-B	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Mifflintown Borough Municipal Authority, Juniata County		
PWS Waters	Juniata River	Flow at Intake (cfs)	
PWS RMI	37.26 miles	Distance from Outfall (mi)	Approximate 56.0 miles

Drainage Area
The discharge is to Juniata River at RMI 93.22 miles. The drainage area upstream of the discharge is estimated to be 979 mi.^{2}, according to USGS PA StreamStats available at: https://streamstats.usgs.gov/ss/.

Stream Flow
According to StreamStats, the discharge point in the receiving stream has a Q_{7-10} of 142 cfs and a drainage area of 979 mi.^{2}, which results in a Q_{7-10} low flow yield of 0.145 cfs/mi.^{2}. This information is used to obtain a chronic or 30-day (Q_{30-10}), and an acute or 1-day (Q_{1-10}) exposure stream flow for the discharge point as follows (Guidance No. 391-2000-023):

Q_{7-10} = 142 cfs
Low Flow Yield = 142 cfs / 979 mi.^{2} = 0.145 cfs/mi.^{2}
Q_{30-10} / Q_{7-10} = 1.36
Q_{1-10} / Q_{7-10} = 0.64

The resulting Q_{7-10} dilution ratio is: $Q_{stream} / Q_{discharge}$ = 142 cfs / [4.0 MGD * (1.55 cfs/MGD)] = 22.9:1.

The drainage area at discharge point is found to be 979 mi.^{2} from USGS StreamStats.

For WQM modelling purposes, 25% of the flow will be used.

Q_{7-10} model = 142 cfs x 0.25 = 35.5 cfs

Public Water Supply
The nearest downstream public water supply intake is the Mifflintown Borough Municipal Authority Juniata County on Juniata River. It is approximately 56.0 miles downstream of the discharge at RMI 37.26 miles. Due to the distance, dilution, and proposed effluent limits the discharge is not expected to impact the water supply.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	N/A
Latitude	40º 29' 36.99"	Longitude	-78º 1' 22.71"
Quad Name	Huntingdon	Quad Code	1521
Wastewater Description:	Untreated Combined Sewer Overflow		
Receiving Waters	Juniata River (WWF)	Stream Code	
NHD Com ID	65607064	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-B	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Not Assessed		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Other Comments: CSO Outfall # -003 is located along the old Ice Plant Road across the railroad tracks from 14th street. It is also known as East Interceptor Overflow # 003. Regulator No. 2 is located here. The 2017 Combined Sewer Overflow Long Term Control Plan Update document stated that "*With respect to Regulator No. 2 located uptown near the old ice plant, the Borough keeps it open at all times.*" (Ref. Combined Sewer Overflow Long Term Control Plan Update, by GHD dated March 27, 2017, page 2)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	004	Design Flow (MGD)	N/A
Latitude	40º 29' 9.02"	Longitude	-78º 0' 52.02"
Quad Name	Huntingdon	Quad Code	
Wastewater Description:	Untreated Combined Sewer Overflow		
Receiving Waters	Unnamed Tributary to Juniata River (WWF)	Stream Code	
NHD Com ID	65607182	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-B	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Other Comments: The CSO outfall # 004 is located at Seventh and Penn Street. The discharge point is at Muddy Run and classified as WWF. The 2017 Combined Sewer Overflow Long Term Control Plan Update document stated that "…*the combined sewer in the 7th Street sewer shed divert flow in excess of what CSO # 004 can convey to the Juniata River to the 21-inch diameter interceptor at 6th and Allegheny Street*." (Ref. Combined Sewer Overflow Long Term Control Plan Update, by GHD dated March 27, 2017, page 4)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	005	Design Flow (MGD)	N/A
Latitude	40º 29' 49.75"	Longitude	-78º 0' 53.00"
Quad Name	Huntingdon	Quad Code	
Wastewater Description:	Untreated Combined Sewer Overflow		
Receiving Waters	Unnamed Tributary to Juniata River (WWF, MF)	Stream Code	
NHD Com ID	65606996	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-B	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Other Comments: The CSO outfall # 005 is located at 16th and Oneida street. The discharge point is at Muddy Run and classified as WWF.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	008	Design Flow (MGD)	N/A
Latitude	40º 28' 36.40"	Longitude	-78º 0' 6.09"
Quad Name	Huntingdon	Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Juniata River (WWF, MF)	Stream Code	
NHD Com ID	65607282	RMI	0.1400
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-B	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	009	Design Flow (MGD)	N/A
Latitude	40º 28' 36.40"	Longitude	-78º 0' 6.09"
Quad Name	Huntingdon	Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Juniata River (WWF, MF)	Stream Code	
NHD Com ID	65607282	RMI	0.1400
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-B	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Treatment Facility Summary

Treatment Facility Name: Huntingdon STP

WQM Permit No.	Issuance Date	Description
3186401 A-3	July 6, 2022	Amendment: modifications to existing unit(s)
3112402	July 10, 2012	Sewer Extension & Pumping Station Replacement of 20” dia. Combined sewer with 21” dia. PVC pipe and construction of 18” dia. HDPE storm sewer with an end-wall for discharging to Stone Creek to replace 10” storm sewer.
3104401	Feb. 17, 2012	Construction of 48” combined sewer between 4th St. to Standing Stone Creek, construction of screening chamber near Regulator 1, and construction of 60” RCP outfall from screening chamber to Juniata River.
3186401	May 28, 2009	New ¾ inch washer and compacted course screen, new fine screen and grit/grease removal system, raw WW pump station, two new primary clarifiers with primary storage tank, denitrification filter building, UV building, chemical storage, existing two clarigesters converted to ATAD, new rotary press.
3104401	Feb 17, 2005	WQM Part II Sewage Facility
3186401	Dec 11, 2000	Amendment
3186401	1986	New

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Trickling Filter With Settling	Ultraviolet	4.0

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
5.9	9100	Not Overloaded	Aerobic Digestion	Combination of methods

Changes Since Last Permit Issuance: The modification to existing unit(s) WQM 3186401 A-3 amendment was issued on July 6, 2022 which replaced the existing pipe with new 30" diameter PVC pipe, removed the existing manhole #1, constructed a new end-wall at the new outlet location, and moved the new outfall location from 28 feet (or 0.005 mile) from the old location.

According to DEP's recent visit to the site on June 16, 2021, the treatment facility consists of the following units:

- One Influent Wet Well, online with 4 pumps
- Influent Screen, total 3, one online (muffin monster, fine screen, and back up bar screen)
- One Bio Filter/Tower, online (odor control)
- Two Sludge Holding Tanks/Lagoon Rotary Sludge Press, online (old tanks, back up only)
- One Sludge Holding Tank/Lagoon, online (unused back up tank ½ million gallons)
- One Grit Removal, online
- Two Primary Clarifiers, online
- Two Trickling Filters, online
- Two Second Clarifiers, online
- Four Other Denote Filters with separate tank to hold and feed backwash water, online
- Four UV Disinfection units, three are online and one as backup
- One Automatic Thermophilic Aerobic Digestion (ATAD) system, online
- One Sludge Holding Tank/Lagoon (Storage Nitrification/Denitrification Reactor (SNDR)), online

The tertiary treatment plant follows the below flow path:

Coarse Screening → raw wastewater pumping → grit/grease removal → fine screening → primary clarification → trickling filtration → Final Clarification (DelPAC addition) → secondary clarification → methanol addition → denitrification filtration → UV disinfection → discharge to the Juniata River through outfall 001

The Class A biosolids is produced by the following process:

Gravity thickening → mechanical thickening → ATAD digestion → SNDR reactor → rotary dewatering press with polymer addition → cake storage

Cake solids are stored on a covered storage pad until disposed offsite. Sludge is considered Class A and is given away for agricultural utilization, blending, or composting.

Chemical uses:

DelPAC 1525 (Aluminum Chloride) is added just prior to the final clarifiers for phosphorus removal.

Methanol is added prior to the denitrification pump station as a carbon source for complete denitrification in the filters.

Other Comments:

There are 5 non-categorical significant industrial users and 2 non-categorical non-significant users. The table below summarizes their contributions:

Name	Description	Discharge Rate (GPD)				
		Process	NCCW	Sanitary	Other	Total
J.C. Blair Memorial Hospital	Hospital	0	5,100	25,200	Boiler: 1,400	31,700
John R. Wald Company, Inc.	Manufacturer	0	0	110	0	110
Juniata College	College	0	0	28,400	Boiler: 4,200	32,600
State Correctional Ins.-Huntingdon	Prison	0	0	500,000	0	500,000
State Correctional Ins.-Smithfield	Prison	0	0	263,000	0	263,000
Superior Huntingdon Comp., LLC	Glass fiber Yarn Cont. Filament Mat. Manufacturing	33,000	0	1,200	0	34,200
Walker Township Municipal Auth.	Contributing public sewer sys. with past history of FOG problem (not in past 5 years)	0	0	108,200	0	108,200

Compliance History	
Summary of DMRs:	DMRs reported last 12 months are summarized in the Table below (Pages 12 thru 14).
Summary of Inspections:	10/06/2022: Mr. Clark, DEP WQS, conducted a compliance evaluation inspection. There were no violations noted. Treatment plant appeared to be operating properly, effluent clear, field tests results were within permit limits. Since last inspection two ATAD pumps and valves were replaced and the VFD for the utility water pump was replaced. Next spring a pump and valves for the SNDR will be replaced. The construction of a new outfall pipe and headwall was recently completed. 7/7/2021: Mr. Clark, DEP WQS, conducted a combined sewer overflow (CSO) inspection. Inspection included records review and an examination of each CSO outfall and regulator. There were no violations noted. The facility is currently permitted for 5 CSOs. CSO 002 has not had a discharge in about 10 years and the gate has been kept shut, forcing all wastewater and stormwater to the plant. An extensive sewer line separation project in the 4th street area has resulted in the removal of CSO 006. CSOs (002 & 006) has discharged to the same point at the Juniata River, and requested to remove them from NPDES permit when it is renewed next year. Outfalls for CSOs (004 & 005) discharge into a tunnel leading to Muddy Run. CSO 003 discharges to a small unnamed tributary to the Juniata River. All CSO screens are being maintained and outfall areas appeared clear. 6/16/2021: Mr. Clark, DEP WQS, conducted a compliance evaluation inspection. There were no violations noted. Treatment plant appeared to be operating properly, effluent clear, field tests results were within permit limits. Since last inspection, the media and support beams for one of the bio-towers was replaced, scum collection pipes were added to the final clarifiers, and transfer valve for the Automatic Thermophilic Aerobic Digestion (ATAD) system was replaced. 01/01/2021: Mr. Clark, DEP WQS, conducted an administrative review of the Huntingdon STP annual Chesapeake Bay report. There were no violations noted. The Department received a 2019-2020 annual DMR and Chesapeake Bay supplemental spreadsheet on November 18, 2020. The facility has achieved compliance with it's Nitrogen and Phosphorus annual loading limits for 2019-2020 compliance year.
Other Comments:	There are currently no open violations associated to the permittee or the facility.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from August 1, 2022 to July 31, 2023)

Parameter	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22
Flow (MGD) Average Monthly	2.534	1.981	2.173	2.303	2.783	2.257	3.803	2.724	2.348	1.659	1.881	1.856
Flow (MGD) Daily Maximum	4.878	4.029	5.035	5.946	6.057	3.928	8.068	7.504	6.714	2.335	3.338	6.115
pH (S.U.) Minimum	6.7	6.8	6.8	6.6	6.6	6.8	6.8	6.7	6.7	6.6	6.9	7.0
pH (S.U.) Maximum	8.0	7.6	7.6	7.6	7.3	7.5	7.6	8.2	8.1	7.9	7.7	8.3
DO (mg/L) Minimum	5.1	5.2	5.2	5.1	5.4	6.0	5.5	5.1	5.3	5.2	5.1	5.0
CBOD5 (lbs/day) Average Monthly	< 61	< 56	< 59	< 128	< 140	< 100	< 250	< 96	< 64	< 66	< 78	< 63
CBOD5 (lbs/day) Weekly Average	< 74	83	< 103	256	321	130	< 796	145	< 81	< 122	< 122	< 105
CBOD5 (mg/L) Average Monthly	< 3.0	< 3.0	< 3.0	< 7.0	< 6.0	< 5.0	< 6.0	< 5.0	< 4.0	< 5.0	< 4.0	< 4.0
CBOD5 (mg/L) Weekly Average	< 3.0	4.0	< 3.0	14.0	12.0	7.0	< 13.0	7.0	< 6.0	< 9.0	5.0	5.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	2268	1731	1867	2297	2011	2807	3565	1603	2054	1774	8826	1460
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	4442	2234	2967	3054	4190	3843	14816	3559	3059	2808	57070	2024
BOD5 (mg/L) Raw Sewage Influent Average Monthly	115	110	108	131	94	147	139	88	131	131	362	97
TSS (lbs/day) Average Monthly	49.0	37.0	54.0	39.0	57.0	65.0	311.0	54.0	31.0	25.0	56.0	36.0
TSS (lbs/day) Raw Sewage Influent Average Monthly	2237	2038	2380	2222	1903	2155	2273	1814	1870	1620	2211	1663
TSS (lbs/day) Raw Sewage Influent Daily Maximum	3530	3181	5840	2954	2979	2929	4258	2312	2716	2395	3007	2269
TSS (lbs/day) Weekly Average	72.0	49.0	124.0	63.0	135.0	80.0	1229.0	67.0	38.0	47.0	83.0	43.0
TSS (mg/L) Average Monthly	3.0	2.0	3.0	2.0	3.0	4.0	6.0	3.0	2.0	2.0	3.0	4.0

TSS (mg/L) Raw Sewage Influent Average Monthly	119	128	140	125	91	114	76	98	110	119	128	116
TSS (mg/L) Weekly Average	4.0	3.0	4.0	4.0	6.0	5.0	19.0	4.0	3.0	3.0	5.0	4.0
Fecal Coliform (No./100 ml) Geometric Mean	4	< 8	< 3	< 1	< 1	< 2.0	< 2	< 2	< 1	< 2	1	< 3
Fecal Coliform (No./100 ml) IMAX	13	37	25	4	8	4.0	70	5	9	21	2	42
UV Intensity (mW/cm²) Minimum	3.6	1.0	1.0	1.0	5.2	2.3	2.7	3.3	1.7	2	2.4	1.6
Nitrate-Nitrite (mg/L) Average Monthly	< 3.133	< 2.861	< 2.996	< 4.219	< 4.307	< 5.431	< 4.288	< 3.679	< 4.216	< 6.587	< 5.216	< 3.012
Nitrate-Nitrite (lbs) Total Monthly	< 2030.4	< 1376.9	< 1597.7	< 2767.9	< 2776.9	< 2968.3	< 4581.7	< 2110.5	< 2927	< 2741.2	< 2555.7	< 1520.5
Total Nitrogen (mg/L) Average Monthly	< 4.888	< 5.577	< 4.584	< 5.981	< 6.147	< 7.081	< 5.344	< 4.761	< 5.504	< 7.327	< 5.969	< 3.796
Total Nitrogen (lbs) Effluent Net Total Monthly	< 3107.5	< 2664.6	< 2445.7	< 3872.6	< 3973.2	< 3837.1	< 5838.6	< 2740.4	< 3698.4	< 3059.4	< 2953.1	< 1905.1
Total Nitrogen (lbs) Total Monthly	< 3107.5	< 2664.6	< 2445.7	< 3872.6	< 3973.2	< 3837.1	< 5838.6	< 2740.4	< 3698.4	< 3059.4	< 2953.1	< 1905.1
Total Nitrogen (lbs) Effluent Net Total Annual											< 34514.0	
Total Nitrogen (lbs) Total Annual											< 34514	
Ammonia (mg/L) Average Monthly	< 0.14	< 0.156	< 0.174	< 0.131	< 0.121	< 0.168	< 0.101	< 0.1	< 0.102	< 0.1	< 0.1	< 0.1
Ammonia (lbs) Total Monthly	< 91.8	< 75.9	< 95.9	< 69.1	< 78	< 94.3	< 98.1	< 58.7	< 56	< 42	< 52.6	< 54.8
Ammonia (lbs) Total Annual											< 880	
TKN (mg/L) Average Monthly	1.756	2.716	< 1.589	1.762	1.84	1.651	< 1.056	< 1.083	< 1.288	< 0.74	< 0.753	< 0.784
TKN (lbs) Total Monthly	1077.1	1287.7	< 847.9	1104.7	1196.4	868.8	< 1256.9	< 629.9	< 771.4	< 318.2	< 397.4	< 384.7
Total Phosphorus (lbs/day) Average Monthly	16.49	16.63	16.84	19.41	18.61	18.69	19.39	17.19	16.64	15.46	20.5	14.71
Total Phosphorus (mg/L) Average Monthly	0.835	1.048	0.952	1.101	0.891	0.986	0.641	0.92	1.025	1.144	1.182	0.957

Total Phosphorus (lbs) Effluent Net Total Monthly	511.2	499	521.9	582.3	576.6	523	601.2	533	499.3	479	616.8	455.9
Total Phosphorus (lbs) Total Monthly	511.2	499	521.9	582.3	576.6	523	601.2	533	499.3	479	616.8	455.9
Total Phosphorus (lbs) Effluent Net Total Annual											6236.0	
Total Phosphorus (lbs) Total Annual											6236	

DMR Data for Outfall 008 (from August 1, 2022 to July 31, 2023)

Parameter	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22
TSS (mg/L) Daily Maximum		12.8						7.20				
Oil and Grease (mg/L) Daily Maximum		< 5.10						< 4.65				

DMR Data for Outfall 009 (from August 1, 2022 to July 31, 2023)

Parameter	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22	AUG-22
TSS (mg/L) Daily Maximum		< 1.60						< 1.60				
Oil and Grease (mg/L) Daily Maximum		< 5.25						< 5.50				

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 4
Latitude 40º 28' 33.27" **Longitude** -78º 0' 5.54"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

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

Comments: Total Residual Chlorine does not apply to this facility.

Water Quality-Based Limitations

WQM 7.0:

The following data were used in the attached computer model (WQM 7.0) of the stream:

- Discharge pH 7.0 (Default)
- Discharge Temperature 25°C (Default)
- Stream pH 7.0 (Default)
- Stream Temperature 20°C (Default)
- $Q_{7\text{-}10}$ flow for WQM model 35.5 cfs (Calculated, this factsheet, page 5)

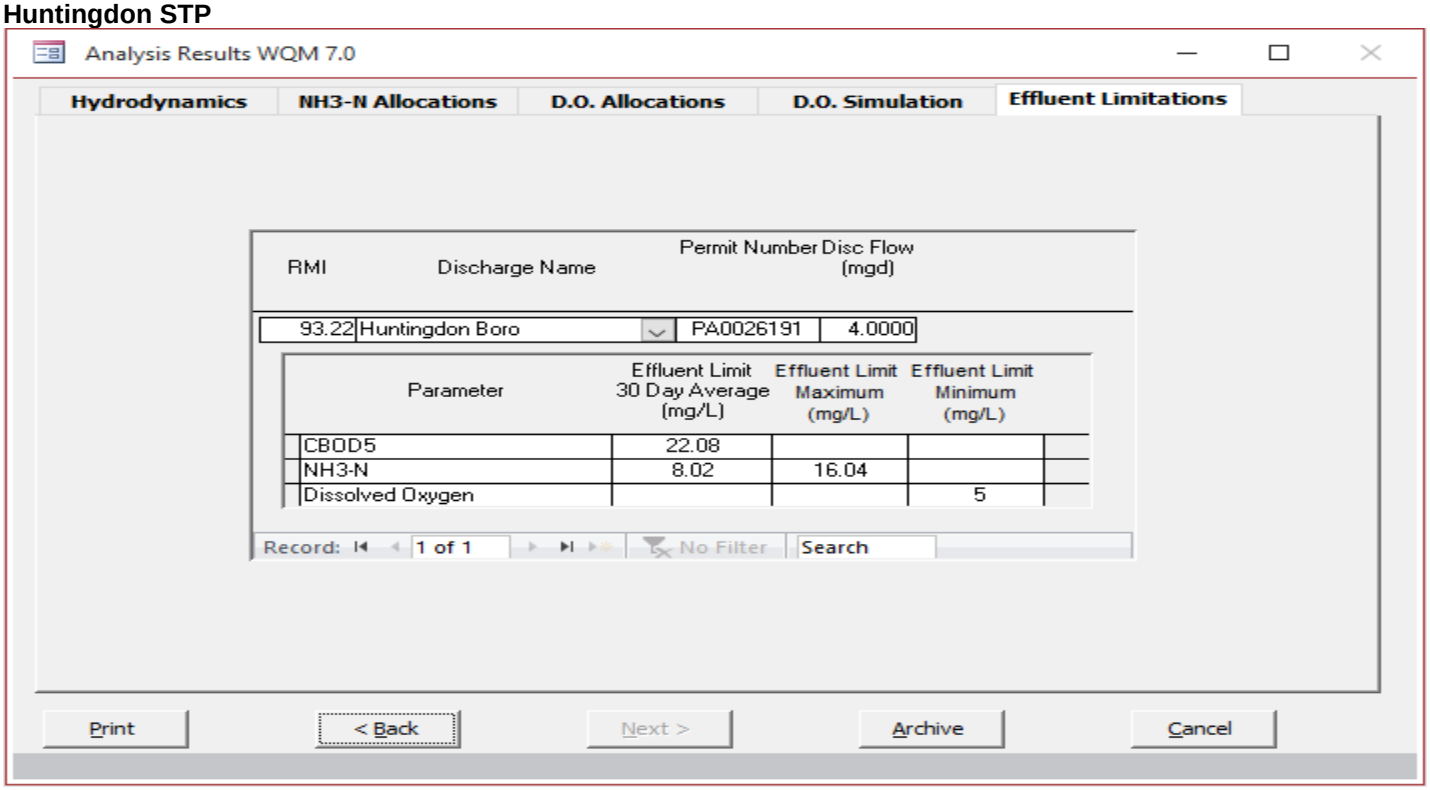
The following three nodes were used in modeling:

Node 1: Outfall 001 at Juniata River (11414)

Elevation:	597 ft (USGS)
Drainage Area:	979 $mi.^2$ (StreamStats)
River Mile Index:	93.22 (PA DEP eMapPA)
Low Flow Yield:	0.145 $cfs/mi.^2$
Discharge Flow:	4.0 MGD

Node 2: At the confluence with Raystown Branch Juniata River (13349)

Elevation:	585 ft (USGS)
Drainage Area:	991 $mi.^2$ (StreamStats)
River Mile Index:	91.33 (PA DEP eMapPA)
Low Flow Yield:	0.145 $cfs/mi.^2$
Discharge Flow:	0.00 MGD



Ammonia (NH_3-N), Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), & Dissolved Oxygen (D.O.):
WQM 7.0 version 1.1 is a water quality model designed to assist DEP to determine appropriate effluent limits for $CBOD_5$, NH_3-N and D.O. The model simulates two basic processes. In the NH_3-N module, the model simulates the mixing and degradation of NH_3-N in the stream and compares calculated instream NH_3-N concentrations to NH_3-N water quality criteria. In the D.O. module, the model simulates the mixing and consumption of D.O. in the stream due to the degradation of $CBOD_5$ and NH_3-N and compares calculated instream D.O. concentrations to D.O. water quality criteria. Since WQM 7.0 assumes immediate and complete mix between the discharge and stream flow, Q_{7-10} was adjusted, as shown on page 3, to examine allowable wasteload allocations under appropriate mixing conditions. The model was utilized for this permit renewal by using adjusted Q_{7-10} and current background water quality levels of the river.

NH_3-N:
WQM 7.0 stream model (ver. 1.1) suggested NH_3-N limit of 8.02 mg/L as monthly average (AML) and 16.04 mg/L as instantaneous maximum (IMAX) limit during summer to protect water quality standards. This output suggests imposing new NH_3-N summer season limit as 8.0 mg/L monthly average and 16.0 mg/L for IMAX. Winter season limit is also suggested to be report for both monthly average and IMAX. Recent DMR data show that the plant is discharging NH_3-N below 2.0 mg/L year-round which is very insignificant. Therefore, no NH_3-N limits are proposed in this renewal. It may be reconsidered during next permit renewal if the discharge concentrations become higher or any other governing conditions change.

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$):
The attached computer printout of the WQM 7.0 stream model (ver. 1.1) indicates that a monthly average limit (AML) of 22.08 (22.0) mg/L, 34.0 mg/L AWL, & 44.0 mg/L IMAX which is more stringent than the existing permit and will replace in the proposed permit. Recent DMRs and inspection reports show that the facility has typically been achieving concentrations below this limit. Mass limits are calculated as follows:

Average monthly mass limit: 22.0 mg/L x 4.0 MGD x 8.34 = 733.92 lbs/day
Average weekly mass limit: 34.0 mg/L x 4.0 MGD x 8.34 = 1,134 lbs/day

The average monthly and average weekly mass loadings were calculated as 733.92 lbs/day and 1,134 lbs/day respectively. These values are rounded down to 730.0 lbs/day and 1,130.0 lbs/day, respectively.

Dissolved Oxygen (D.O.):
The D.O. goal is 6.0 mg/L. However, a minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. It is recommended that this limit be maintained in the proposed permit to ensure the protection of water quality standards.

This approach is consistent with DEP's current Standard Operating Procedure (SOP) No. BPNPSM-PMT-033 and has been applied to other point source dischargers throughout the state.

Fecal Coliform:
The recent coliform guidance in 25 Pa. Code § 92a.47.(a)(4) requires a summer technology limit of 200/100 ml as a geometric mean and an instantaneous maximum not greater than 1,000/100ml and 25 Pa. Code § 92a.47.(a)(5) requires a winter limit of 2,000/100ml as a geometric mean and an instantaneous maximum not greater than 10,000/100ml.

E. Coli:
As recommended by DEP's SOP no. BPNPSM-PMT-033, a routine monitoring for E. Coli will be included in the permit under 25 Pa. Code § 92a.61. This requirement applies to all sewage dischargers greater than 0.002 MGD in their new and reissued permits. A monitoring frequency of 1/month will be included in the permit to be consistent with the recommendation from this SOP.

pH:
The effluent discharge pH should remain above 6.0 and below 9.0 standard units (S.U.) according to 25 Pa. Code § 95.2(1).

UV:
The UV system monitor and report the UV intensity (mW/cm^2) after update to replace chlorine disinfection to UV disinfection system will remain in the proposed permit.

Toxics:
The data was analyzed based on the guidelines found in DEP's Water Quality Toxics Management Strategy (Document No. 361-0100-003) and DEP's SOP No. BPNPSM-PMT-033. Spreadsheet results are attached to this fact sheet (page 32-41). The Toxics Management Spreadsheet uses the following logic:

a. Establish average monthly and IMAX limits in the draft permit where the maximum reported concentration 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.

Pollutant testing results on the current (2021) application were reviewed in comparison with DEP's Toxic Management Spreadsheet, version 1.4, May 2023, output recommends a routine monitoring and/or effluent limit requirements for Total Aluminum (Al), Total Copper (Cu), and Total Zinc. Therefore, weekly monitoring/ effluent limitation requirements for these parameters are added in the proposed permit as follows:

Recommended WQBELs & Monitoring Requirements

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	Report	Report	Report	Report	Report	µg/L	1,694	AFC	Discharge Conc > 10% WQBEL (no RP)

Model Results 9/20/2023 Page 14

Total Copper	2.23	3.49	0.067	0.1	0.17	mg/L	0.067	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	17.7	27.7	0.53	0.83	1.33	mg/L	0.53	AFC	Discharge Conc ≥ 50% WQBEL (RP)

- Total Aluminum monitoring and report concentration & mass of average monthly & daily maximum requirements will be added in the proposed permit. During the next permit renewal cycle, the need for Aluminum monitoring in the permit will be re-evaluated.

- Total Copper limit of 0.067 mg/L average monthly, 0.1 mg/L daily maximum, and 0.17 mg/L IMAX are recommended and will be in the proposed permit. Using the multiplier of 1.5 yields a daily maximum limit (0.067 x 1.5) 0.1 mg/L and the multiplier of 2.5 yields an IMAX limit (0.067 x 2.5) 0.17 mg/L. Mass average monthly of 2.23 lbs/day and daily maximum of 3.49 lbs/day are also in the proposed permit.

- Total Zinc limit of 0.53 mg/L average monthly, 0.83 mg/L daily maximum, and 1.33 mg/L IMAX are recommended and will be in the proposed permit. Using the multiplier of 1.5 yields a daily maximum limit (0.53 x 1.5) 0.795 (0.8) mg/L and the multiplier of 2.5 yields an IMAX limit (0.53 x 2.5) 1.33 mg/L. Mass average monthly of 17.7 lbs/day and daily maximum of 27.7 lbs/day are also in the proposed permit.

Total Phosphorus:

The discharge is into a stream segment of Juniata River. DEP's phosphorus guidance (BPNPSM-PMT-033, version 1.5. revised August 23, 2013) mentions that "(a) Phosphorus controls for waste discharges to streams shall be established, under subsection (b) whenever the Department determines that instream phosphorus, alone or in combination with other pollutants or instream conditions, contribute to impairment of designated uses as defined in Chapter 93 (relating to water quality standard). No determination made under this subsection shall constitute a final Department action with respect to any person until a specific treatment or control requirement is imposed under subsection (b)." Since Juniata River doesn't have instream phosphorus related impairment, local phosphorus limit is not necessary at this time. This determination may be re-evaluated in next permit term if regulation demands.

Chesapeake Bay:

In the Phase 3 WIP Wastewater Supplement revised on July 29, 2022, Table 5 of this document shows that Huntingdon Borough has been allocated 73,058 lbs/year of TN and 9,741 lbs/year of TP This approach is consistent with the Chesapeake Bay TMDL, based on the actual performance data previously evaluated by the Department. Since the permittee is easily capable of achieving compliance with these loads, the Department determines that no "compliance schedule" for the requirements associated with the Chesapeake Bay Strategy is necessary. Accordingly, the Chesapeake Bay nutrient existing limitations and monitoring requirements will remain in the proposed permit.

This facility is currently a significant discharger. Therefore, the facility's waste load allocation (WLA) will be tracked under an individual WLA as a significant discharger in the Phase 3 WIP Wastewater Supplement. Monitoring frequency for TN constituents will remain in the proposed permit.

Phase 3 WIP Wastewater Supplement
Revised, July 29, 2022

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0023442	3	Wrightsville Borough Municipal Authority	8/3/2017	8/31/2022	10/1/2011	7,306	-	974	0.805	0.387
PA0023531	1	Danville Municipal Authority	2/26/2021	2/28/2026	10/1/2011	66,118	-	8,816	0.802	0.459
PA0023558	3	Ashland Borough	4/23/2012	4/30/2017	10/1/2013	23,744	-	3,166	0.793	0.458
PA0023736	3	Tri-Boro Municipal Authority	7/13/2021	7/31/2026	10/1/2013	9,132	-	1,218	0.515	0.372
PA0023744	1	Northeastern York County Sewer Authority	7/12/2022	7/31/2027	10/1/2010	33,485	-	4,627	0.836	0.486
PA0024040	1	Highspire Borough	2/24/2022	2/28/2027	10/1/2010	36,529	-	4,871	0.830	0.503
PA0024139	3	Cumberland Township Municipal Authority (North)	11/13/2019	11/30/2024	10/1/2013	9,132	-	1,218	0.563	0.720
PA0024147	3	Cumberland Township Municipal Authority (South)	11/13/2019	11/30/2024	10/1/2013	11,872	-	1,583	0.681	0.720
PA0024384	2	North Middleton Township Authority	5/10/2022	5/31/2027	10/1/2012	16,895	-	2,253	0.748	0.444
PA0024406	2	Mt. Carmel Municipal Sewage Authority	10/25/2017	10/31/2022	10/1/2010	41,095	-	5,479	0.792	0.517
PA0024431	1	Dillsburg Borough Authority	12/29/2021	12/31/2026	10/1/2011	27,945	-	3,726	0.635	0.408
PA0024708	3	Union Township	5/11/2022	5/31/2027	10/1/2012	11,872	-	1,583	0.705	0.416
PA0024759	3	Curwensville Municipal Authority	5/8/2018	5/31/2023	10/1/2014	13,698	-	1,826	0.630	0.386
PA0024902	3	Upper Allen Township	8/6/2020	10/31/2022	10/1/2012	20,091	-	2,679	0.682	0.410
PA0025381	3	Saxton Borough Municipal Authority	8/17/2017	8/31/2022	10/1/2011	7,306	-	974	0.641	0.200
PA0025933	1	Lock Haven Borough	9/16/2016	9/30/2021	10/1/2011	68,492	-	9,132	0.772	0.428
PA0026051	1	Chambersburg Borough	6/27/2022	6/30/2027	10/1/2012	124,199		16,560	0.997	0.742
PA0026077	1	Carlisle Borough	10/13/2017	10/31/2022	10/1/2008	127,852	-	17,047	0.748	0.444
PA0026107	1	Wyoming Valley Sewer Authority	2/4/2008	2/28/2013	10/1/2010	584,467	-	77,929	0.813	0.512
PA0026191	1	Huntingdon Borough	2/16/2017	2/28/2022	10/1/2011	73,058	-	9,741	0.796	0.373
PA0026239	1	University Area Joint Authority	9/11/2019	9/30/2024	10/1/2010	164,381	-	21,918	0.641	0.323

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Additional Considerations

Flow Monitoring

Flow monitoring is recommended by the permit guidance and is also required by 25 Pa. Code §§ 92a.27 and 92a.61.

Influent Monitoring

As a result of negotiation with EPA, influent monitoring of TSS and BOD_5 are required for any POTWs; therefore, influent sampling of BOD_5 and TSS will be included in the draft permit. A 24-hr composite sample type will be required to be consistent with the proposed sampling frequency for TSS and $CBOD_5$ in the effluent.

Total Dissolved Solids (TDS)

Total Dissolved Solids and its major constituents including Bromide, Chloride, and Sulfate have become statewide pollutants of concern and threats to DEP's mission to prevent violations of water quality standards. The requirement to monitor these pollutants is necessary under the following DEP Central Office directive:

For point source discharges and upon issuance or reissuance of an individual NPDES permit:

- *Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.*
- *Where the concentration of bromide in a discharge exceeds 1.0 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.*

The facility has no record of routine monitoring of these pollutants. However, the application data reports a maximum influent concentration of 540.0 mg/L for TDS. The effluent concentration is not expected to exceed 1,000 mg/L. No monitoring is necessary.

303d Listed Streams:
The discharge from this facility is to Juniata River which is assessed as attaining its designated uses.

Antidegradation (93.4):
The effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High-Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

Class A Wild Trout Fisheries:
No Class A Wild Trout Fisheries are impacted by this discharge.

Biosolids Management:
Primary sludge and trickling filter slough are pumped to one of two (2) holding tanks. The sludge is then either pumped to the Autothermal Thermophilic Aerobic Digestion (ATAD) system or a rotary drum thickener before dropped into the ATAD tank, which is followed by a Storage Nitrification Denitrification Reactor (SNDR). The liquid SNDR sludge is conditioned with DelPAC 1525 prior to dewatering with a rotary screen press. Cake solids are stored on a covered storage pad until disposed offsite. Sludge is considered Class A and is given away for agricultural utilization, blending, or composting. Beneficial use and Land Application of Exceptional Quality Biosolids are permitted under PAG-073520 which issued date May 4, 2017.

The total sewage sludge / biosolids produced and received is 180.68 dry tons. The facility recently initiated a sludge sale or give-away in a bag or other container for land application by individuals. The total generated at the facility is 163.91 dry metric tons per year (180.68 Dry Tons × 0.90718).

The facility also receives hauled in sludge from Greenwood Furnace State Park located in 15795 Greenwood Road, Huntingdon, PA 16652. A total of 0.45 dry metric tons per year WWTP Sewage Sludge and 8.06 dry metric tons per year Septage Various Sites.

Pretreatment:
Huntingdon Borough is participating in EPA approved pre-treatment program. The significant non-categorical industries are listed on page 10 of this report. Standard language for industrial pretreatment program implementation will be included in Part C. A review of the letter issued by EPA regarding “Industrial Pretreatment Program-2019 Annual Report Review” indicated the facility earned an overall rating of 100% which is category 1.

Combined Sewer Overflow (CSO):
The facility meets the 85% capture, but the number of discharges is more than an average of four (4) or six (6) overflow events per year. The facility will continue to work toward full separation of the combined sewer system during each permit term until the facility achieves compliance as funding becomes available. The LTCP Implementation Schedule for this permit term are as follows:

Milestone	Completion Date
Televise 1000 feet of the 7th Street sewer line	Annually beginning first year after permitting effective date
Smoke & dye testing, and nighttime evaluations of the televised lines described above	Annually after line televise
Update Sewer System Mapping	December 31, 2024 and annually thereafter
Update Long-Term Control Plan	At the end of the 5-year permit cycle
Submit Annual CSO Status report with Chapter 94	March 31 of each year
Submit DMR Supplemental Reports for CSOs	Within 28 days of the end of the month

There were five (5) approved CSO outfalls for this facility. They are numbered as Outfall # 002 through Outfall # 006. However, the NPDES renewal application submitted in 8/2021 requested to remove the two (2) CSO outfalls # 002 (Regulator No. 1 has been disassembled, closed at all times, and is no longer in use; ref letter dated 6/7/2021) & # 006 (eliminated in August 2021). Therefore, the facility has three (3) CSO outfalls # 003, # 004, & # 005 which will remain in the proposed permit. The details are summarized in the Table below.

Outfall	Latitude			Longitude			Location	Receiving Stream	Designated Use	Notes
CSO 002 Regulator No. 1	40	28	49.66	-78	0	16.93	Adjacent to Penn St. along Standing Stone Creek	Juniata River at confluence of Standing Stone Creek	WWF	Removed CSO No. 002 and Regulator No.1 closed (ref. letter dated 6/7/2021)
CSO 003 Regulator No. 2	40	29	36.99	-78	1	22.71	Old Ice Plant Rd. adjacent to RR tracks	Juniata River	WWF	
CSO 004 Diversion Structure	40	29	9.02	-78	0	52.02	7th & Penn Streets	Muddy Run	WWF	
CSO 005 Diversion Structure	40	29	49.75	-78	0	53.00	16th & Oneida Street	Muddy Run	WWF	
CSO 006 Diversion Structure	40	28	52.00	-78	0	17.00	4th & Allegheny Streets	Juniata River at Confluence of Standing Stone Creek	WWF	Removed CSO 006 due to contract eliminated in 8/2021

Development of Effluent Limitations

Outfall No. 003 **Design Flow (MGD)** 0
Latitude 40º 29' 36.99" **Longitude** -78º 1' 22.71"
Wastewater Description: Combined Sewer Overflow

Outfall No. 004 **Design Flow (MGD)** 0
Latitude 40º 29' 9.02" **Longitude** -78º 0' 52.02"
Wastewater Description: Combined Sewer Overflow

Outfall No. 005 **Design Flow (MGD)** 0
Latitude 40º 29' 49.75" **Longitude** -78º 0' 53.00"
Wastewater Description: Combined Sewer Overflow

Dry weather bypass is not authorized. Wet weather overflow is authorized as follows.

The practice of keeping the Regulator No.1 gate closed has reduced the amount of CSO's discharge to the Juniata River. In 2021 the total combined sewage discharged to the river for the year was estimated to be rainfall of 41.07-inches equivalent with total of 13.006 MG and number of 112 overflows (Tables below). The following tables are generated from permittee's 2021 Ch. 94 report (Fact Sheet, page 61-68):

Month	Rainfall (inch)	Outfall 002 (MG)	Outfall 003 (MG)	Outfall 004 (MG)	Outfall 005 (MG)	Outfall 006 (MG)	Total (MG)
January	1.62	0.000	0.130	0.208	0.000	0.006	0.344
February	3.61	0.000	0.080	0.115	0.010	0.003	0.208
March	2.03	0.000	0.023	0.024	0.000	0.005	0.052
April	2.52	0.000	0.158	0.679	0.000	0.000	0.837
May	3.95	0.000	0.218	0.478	0.000	0.000	0.696
June	3.95	0.000	0.125	0.386	0.000	0.000	0.511
July	4.79	0.000	0.212	0.864	0.000	0.000	1.076
August	6.47	0.000	0.221	1.252	0.004	0.000	1.477
September	6.9	0.000	0.873	6.012	0.022	0.000	6.907
October	2.63	0.000	0.000	0.300	0.000	0.000	0.300
November	0.0	0.000	0.000	0.408	0.000	0.000	0.408
December	2.6	0.000	0.000	0.190	0.000	0.000	0.190
Total	41.07	0.000	2.040	10.916	0.036	0.014	13.006

Month	Outfall 002	Outfall 003	Outfall 004	Outfall 005	Outfall 006	Total
January	0	1	1	0	1	3
February	0	2	3	1	1	7
March	0	5	5	0	1	11
April	0	4	5	0	0	9
May	0	6	6	0	0	12
June	0	7	8	0	0	15
July	0	6	6	0	0	12
August	0	6	7	1	0	14
September	0	6	7	3	0	16
October	0	0	5	0	0	5
November	0	2	2	0	0	4
December	0	0	4	0	0	4
Total	0	45	59	5	3	112

In 2021, the total combined sewage discharged to the river was estimated to be 13.006 MG and number of 112 overflows which showed 95.40% of combined sewage captured, *(2021 Borough of Huntingdon CSO Data, Fact Sheet, pages 47-54*). In 2020 the total combined sewage discharged to the river for the year was estimated to be rainfall of 34.45-inches equivalent with total of 17.07 MG and number of 130 overflows which showed 92% of the combined sewage, *(2020 Borough of Huntingdon CSO Data, Fact Sheet, pages 54-60*).

There were several dry weather overflows that occurred during the last five years. The permittee mentioned that the overflows were due to hydrant flushing in the area, blockage in the sewer, etc. The permittee informed DEP regarding the overflows on time. The Combined Sewer Overflow Long Term Control Plan Updated 2017 was prepared by GHD's Huntingdon Borough consultant dated March 27, 2017 (*Ref Fact Sheet, page 65-68*) as follows:

- Update the combined sewer system map to show:
  - The area encompassed by each combined sewer basin.
  - The sanitary sewer basins tributary to each combined sewer basin.
  - The major trunk sewers and interceptors.
  - The outfall numbers
- Update the Long-Term Control Plan Operations Plan to include how the De-Nitrification filter and the Trickling Filter bypasses are used. Such as, the Borough of Huntingdon Wastewater Treatment Plant staff follows the following procedure when anticipating wet weather.
  - Monitor the weather report daily.
  - In advance of a wet weather event, backwash all denitrification filter cells.
  - Throughout the wet weather event operate the filters in the semi-automatic mode and refrain from backwashing filter units.
  - When a wet weather event ceases and flows return to normal, backwash all four filter cells and return to normal operation.
- Update the Plan regarding current regulator operations. Such as, the Regulator No. 1 always keeps closed, and the Regulator No. 2 is open at all time.

Whole Effluent Toxicity Testing (WETT):

The permittee submitted four (4) WET Test results during the submission of the renewal application. The details are under WET section below of this fact sheet. In summary, all four (4) WETT results are "Passing" which do not necessitate the inclusion of WET parameters; however, WETT requirement will remain in the proposed permit to submit four (4) WETT results during next permit renewal. The dilution series is updated.

Whole Effluent Toxicity (WET)

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

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

The dilution series used for the tests was: 100%, 60%, 30%, 4%, and 2%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 4%.

Summary of Four Most Recent Test Results

NOEC/LC50 Data Analysis

Test Date	*Ceriodaphnia* Results (% Effluent)			*Pimephales* Results (% Effluent)			Pass? *
	NOEC Survival	NOEC Reproduction	LC50	NOEC Survival	NOEC Growth	LC50	
3/10/2020	100	100	>100	100	100	>100	Yes
3/30/2021	100	100	>100	100	100	>100	Yes
3/1/2022	100	100	>100	60	100	>100	Yes
4/25/2023	100	100	>100	100	100	>100	Yes

***** *A "passing" result is that which is greater than or equal to the TIWC value.*

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

☐ **YES** ☒ **NO**

Comments:

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

Acute Partial Mix Factor (PMFa): **0.110** Chronic Partial Mix Factor (PMFc): **0.762**

1. Determine IWC – Acute (IWCa):

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

[(4.0 MGD x 1.547) / ((142 cfs x 0.110) + (4.0 MGD x 1.547))] x 100 = **28.37%**

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

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

Type of Test for Permit Renewal:

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

TIWCa = IWCa / 0.3 = **%**

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

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

[(4.0 MGD x 1.547) / ((142 cfs x 0.762) + (4.0 MGD x 1.547))] x 100 = **5.41%**

3. Determine Dilution Series

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

The proposed NPDES permit shall utilize a chronic instream waste concentration of 5%. The complete dilution series will be 100%, 60%, 30%, 5%, and 2%.

WET Limits

Has reasonable potential been determined? ☐ YES ☒ NO

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

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

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

WET Summary and Evaluation

Facility Name	Huntingdon Borough
Permit No.	PA0026191
Design Flow (MGD)	4
Q_{7-10} Flow (cfs)	142
PMF_a	0.11
PMF_c	0.762

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	3/10/20	3/30/21	3/1/22	4/25/23
Ceriodaphnia	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	3/10/20	3/30/21	3/1/22	4/26/23
Ceriodaphnia	Reproduction	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	3/10/20	3/30/21	3/1/22	4/25/23
Pimephales	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	3/10/20	3/30/21	3/1/22	4/25/23
Pimephales	Growth	PASS	PASS	PASS	PASS

Reasonable Potential? NO

Permit Recommendations

Test Type	**Chronic**
TIWC	**5** % Effluent
Dilution Series	**2, 5, 30, 60, 100** % Effluent
Permit Limit	**None**
Permit Limit Species	

TABLE 5

Results of a 3-Brood *Ceriodaphnia dubia* Survival and Reproduction Test
Conducted 04/18/23 – 04/26/23 using Effluent from Outfall 001.

Test Solutions	Cumulative Percent Survival[a] Test Day							No. Young Produced per Specimen	
	1	2	3	4	5	6	7/8	Mean[a]	%CV
MHRW control/ dilution water	100	100	100	90	90	90	90	17.0	72.63
2% Effluent	100	100	100	100	50	40	40	17.2	56.02
4% Effluent	100	100	100	90	30	30	30	11.7	71.74
30% Effluent	100	100	100	80	70	70	70	20.4	54.15
60% Effluent	100	100	100	100	90	90	90	22.8	26.86
100% Effluent	100	100	100	100	100	100	100	24.3	15.03

Acute 48-Hour LC_{50} = >100% 95% C.I. Lower Limit: --- 95% C.I. Upper Limit: ---	Survival NOEC = 100%	Reproduction NOEC = 100%	**Chronic Toxicity Unit (TUc):**
	Survival LOEC = >100%	Reproduction LOEC = >100%	**1.0 (100÷NOEC)**
Acute Toxicity Unit (TUa): <1.0 (100÷LC_{50})	Chronic Value Survival = >100%	Chronic Value Reprod. = >100%	
		IC_{25} = >100%	**TUc as 100÷IC_{25}: <1.0**

Methods used to determine LC_{50}: None needed.

Methods used to determine NOEC: Shapiro-Wilk's, Bartlett's (pass), Dunnett's, ICp model; Cetis 1.9.6. PMSD above upper bound..

[a] - * indicates significant reduction from the primary control group (α= 0.05).

control group % survival	control group mean # young/survivor	control group %CV for mean young	control group % producing 3 broods
90	17.0	72.63	70

TABLE 6

Results of a 7-Day *Pimephales promelas* Survival and Growth Test Conducted 04/18/23 – 04/25/23 Using Effluent from Outfall 001.

Test Solutions	Cumulative Percent Survival[a] Test Day							Dry Weight (mg) (based on number exposed)	
	1	2	3	4	5	6	7	Mean[a]	%CV
DMW control/ dilution water	100	100	100	100	100	100	100	0.426	8.13
2% Effluent	100	100	100	100	95	95	82	0.337	42.44
4% Effluent	100	100	100	100	100	100	100	0.412	3.99
30% Effluent	100	100	100	98	95	95	95	0.395	9.30
60% Effluent	100	100	98	98	98	98	95	0.401	8.52
100% Effluent	100	100	95	92	92	92	92	0.397	4.92

Acute **96**-Hour LC_{50} = >100% (48-Hour LC_{50}: = >100%)	Survival NOEC = 100%	Growth NOEC = 100%	**Chronic Toxicity Unit (TUc):**
95% C.I. Lower Limit: --- 95% C.I. Upper Limit: ---	Survival LOEC = >100%	Growth LOEC = >100%	**1.0 (100÷NOEC)**
Acute Toxicity Unit (TUa): <1.0 (100÷96-Hour LC_{50})	Chronic Value Survival = >100%	Chronic Value Growth = >100%	
		IC_{25} = >100%	**TUc as 100÷IC_{25}: <1.0**

Methods used to determine LC_{50}: None needed.

Methods used to determine NOEC: Shapiro-Wilk's, Bartlett's (fail), Steel's, ICp model; Cetis 1.9.6.

[a] – * indicates significant reduction from the primary control group (α= 0.05).

control group mean survival proportion	control group survival % CV	control group mean dry weight per **survivor** (mg)	control group dry weight %CV
1.0	0	0.426	8.2

Comments: NA = not applicable. SD = sample standard deviation. CV = SD÷mean.

TABLE 5

Results of a 3-Brood *Ceriodaphnia dubia* Survival and Reproduction Test Conducted 02/22/22 – 03/01/22 using Effluent from Outfall 001.

Test Solutions	Cumulative Percent Survival[a] Test Day							No. Young Produced per Specimen	
	1	2	3	4	5	6	7	Mean[a]	%CV
MHRW control/ dilution water	100	100	100	100	100	100	100	31.2	11.68
2% Effluent	100	100	100	100	100	100	100	29.9	9.90
4% Effluent	100	100	100	100	100	100	100	32.3	12.47
30% Effluent	100	100	100	100	100	100	100	34.8	9.37
60% Effluent	100	100	100	100	100	100	100	36.1	9.72
100% Effluent	100	100	100	100	100	100	100	33.8	5.72

Acute 48-Hour LC_{50} = >100% 95% C.I. Lower Limit: --- 95% C.I. Upper Limit: ---	Survival NOEC = 100%	Reproduction NOEC = 100%	**Chronic Toxicity Unit (TUc):**
	Survival LOEC = >100%	Reproduction LOEC = >100%	**1.0 (100÷NOEC)**
Acute Toxicity Unit (TUa): <1.0 (100÷LC_{50})	Chronic Value Survival = >100%	Chronic Value Reprod. = >100%	
		IC_{25} = >100%	**TUc as 100÷IC_{25}: <1.0**

Methods used to determine LC_{50}: None needed.

Methods used to determine NOEC: Shapiro-Wilk's, Bartlett's (pass), Dunnett's, ICp model; Cetis 1.9.6. PMSD below lower bound.

[a] - * indicates significant reduction from the primary control group (α= 0.05).

control group % survival	control group mean # young/survivor	control group %CV for mean young	control group % producing 3 broods
100	31.2	11.68	100

TABLE 6

Results of a 7-Day *Pimephales promelas* Survival and Growth Test Conducted 02/22/22 – 03/01/22 Using Effluent from Outfall 001.

Test Solutions	Cumulative Percent Survival[a] Test Day							Dry Weight (mg) (based on number exposed)	
	1	2	3	4	5	6	7	Mean[a]	%CV
DMW control/ dilution water	100	100	100	100	100	98	98	0.349	6.77
2% Effluent	100	100	100	100	95	78	78	0.310	19.69
4% Effluent	100	100	100	95	92	92	92	0.324	6.55
30% Effluent	100	100	100	100	98	98	98	0.367	1.50
60% Effluent	100	100	100	100	98	95	95	0.352	5.85
100% Effluent	100	95	90	82	82	78	78*	0.315	8.23

Acute **96**-Hour LC_{50} = >100% (48-Hour LC_{50}: = >100%)	Survival NOEC = 60%	Growth NOEC = 100%	**Chronic Toxicity Unit (TUc):**
95% C.I. Lower Limit: ---- 95% C.I. Upper Limit: ----	Survival LOEC = 100%	Growth LOEC = >100%	**1.67 (100÷NOEC)**
Acute Toxicity Unit (TUa): <1.0 (100÷96-Hour LC_{50})	Chronic Value Survival = 77.46%	Chronic Value Growth = >100%	
		IC_{25} = >100%	**TUc as 100÷IC_{25}:** <1.0

Methods used to determine LC_{50}: None needed.

Methods used to determine NOEC: Shapiro-Wilk's, Bartlett's (fail), Steel's, ICp model; Cetis 1.9.6.

[a] – * indicates significant reduction from the primary control group (α= 0.05).

control group mean survival proportion	control group survival % CV	control group mean dry weight per **survivor** (mg)	control group dry weight %CV
0.950	6.1	0.358	7.8

Comments: NA = not applicable. SD = sample standard deviation. CV = SD÷mean.

Stormwater Outfalls:

The renewal application indicated that there are two stormwater outfalls associated with this WWTP. The details are below:

Outfall	Latitude			Longitude			Receiving Stream	Designated use	Drainage Area (ft^2)
008	40	28	33.9	-78	00	9.5	Dry Swale to Juniata River	WWF, MF	Combined: Grass = 98,793 sf Impervious = 101,181 sf
009	40	28	33.8	-78	00	8.9	Onsite Rain Garden Overflow to Juniata River	WWF, MF	

Permit application indicated that there are no open tanks and chemical spills are unlikely in the vicinity of Storm Water outfalls. Stormwater near chemical tanks drain to headworks or contain sumps that must be pumped out. Structural control measures include duckbill check valve, rip rap, and sump pump. 40 CFR § 122.26(b)(14)(ix) indicated that any treatment facility treating domestic sewage and have a design flow of >1.0 MGD are required to have coverage under Stormwater general permit, PAG03. The activities under SIC Code 4952 is covered under PAG03 Appendix J. Even though the application indicated that outfall 009 discharges to onsite rain garden, there is a potential that it may overflow and discharge to nearby stream. Therefore, it is recommended that this renewal will include monitoring requirements as specified in Appendix J of PAG03.

Development of Effluent Limitations

Outfall No. 008 **Design Flow (MGD)** 0
Latitude 40º 28' 33.90" **Longitude** -78º 0' 9.50"
Wastewater Description: Stormwater

Outfall No. 009 **Design Flow (MGD)** 0
Latitude 40º 28' 33.80" **Longitude** -78º 0' 8.90"
Wastewater Description: Stormwater

DEP's "Authorization to discharge under the NPDES General Permit for discharges of Stormwater Associated with Industrial Activity" (Document ID: 3850-PM-BCW0083d, revised 9/2016) Appendix J (additional facilities) requires monitoring of the following parameters:

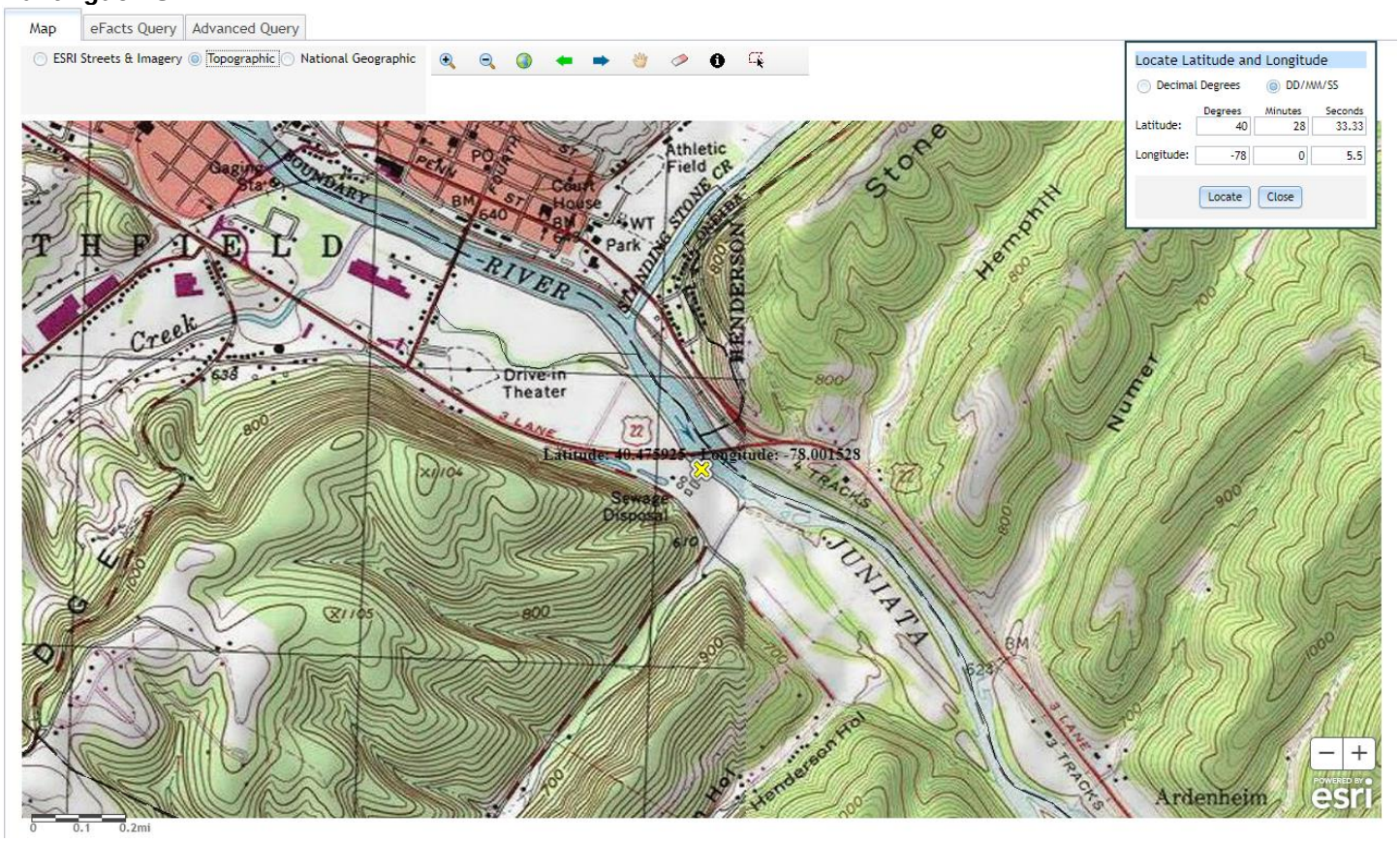
Parameter	Monitoring Requirements (1)		Benchmark Values
	Minimum Measurement Frequency (2)	Sample Type	
Total Suspended Solids (TSS) (mg/l)	1/6 months	Grab	100
Oil and Grease (mg/l)	1/6 months	Grab	30

Footnotes:

(1) In accordance with Part C V.B, the permittee shall conduct additional monitoring if specified by DEP in the letter authorizing permit coverage or other correspondence.

(2) This is the minimum number of sampling events required. Permittees are encouraged to perform more than the minimum number of sampling events.

The permittee must monitor and report analytical results for the parameters listed above on Discharge Monitoring Reports (DMRs) for representative outfalls, subject to footnotes provided. The benchmark values listed above are not effluent limitations, and exceedances do not constitute permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, the permittee shall submit a corrective action plan within 90 days of the end of the monitoring period triggering the plan. The benchmark values will be included in Part C of the permit.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Topographic
National Geographic
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5.5
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Close
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Drive-in Theater
Sewage Disposal
Athletic Field
Court House
Park
Gaging Sta.
Creek
RIVER
JUNIATA
Stone
Hemphill
Numer
Ardenheim
Henderson Hol
4 TRACKS
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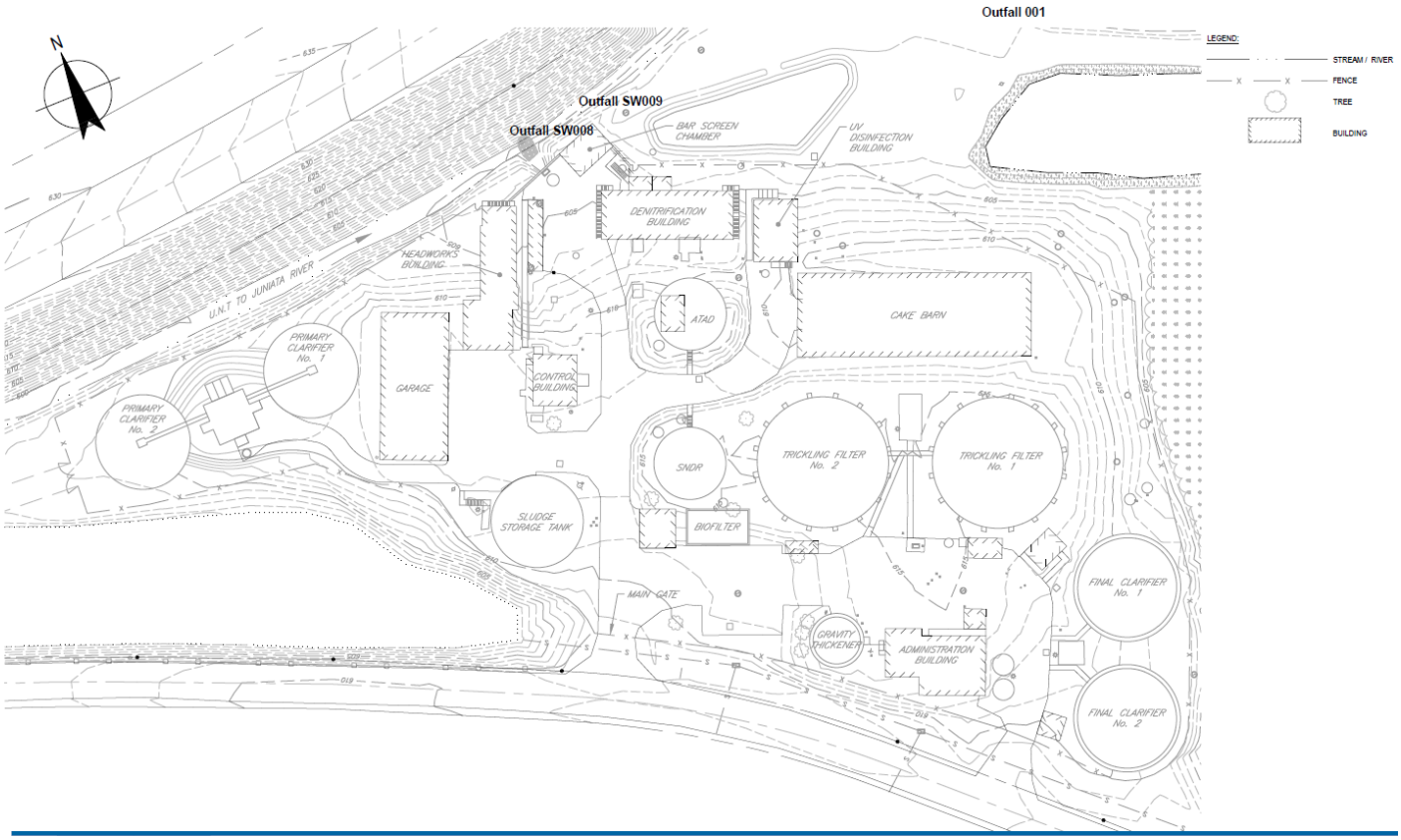
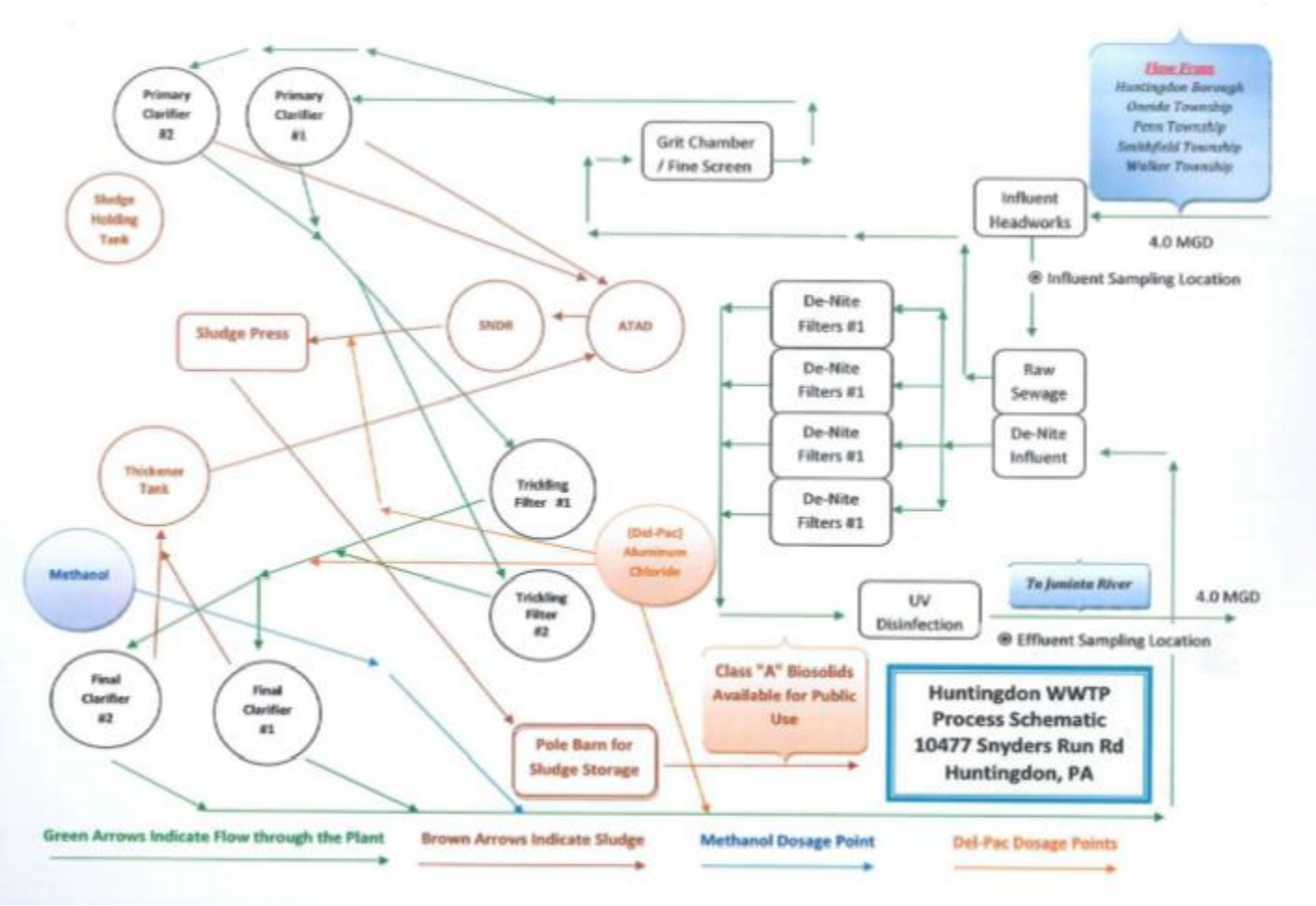
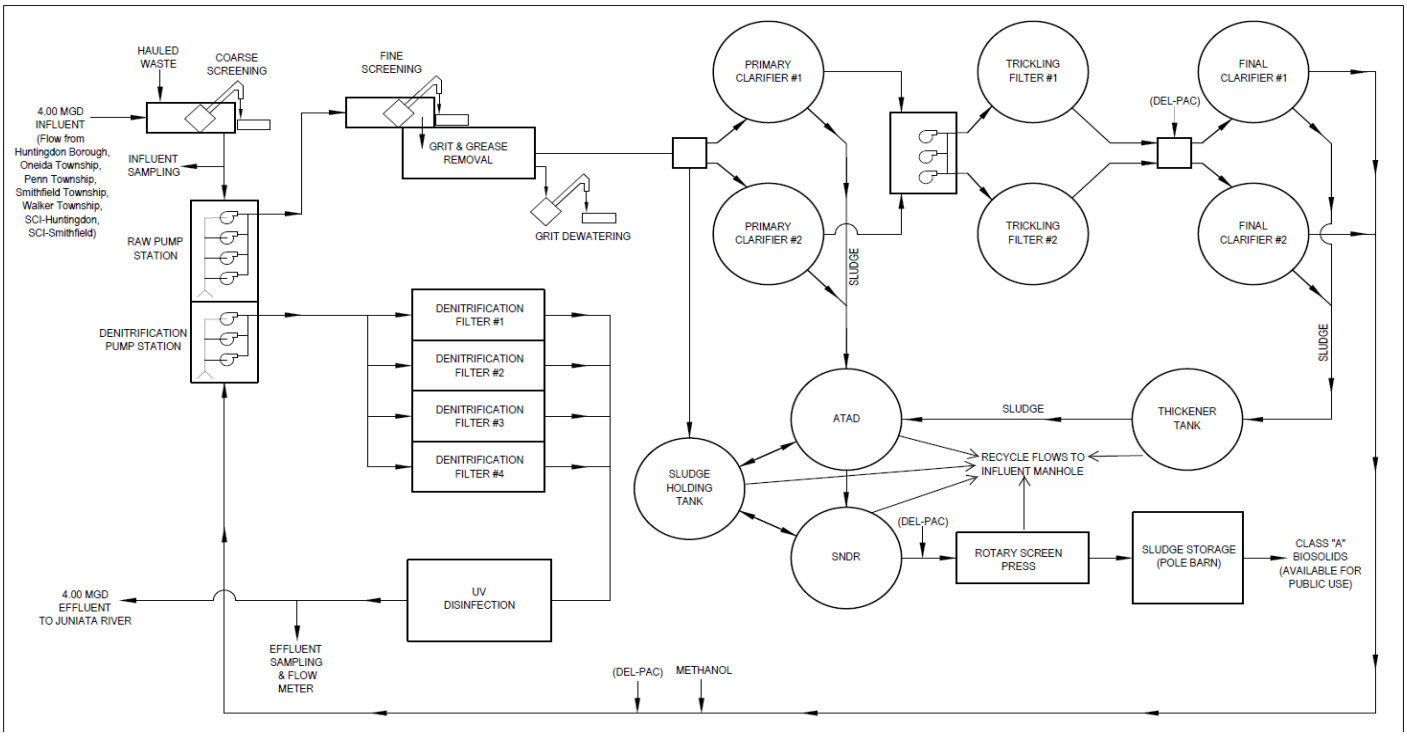
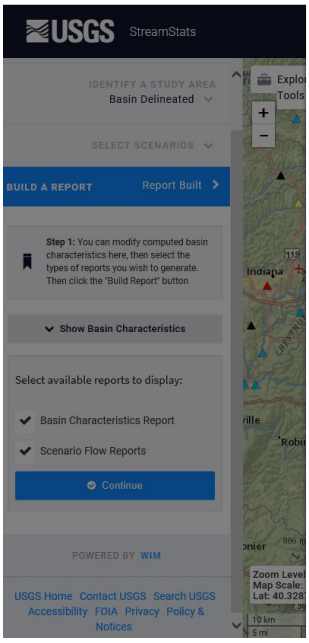
esri


Outfall 001
Outfall SW009
Outfall SW008
LEGEND:
STREAM / RIVER
FENCE
TREE
BUILDING
BAR SCREEN CHAMBER
UV DISINFECTION BUILDING
DENITRIFICATION BUILDING
HEADWORKS BUILDING
U.N.T. TO JUNIATA RIVER
ATAD
CAKE BARN
PRIMARY CLARIFIER No. 1
PRIMARY CLARIFIER No. 2
GARAGE
CONTROL BUILDING
SNDR
TRICKLING FILTER No. 2
TRICKLING FILTER No. 1
SLUDGE STORAGE TANK
BIOFILTER
MAIN GATE
GRAVITY THICKENER
ADMINISTRATION BUILDING
FINAL CLARIFIER No. 1
FINAL CLARIFIER No. 2


Flow From
Huntingdon Borough
Oneida Township
Penn Township
Smithfield Township
Walker Township
Primary Clarifier #2
Primary Clarifier #1
Grit Chamber / Fine Screen
Influent Headworks
4.0 MGD
Influent Sampling Location
Sludge Holding Tank
Sludge Press
SNDR
ATAD
De-Nite Filters #1
De-Nite Filters #1
De-Nite Filters #1
De-Nite Filters #1
Raw Sewage
De-Nite Influent
Thickener Tank
Trickling Filter #1
[Del-Pac] Aluminum Chloride
Methanol
Trickling Filter #2
UV Disinfection
To Juniata River
4.0 MGD
Effluent Sampling Location
Final Clarifier #2
Final Clarifier #1
Class "A" Biosolids Available for Public Use
Huntingdon WWTP
Process Schematic
10477 Snyders Run Rd
Huntingdon, PA
Pole Barn for Sludge Storage
Green Arrows Indicate Flow through the Plant
Brown Arrows Indicate Sludge
Methanol Dosage Point
Del-Pac Dosage Points


HAULED WASTE
COARSE SCREENING
FINE SCREENING
4.00 MGD INFLUENT (Flow from Huntingdon Borough, Oneida Township, Penn Township, Smithfield Township, Walker Township, SCI-Huntingdon, SCI-Smithfield)
INFLUENT SAMPLING
GRIT & GREASE REMOVAL
GRIT DEWATERING
RAW PUMP STATION
DENITRIFICATION PUMP STATION
DENITRIFICATION FILTER #1
DENITRIFICATION FILTER #2
DENITRIFICATION FILTER #3
DENITRIFICATION FILTER #4
PRIMARY CLARIFIER #1
PRIMARY CLARIFIER #2
TRICKLING FILTER #1
TRICKLING FILTER #2
(DEL-PAC)
FINAL CLARIFIER #1
FINAL CLARIFIER #2
SLUDGE
SLUDGE
SLUDGE
ATAD
THICKENER TANK
SLUDGE HOLDING TANK
RECYCLE FLOWS TO INFLUENT MANHOLE
SNDR
(DEL-PAC)
ROTARY SCREEN PRESS
SLUDGE STORAGE (POLE BARN)
CLASS "A" BIOSOLIDS (AVAILABLE FOR PUBLIC USE)
4.00 MGD EFFLUENT TO JUNIATA RIVER
UV DISINFECTION
EFFLUENT SAMPLING & FLOW METER
(DEL-PAC)
METHANOL



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	979	square miles
PRECIP	Mean Annual Precipitation	39	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	1.79	miles per square mile
ROCKDEP	Depth to rock	4.7	feet
CARBON	Percentage of area of carbonate rock	29.93	percent

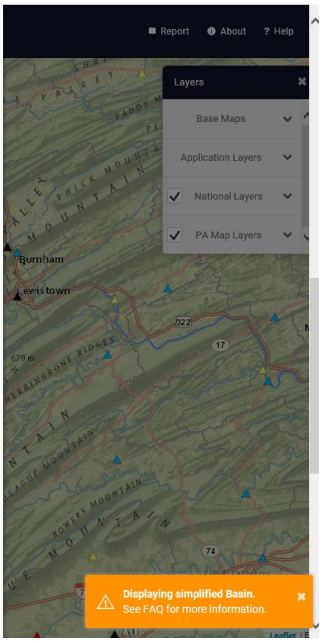
Low-Flow Statistics Parameters [100.0 Percent (979 square miles) Low Flow Region 2]

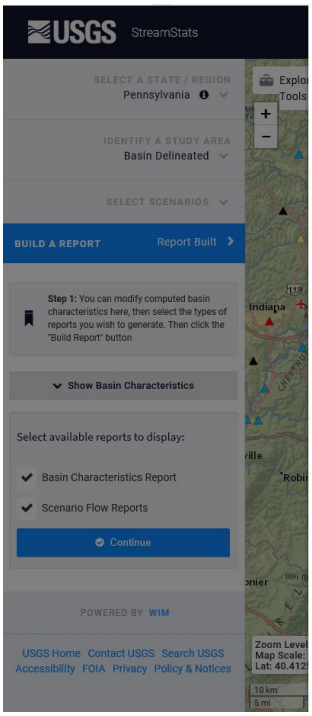
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	979	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	1.79	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.7	feet	3.32	5.65
CARBON	Percent Carbonate	29.93	percent	0	99

Low-Flow Statistics Flow Report [100.0 Percent (979 square miles) Low Flow Region 2]

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

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	207	ft^3/s	38	38
30 Day 2 Year Low Flow	244	ft^3/s	33	33
7 Day 10 Year Low Flow	142	ft^3/s	51	51
30 Day 10 Year Low Flow	167	ft^3/s	46	46
90 Day 10 Year Low Flow	205	ft^3/s	36	36





Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	991	square miles
PRECIP	Mean Annual Precipitation	39	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	1.8	miles per square mile
ROCKDEP	Depth to rock	4.7	feet
CARBON	Percentage of area of carbonate rock	29.58	percent

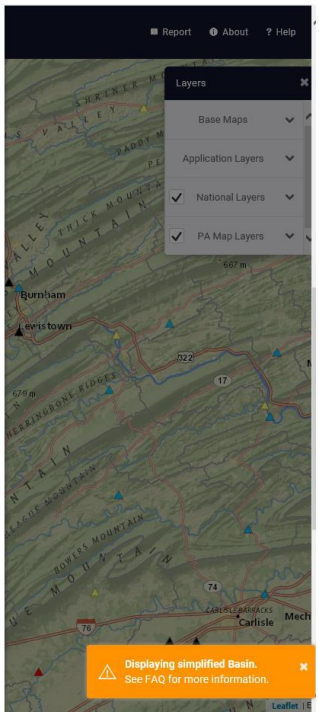
Low-Flow Statistics Parameters [100.0 Percent (990 square miles) Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	991	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	1.8	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.7	feet	3.32	5.65
CARBON	Percent Carbonate	29.58	percent	0	99

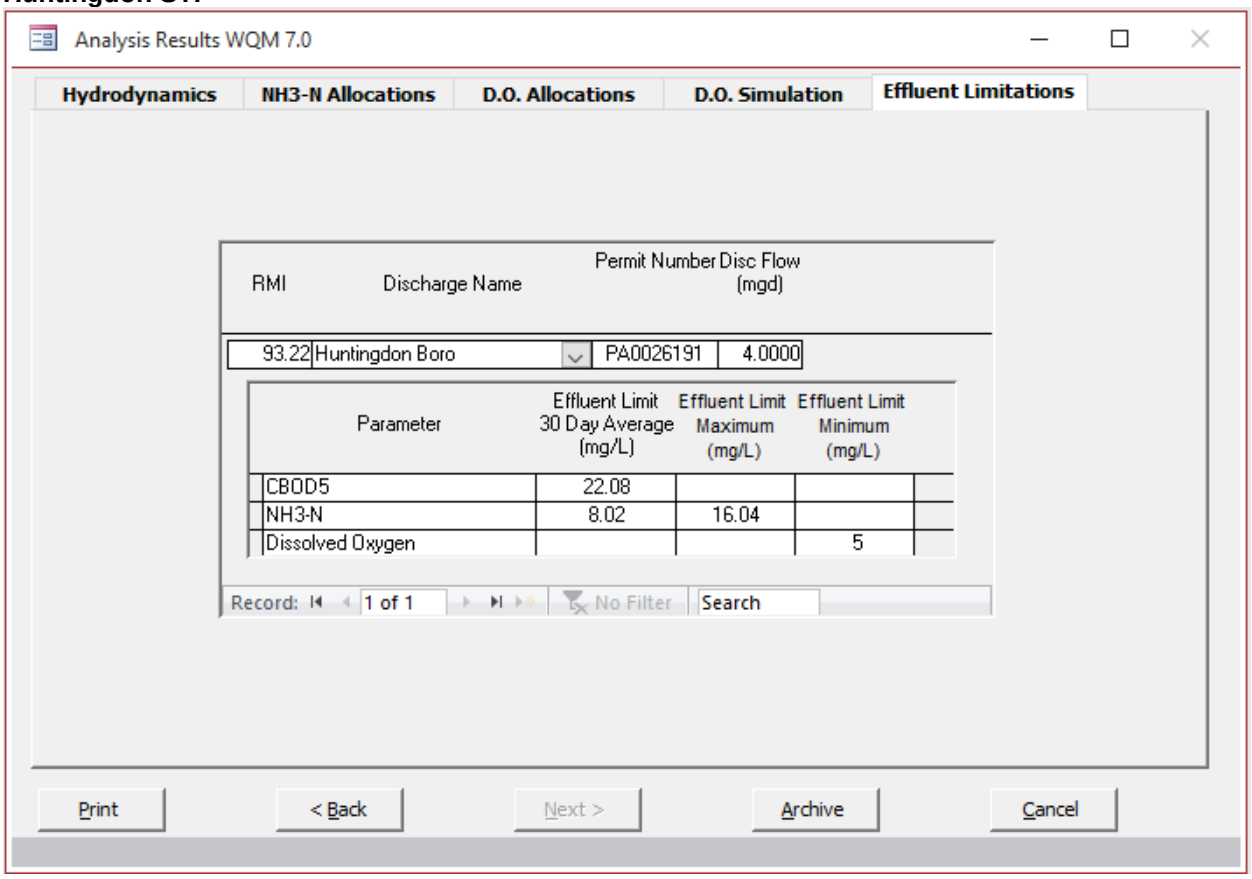
Low-Flow Statistics Flow Report [100.0 Percent (990 square miles) Low Flow Region 2]

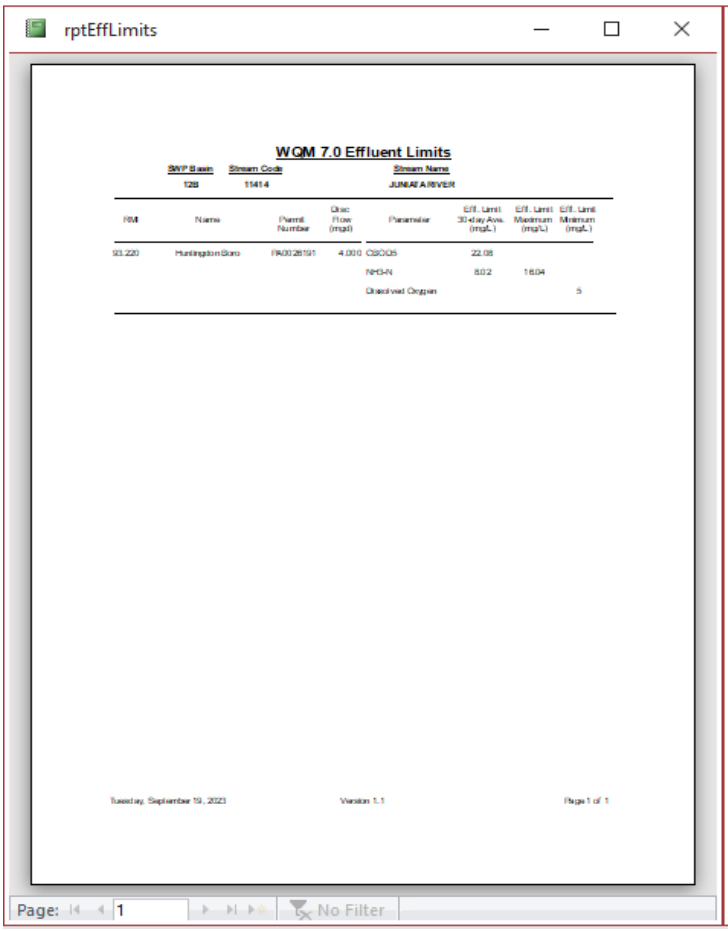
PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	208	ft^3/s	38	38
30 Day 2 Year Low Flow	245	ft^3/s	33	33
7 Day 10 Year Low Flow	143	ft^3/s	51	51
30 Day 10 Year Low Flow	167	ft^3/s	46	46
90 Day 10 Year Low Flow	206	ft^3/s	36	36



<u>WQM model output:</u>


Analysis Results WQM 7.0
Hydrodynamics
NH3-N Allocations
D.O. Allocations
D.O. Simulation
Effluent Limitations
RMI
Discharge Name
Permit Number
Disc Flow (mgd)
93.22
Huntingdon Boro
PA0026191
4.0000
Parameter
Effluent Limit 30 Day Average (mg/L)
Effluent Limit Maximum (mg/L)
Effluent Limit Minimum (mg/L)
CBOD5
22.08
NH3-N
8.02
16.04
Dissolved Oxygen
5
Record: 1 of 1
No Filter
Search
Print
< Back
Next >
Archive
Cancel


rptEffLimits
WQM 7.0 Effluent Limits
SWP Basin
Stream Code
Stream Name
12B
11414
JUNIATA RIVER
RMI
Name
Permit Number
Disc Flow (mgd)
Parameter
Eff. Limit 30-day Ave. (mg/L)
Eff. Limit Maximum (mg/L)
Eff. Limit Minimum (mg/L)
93.220
Huntingdon Boro
PA0026191
4.000
CBOD5
22.08
NH3-N
8.02
16.04
Dissolved Oxygen
5
Tuesday, September 19, 2023
Version 1.1
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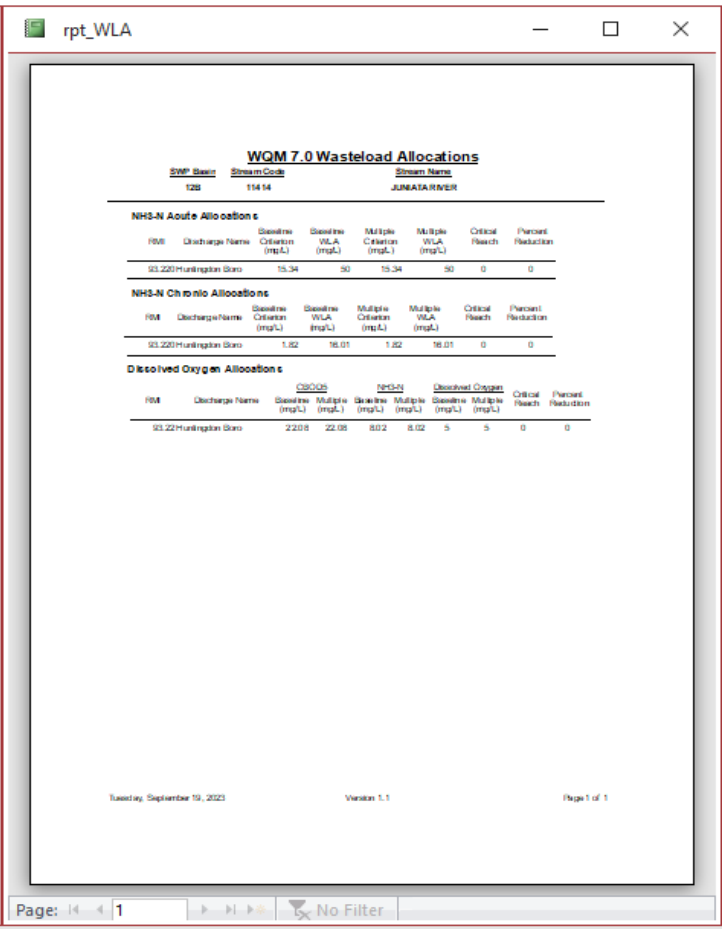
No Filter


rpt_WLA
WQM 7.0 Wasteload Allocations
SWP Basin
Stream Code
Stream Name
12B
11414
JUNIATA RIVER
NH3-N Acute Allocations
RMI
Discharge Name
Baseline Criterion (mg/L)
Baseline WLA (mg/L)
Multiple Criterion (mg/L)
Multiple WLA (mg/L)
Critical Reach
Percent Reduction
93.220
Huntingdon Boro
15.34
50
15.34
50
0
0
NH3-N Chronic Allocations
RMI
Discharge Name
Baseline Criterion (mg/L)
Baseline WLA (mg/L)
Multiple Criterion (mg/L)
Multiple WLA (mg/L)
Critical Reach
Percent Reduction
93.220
Huntingdon Boro
1.82
16.01
1.82
16.01
0
0
Dissolved Oxygen Allocations
CBOD5
NH3-N
Dissolved Oxygen
RMI
Discharge Name
Baseline (mg/L)
Multiple (mg/L)
Baseline (mg/L)
Multiple (mg/L)
Baseline (mg/L)
Multiple (mg/L)
Critical Reach
Percent Reduction
93.22
Huntingdon Boro
22.08
22.08
8.02
8.02
5
5
0
0
Tuesday, September 19, 2023
Version 1.1
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rptDOSim

WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name
12B	11414	JUNIATA RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
93.220	40.00	20.742	7.000
Reach Width (ft)	Reach Depth (ft)	Reach WD Ratio	Reach Velocity (fps)
122.141	1.070	114.133	0.319
Reach CBOD5 (mg/L)	Reach Kr (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
4.98	0.795	1.159	0.741
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
7.762	1.821	Tsivoglou	6
Reach Travel Time (days)			
0.362			

Subreach Results

Travel time (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.036	4.83	1.16	7.49
0.072	4.69	1.13	7.25
0.109	4.56	1.10	7.03
0.145	4.42	1.07	6.84
0.181	4.29	1.04	6.68
0.217	4.17	1.01	6.51
0.253	4.04	0.99	6.37
0.290	3.93	0.96	6.26
0.326	3.81	0.93	6.15
0.362	3.70	0.91	6.07

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rptModelSpecs

WQM 7.0 Modeling Specifications

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

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rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
12B	11414	JUNIATA RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	WD Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
93.220	35.50	0.00	35.50	6.188	0.00120	1.07	122.14	114.13	0.32	0.362	20.74	7.00
Q1-10 Flow												
93.220	22.72	0.00	22.72	6.188	0.00120	NA	NA	NA	0.26	0.445	21.07	7.00
Q30-10 Flow												
93.220	48.28	0.00	48.28	6.188	0.00120	NA	NA	NA	0.37	0.312	20.57	7.00

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rptGeneral

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sqmi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
12B	11414	JUNIATA RIVER	93.220	597.00	970.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.545	35.50	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
Huntingdon Boro	PA0026191	40.000	4.0000	4.0000	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	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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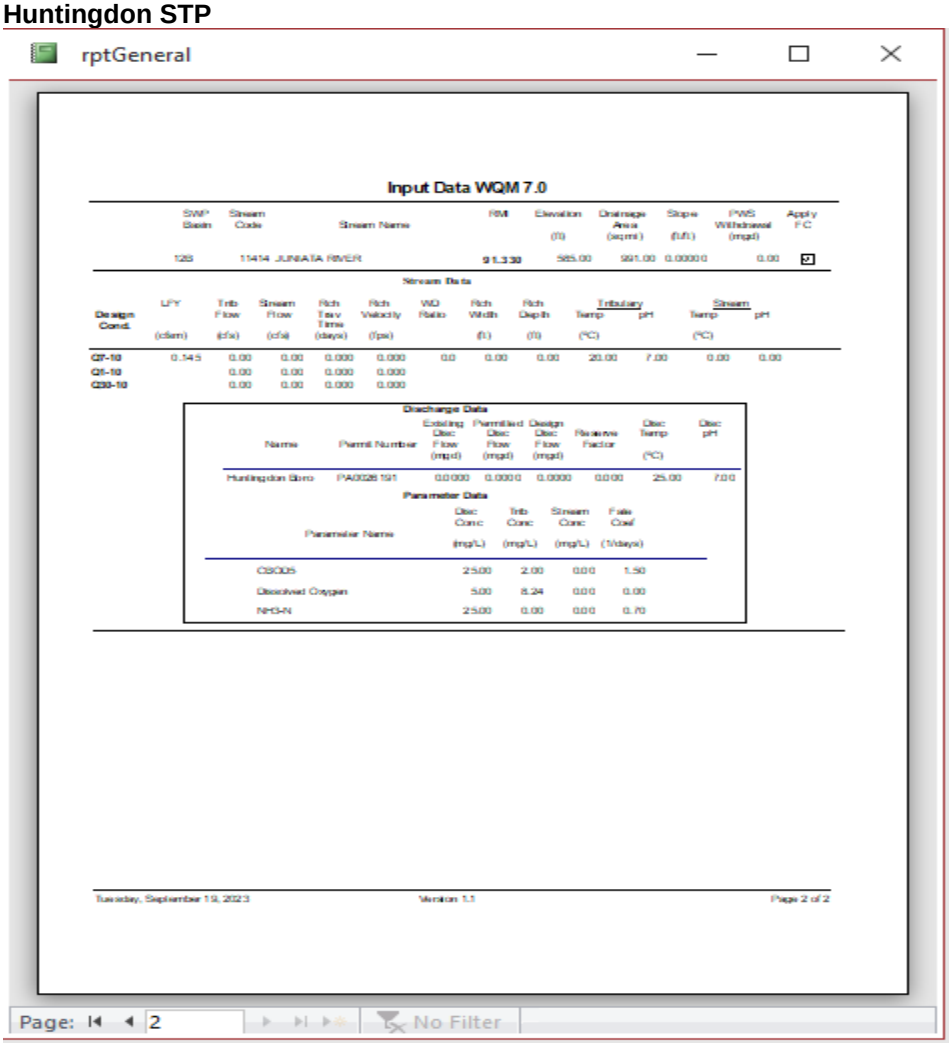

Toxics Data:

The following data were used:

*	Discharge pH	8.9	(from renew application 2021)
*	Hardness (mg/L)	206	(from renew application 2021)
*	Stream pH	7.0	(Default)
*	Stream Hardness (mg/L)	228	(actual tested)

The following three nodes were used in modeling:

Node 1: Outfall 001 at Juniata River (11414)

Elevation:	597 ft (USGS)
Drainage Area:	979 mi.^{2} (StreamStats)
River Mile Index:	93.22 (PA DEP eMapPA)
Low Flow Yield:	0.145 cfs/mi.^{2}
Discharge Flow:	4.0 MGD

Node 2: At the confluence with Raystown Branch Juniata River (13349)

Elevation:	585 ft (USGS)
Drainage Area:	991 mi.^{2} (StreamStats)
River Mile Index:	91.33 (PA DEP eMapPA)
Low Flow Yield:	0.145 cfs/mi.^{2}
Discharge Flow:	0.00 MGD

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: Huntingdon Borough | NPDES Permit No.: PA0026191 | Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste | Wastewater Description: Juniata River

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
4	206	8.9						

	Discharge Pollutant	Units	Max Discharge Conc		0 if left blank: Trib Conc	Stream Conc	0.5 if left blank: Daily CV	Hourly CV	0 if left blank: Strea m CV	Fate Coeff	FOS	1 if left blank: Criteri a Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		540									
	Chloride (PWS)	mg/L		253									
	Bromide	mg/L	<	0.116									
	Sulfate (PWS)	mg/L		37.1									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		455									
	Total Antimony	µg/L		0.149									
	Total Arsenic	µg/L		2.6									
	Total Barium	µg/L		56.8									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L		107									
	Total Cadmium	µg/L		0.125									
	Total Chromium (III)	µg/L	<	1.99									
	Hexavalent Chromium	µg/L		0.25									
	Total Cobalt	µg/L		0.439									
	Total Copper	mg/L		7.42									
	Free Cyanide	µg/L		7									
	Total Cyanide	µg/L		10									
	Dissolved Iron	µg/L		59									
	Total Iron	µg/L		220									
	Total Lead	µg/L		1.08									
	Total Manganese	µg/L		29.7									
	Total Mercury	µg/L	<	0.104									
	Total Nickel	µg/L		2.97									
	Total Phenols (Phenolics) (PWS)	µg/L		25									
	Total Selenium	µg/L		2.2									
	Total Silver	µg/L	<	0.274									
	Total Thallium	µg/L		0.1									
	Total Zinc	mg/L		29.7									
	Total Molybdenum	µg/L		2.8									
Group 3	Acrolein	µg/L	<	1.95									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	1									
	Benzene	µg/L	<	0.43									
	Bromoform	µg/L	<	0.34									

Group 3	Carbon Tetrachloride	µg/L	<	0.51									
	Chlorobenzene	µg/L	<	0.21									
	Chlorodibromomethane	µg/L	<	0.39									
	Chloroethane	µg/L	<	0.42									
	2-Chloroethyl Vinyl Ether	µg/L	<	4									
	Chloroform	µg/L	<	0.51									
	Dichlorobromomethane	µg/L	<	0.32									
	1,1-Dichloroethane	µg/L	<	0.42									
	1,2-Dichloroethane	µg/L	<	0.39									
	1,1-Dichloroethylene	µg/L	<	0.33									
	1,2-Dichloropropane	µg/L	<	0.42									
	1,3-Dichloropropylene	µg/L	<	0.33									
	1,4-Dioxane	µg/L	<	2.9									
	Ethylbenzene	µg/L	<	0.27									
	Methyl Bromide	µg/L	<	0.46									
	Methyl Chloride	µg/L	<	0.36									
	Methylene Chloride	µg/L	<	0.45									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.36									
	Tetrachloroethylene	µg/L	<	0.39									
	Toluene	µg/L	<	0.33									
	1,2-trans-Dichloroethylene	µg/L	<	0.39									
	1,1,1-Trichloroethane	µg/L	<	0.38									
	1,1,2-Trichloroethane	µg/L	<	0.24									
	Trichloroethylene	µg/L	<	0.46									
	Vinyl Chloride	µg/L	<	0.46									
Group 4	2-Chlorophenol	µg/L	<	1									
	2,4-Dichlorophenol	µg/L	<	1									
	2,4-Dimethylphenol	µg/L	<	1									
	4,6-Dinitro-o-Cresol	µg/L	<	5									
	2,4-Dinitrophenol	µg/L	<	5									
	2-Nitrophenol	µg/L	<	1									
	4-Nitrophenol	µg/L	<	1									
	p-Chloro-m-Cresol	µg/L	<	1									
	Pentachlorophenol	µg/L	<	5									
	Phenol	µg/L	<	1									
	2,4,6-Trichlorophenol	µg/L	<	1									
Group 5	Acenaphthene	µg/L	<	1									
	Acenaphthylene	µg/L	<	1									
	Anthracene	µg/L	<	1									
	Benzidine	µg/L	<	5									
	Benzo(a)Anthracene	µg/L	<	1									
	Benzo(a)Pyrene	µg/L	<	1									
	3,4-Benzofluoranthene	µg/L	<	1									
	Benzo(ghi)Perylene	µg/L	<	1									
	Benzo(k)Fluoranthene	µg/L	<	1									
	Bis(2-Chloroethoxy)Methane	µg/L	<	1									
	Bis(2-Chloroethyl)Ether	µg/L	<	1									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	1									
	Bis(2-Ethylhexyl)Phthalate	µg/L		1									
	4-Bromophenyl Phenyl Ether	µg/L	<	1									
	Butyl Benzyl Phthalate	µg/L	<	1.9									
	2-Chloronaphthalene	µg/L	<	1									
	4-Chlorophenyl Phenyl Ether	µg/L	<	1									
	Chrysene	µg/L	<	1									
	Dibenzo(a,h)Anthracene	µg/L	<	1									
	1,2-Dichlorobenzene	µg/L	<	0.32									
	1,3-Dichlorobenzene	µg/L	<	0.17									
	1,4-Dichlorobenzene	µg/L	<	0.15									
	3,3-Dichlorobenzidine	µg/L	<	1									
	Diethyl Phthalate	µg/L	<	1									
	Dimethyl Phthalate	µg/L	<	1									
	Di-n-Butyl Phthalate	µg/L	<	1									
	2,4-Dinitrotoluene	µg/L	<	1									

	2,6-Dinitrotoluene	µg/L	<	1									
	Di-n-Octyl Phthalate	µg/L	<	1									
	1,2-Diphenylhydrazine	µg/L	<	1									
	Fluoranthene	µg/L	<	1									
	Fluorene	µg/L	<	1									
	Hexachlorobenzene	µg/L	<	1									
	Hexachlorobutadiene	µg/L	<	0.27									
	Hexachlorocyclopentadiene	µg/L	<	1									
	Hexachloroethane	µg/L	<	1									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	1									
	Isophorone	µg/L	<	1									
	Naphthalene	µg/L	<	0.25									
	Nitrobenzene	µg/L	<	1									
	n-Nitrosodimethylamine	µg/L	<	1									
	n-Nitrosodi-n-Propylamine	µg/L	<	1									
	n-Nitrosodiphenylamine	µg/L	<	1									
	Phenanthrene	µg/L	<	1									
	Pyrene	µg/L	<	1									
	1,2,4-Trichlorobenzene	µg/L	<	0.17									
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Huntingdon Borough, NPDES Permit No. PA0026191, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: Juniata River

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	011414	93.22	597	979			Yes
End of Reach 1	011414	91.33	585	991			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi²)*	Flow (cfs) Stream	Flow (cfs) Tributary	W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary Hardness	Tributary pH	Stream Hardness*	Stream pH*	Analysis Hardness	Analysis pH
Point of Discharge	93.22	0.145										228	7		
End of Reach 1	91.33	0.145													

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs) Stream	Flow (cfs) Tributary	W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary Hardness	Tributary pH	Stream Hardness	Stream pH	Analysis Hardness	Analysis pH
Point of Discharge	93.22														
End of Reach 1	91.33														

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Huntingdon Borough, NPDES Permit No. PA0026191, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.110 Analysis Hardness (mg/l): 221.76 Analysis pH: 7.14

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	2,643	
Total Antimony	0	0		0	1,100	1,100	3,877	
Total Arsenic	0	0		0	340	340	1,198	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	74,006	
Total Boron	0	0		0	8,100	8,100	28,545	
Total Cadmium	0	0		0	4.365	4.79	16.9	Chem Translator of 0.911 applied
Total Chromium (III)	0	0		0	1093.877	3,462	12,199	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	57.4	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	335	
Total Copper	0	0		0	28.461	29.6	104	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	77.5	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	151.882	225	793	Chem Translator of 0.675 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	5.8	Chem Translator of 0.85 applied
Total Nickel	0	0		0	918.496	920	3,243	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	12.657	14.9	52.5	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	229	
Total Zinc	0	0		0	230.100	235	829	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	10.6	

Acrylonitrile	0	0		0	650	650	2,291	
Benzene	0	0		0	640	640	2,255	
Bromoform	0	0		0	1,800	1,800	6,343	
Carbon Tetrachloride	0	0		0	2,800	2,800	9,867	
Chlorobenzene	0	0		0	1,200	1,200	4,229	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	63,434	
Chloroform	0	0		0	1,900	1,900	6,696	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	52,862	
1,1-Dichloroethylene	0	0		0	7,500	7,500	26,431	
1,2-Dichloropropane	0	0		0	11,000	11,000	38,765	
1,3-Dichloropropylene	0	0		0	310	310	1,092	
Ethylbenzene	0	0		0	2,900	2,900	10,220	
Methyl Bromide	0	0		0	550	550	1,938	
Methyl Chloride	0	0		0	28,000	28,000	98,675	
Methylene Chloride	0	0		0	12,000	12,000	42,289	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	3,524	
Tetrachloroethylene	0	0		0	700	700	2,467	
Toluene	0	0		0	1,700	1,700	5,991	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	23,964	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	10,572	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	11,982	
Trichloroethylene	0	0		0	2,300	2,300	8,105	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	1,973	
2,4-Dichlorophenol	0	0		0	1,700	1,700	5,991	
2,4-Dimethylphenol	0	0		0	660	660	2,326	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	282	
2,4-Dinitrophenol	0	0		0	660	660	2,326	
2-Nitrophenol	0	0		0	8,000	8,000	28,193	
4-Nitrophenol	0	0		0	2,300	2,300	8,105	
p-Chloro-m-Cresol	0	0		0	160	160	564	
Pentachlorophenol	0	0		0	10.069	10.1	35.5	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	1,621	
Acenaphthene	0	0		0	83	83.0	293	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	1,057	
Benzo(a)Anthracene	0	0		0	0.5	0.5	1.76	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	105,723	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	15,858	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	952	
Butyl Benzyl Phthalate	0	0		0	140	140	493	

2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	2,890	
1,3-Dichlorobenzene	0	0		0	350	350	1,233	
1,4-Dichlorobenzene	0	0		0	730	730	2,573	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	14,096	
Dimethyl Phthalate	0	0		0	2,500	2,500	8,810	
Di-n-Butyl Phthalate	0	0		0	110	110	388	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	5,639	
2,6-Dinitrotoluene	0	0		0	990	990	3,489	
1,2-Diphenylhydrazine	0	0		0	15	15.0	52.9	
Fluoranthene	0	0		0	200	200	705	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	35.2	
Hexachlorocyclopentadiene	0	0		0	5	5.0	17.6	
Hexachloroethane	0	0		0	60	60.0	211	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	35,241	
Naphthalene	0	0		0	140	140	493	
Nitrobenzene	0	0		0	4,000	4,000	14,096	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	59,910	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	1,057	
Phenanthrene	0	0		0	5	5.0	17.6	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	458	

☑ CFC CCT (min): 720 PMF: 0.762 Analysis Hardness (mg/l): 226.81 Analysis pH: 7.02

Pollutants	Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	4,067	
Total Arsenic	0	0		0	150	150	2,773	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	75,799	
Total Boron	0	0		0	1,600	1,600	29,580	
Total Cadmium	0	0		0	0.434	0.5	9.18	Chem Translator of 0.875 applied
Total Chromium (III)	0	0		0	144.941	169	3,116	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	192	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	351	
Total Copper	0	0		0	18.031	18.8	347	Chem Translator of 0.96 applied

Free Cyanide	0	0		0	5.2	5.2	96.1	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	35,911	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	6.061	9.02	167	Chem Translator of 0.672 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	16.7	Chem Translator of 0.85 applied
Total Nickel	0	0		0	103.980	104	1,928	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	92.2	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	240	
Total Zinc	0	0		0	236.454	240	4,434	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	55.5	
Acrylonitrile	0	0		0	130	130	2,403	
Benzene	0	0		0	130	130	2,403	
Bromoform	0	0		0	370	370	6,840	
Carbon Tetrachloride	0	0		0	560	560	10,353	
Chlorobenzene	0	0		0	240	240	4,437	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	64,706	
Chloroform	0	0		0	390	390	7,210	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	57,311	
1,1-Dichloroethylene	0	0		0	1,500	1,500	27,731	
1,2-Dichloropropane	0	0		0	2,200	2,200	40,673	
1,3-Dichloropropylene	0	0		0	61	61.0	1,128	
Ethylbenzene	0	0		0	580	580	10,723	
Methyl Bromide	0	0		0	110	110	2,034	
Methyl Chloride	0	0		0	5,500	5,500	101,681	
Methylene Chloride	0	0		0	2,400	2,400	44,370	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	3,882	
Tetrachloroethylene	0	0		0	140	140	2,588	
Toluene	0	0		0	330	330	6,101	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	25,883	
1,1,1-Trichloroethane	0	0		0	610	610	11,277	
1,1,2-Trichloroethane	0	0		0	680	680	12,572	
Trichloroethylene	0	0		0	450	450	8,319	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	2,034	
2,4-Dichlorophenol	0	0		0	340	340	6,286	
2,4-Dimethylphenol	0	0		0	130	130	2,403	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	296	
2,4-Dinitrophenol	0	0		0	130	130	2,403	
2-Nitrophenol	0	0		0	1,600	1,600	29,580	
4-Nitrophenol	0	0		0	470	470	8,689	

p-Chloro-m-Cresol	0	0		0	500	500	9,244	
Pentachlorophenol	0	0		0	7.725	7.73	143	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	1,682	
Acenaphthene	0	0		0	17	17.0	314	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	1,091	
Benzo(a)Anthracene	0	0		0	0.1	0.1	1.85	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	110,925	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	16,824	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	998	
Butyl Benzyl Phthalate	0	0		0	35	35.0	647	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	2,958	
1,3-Dichlorobenzene	0	0		0	69	69.0	1,276	
1,4-Dichlorobenzene	0	0		0	150	150	2,773	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	14,790	
Dimethyl Phthalate	0	0		0	500	500	9,244	
Di-n-Butyl Phthalate	0	0		0	21	21.0	388	
2,4-Dinitrotoluene	0	0		0	320	320	5,916	
2,6-Dinitrotoluene	0	0		0	200	200	3,698	
1,2-Diphenylhydrazine	0	0		0	3	3.0	55.5	
Fluoranthene	0	0		0	40	40.0	740	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	37.0	
Hexachlorocyclopentadiene	0	0		0	1	1.0	18.5	
Hexachloroethane	0	0		0	12	12.0	222	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	38,824	
Naphthalene	0	0		0	43	43.0	795	
Nitrobenzene	0	0		0	810	810	14,975	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	62,858	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	1,091	
Phenanthrene	0	0		0	1	1.0	18.5	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	481	

☑ *THH* CCT (min): 720 PMF: 0.762 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	104	
Total Arsenic	0	0		0	10	10.0	185	
Total Barium	0	0		0	2,400	2,400	44,370	
Total Boron	0	0		0	3,100	3,100	57,311	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	4	4.0	74.0	
Dissolved Iron	0	0		0	300	300	5,546	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	18,488	
Total Mercury	0	0		0	0.050	0.05	0.92	
Total Nickel	0	0		0	610	610	11,277	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	4.44	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	55.5	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	1,849	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	105	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	610	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	1,257	

Methyl Bromide	0	0		0	100	100.0	1,849	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	1,054	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	1,849	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	184,875	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	555	
2,4-Dichlorophenol	0	0		0	10	10.0	185	
2,4-Dimethylphenol	0	0		0	100	100.0	1,849	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	37.0	
2,4-Dinitrophenol	0	0		0	10	10.0	185	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	73,950	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	1,294	
Anthracene	0	0		0	300	300	5,546	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	3,698	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	1.85	
2-Chloronaphthalene	0	0		0	800	800	14,790	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	18,488	
1,3-Dichlorobenzene	0	0		0	7	7.0	129	
1,4-Dichlorobenzene	0	0		0	300	300	5,546	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	11,093	
Dimethyl Phthalate	0	0		0	2,000	2,000	36,975	
Di-n-Butyl Phthalate	0	0		0	20	20.0	370	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	

2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	370	
Fluorene	0	0		0	50	50.0	924	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	74.0	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	629	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	185	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	370	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	1.29	

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

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	

Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	5.54	
Benzene	0	0		0	0.58	0.58	53.5	
Bromoform	0	0		0	7	7.0	646	
Carbon Tetrachloride	0	0		0	0.4	0.4	36.9	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	73.8	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	0.95	0.95	87.7	
1,2-Dichloroethane	0	0		0	9.9	9.9	914	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	83.1	
1,3-Dichloropropylene	0	0		0	0.27	0.27	24.9	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	1,846	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	18.5	
Tetrachloroethylene	0	0		0	10	10.0	923	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	50.8	
Trichloroethylene	0	0		0	0.6	0.6	55.4	
Vinyl Chloride	0	0		0	0.02	0.02	1.85	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	2.77	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	138	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.009	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.092	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.009	

3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.092	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.92	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	2.77	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	29.5	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.12	0.12	11.1	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.009	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	4.61	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	4.61	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	4.61	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	2.77	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.007	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.92	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	9.23	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.092	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.065	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.46	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	305	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	Report	Report	Report	Report	Report	µg/L	1,694	AFC	Discharge Conc > 10% WQBEL (no RP)

Total Copper	2.23	3.49	0.067	0.1	0.17	mg/L	0.067	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	17.7	27.7	0.53	0.83	1.33	mg/L	0.53	AFC	Discharge Conc ≥ 50% WQBEL (RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	104	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	185	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	44,370	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	18,296	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	9.18	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	3,116	µg/L	Discharge Conc < TQL
Hexavalent Chromium	36.8	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	215	µg/L	Discharge Conc ≤ 10% WQBEL
Free Cyanide	49.7	µg/L	Discharge Conc ≤ 25% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	5,546	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	35,911	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	167	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	18,488	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.92	µg/L	Discharge Conc < TQL
Total Nickel	1,928	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	92.2	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	33.6	µg/L	Discharge Conc < TQL
Total Thallium	4.44	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	6.78	µg/L	Discharge Conc < TQL
Acrylonitrile	5.54	µg/L	Discharge Conc < TQL
Benzene	53.5	µg/L	Discharge Conc < TQL
Bromoform	646	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	36.9	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	1,849	µg/L	Discharge Conc < TQL
Chlorodibromomethane	73.8	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	40,659	µg/L	Discharge Conc < TQL
Chloroform	105	µg/L	Discharge Conc ≤ 25% WQBEL

Dichlorobromomethane	87.7	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	914	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	610	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	83.1	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	24.9	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	1,257	µg/L	Discharge Conc < TQL
Methyl Bromide	1,242	µg/L	Discharge Conc < TQL
Methyl Chloride	63,247	µg/L	Discharge Conc < TQL
Methylene Chloride	1,846	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	18.5	µg/L	Discharge Conc < TQL
Tetrachloroethylene	923	µg/L	Discharge Conc < TQL
Toluene	1,054	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	1,849	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	6,776	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	50.8	µg/L	Discharge Conc < TQL
Trichloroethylene	55.4	µg/L	Discharge Conc < TQL
Vinyl Chloride	1.85	µg/L	Discharge Conc < TQL
2-Chlorophenol	555	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	185	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	1,491	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	37.0	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	185	µg/L	Discharge Conc < TQL
2-Nitrophenol	18,070	µg/L	Discharge Conc < TQL
4-Nitrophenol	5,195	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	361	µg/L	Discharge Conc < TQL
Pentachlorophenol	2.77	µg/L	Discharge Conc < TQL
Phenol	73,950	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	138	µg/L	Discharge Conc < TQL
Acenaphthene	187	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	5,546	µg/L	Discharge Conc < TQL
Benzidine	0.009	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.092	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.009	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.092	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.92	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	2.77	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	3,698	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	29.5	µg/L	Discharge Conc ≤ 25% WQBEL
4-Bromophenyl Phenyl Ether	610	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	1.85	µg/L	Discharge Conc < TQL

2-Chloronaphthalene	14,790	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	11.1	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.009	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	1,852	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	129	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	1,649	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	4.61	µg/L	Discharge Conc < TQL
Diethyl Phthalate	9,035	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	5,647	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	248	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	4.61	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	4.61	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	2.77	µg/L	Discharge Conc < TQL
Fluoranthene	370	µg/L	Discharge Conc < TQL
Fluorene	924	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.007	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.92	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	11.3	µg/L	Discharge Conc < TQL
Hexachloroethane	9.23	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.092	µg/L	Discharge Conc < TQL
Isophorone	629	µg/L	Discharge Conc < TQL
Naphthalene	316	µg/L	Discharge Conc < TQL
Nitrobenzene	185	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.065	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.46	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	305	µg/L	Discharge Conc < TQL
Phenanthrene	11.3	µg/L	Discharge Conc < TQL
Pyrene	370	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	1.29	µg/L	Discharge Conc < TQL

Existing Effluent Limitations and Monitoring Requirements

Outfall 001,

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Intensity (mW/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
CBOD5	830.0	1330.0 Wkly Avg	XXX	25.0	40.0	50.0	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS	1000.0	1500.0 Wkly Avg	XXX	30.0	45.0	60.0	2/week	24-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/week	Grab

Existing Effluent Limitations and Monitoring Requirements

Outfall 008: Stormwater,

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Existing Effluent Limitations and Monitoring Requirements

Outfall 009: Stormwater

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Existing Effluent Limitations and Monitoring Requirements

Chesapeake Bay Requirement for Outfall 001,

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	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Net Total Nitrogen	Report	73058.0	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	9741.0	XXX	XXX	XXX	XXX	1/month	Calculation

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	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
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Intensity (mW/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
CBOD5	730.0	1130.0	XXX	22.0	34.0	44.0	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS	1000.0	1500.0	XXX	30.0	45.0	60.0	2/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
Total Aluminum (ug/L)	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Total Copper	2.23	3.49 Daily Max	XXX	0.067	0.1 Daily Max	0.17	1/week	24-Hr Composite
Total Zinc	17.7	27.7 Daily Max	XXX	0.53	0.83 Daily Max	1.33	1/week	24-Hr Composite

Compliance Sampling Location:

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 008, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location:

Other Comments:

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 009, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location:

Other Comments:

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Net Total Nitrogen	Report	73058.0	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	9741.0	XXX	XXX	XXX	XXX	1/month	Calculation

Compliance Sampling Location:

Other Comments:

The 2021 CSO report

COMBINED SEWER OVERFLOWS

Combined sewers carry normal everyday wastewater, plus storm water from street runoff into inlets and roof drains. The combined flows from the storm water exceed the total carrying capacity of the Borough's trunk sewers, interceptors, and the treatment facilities. Thus, as in other communities with combined sewers, the Borough has PA Department of Environmental Protection (DEP)-approved combined sewer overflow (CSO) discharge points that discharge a mixture of sanitary sewage and storm water directly to the Juniata River or Muddy Run during wet weather events. These overflow points are permitted under the Borough's NPDES permit, but require special monitoring, operation, and maintenance. A summary of the Borough's 2021 CSO activities is compiled in Attachment No. 1.

The Borough currently has five combined sewer overflows (CSOs) (Table 5). The sewer and storm lines at 5th Street and 2nd Street were separated in 2012. For 2021, there were 112 overflows, which is about 17 percent less than the number of overflows in 2020 and 36 percent less than the five-year average.

Table 5: Combined Sewer Overflow Occurrences in 2021

	Rainfall (in)	Regulator No. 1	Regulator No. 2	7th & Penn	16th & Oneida	4th & Allegheny	Total
January	1.62	0	1	1	0	1	3
February	3.61	0	2	3	1	1	7
March	2.03	0	5	5	0	1	11
April	2.52	0	4	5	0	0	9
May	3.95	0	6	6	0	0	12
June	3.95	0	7	8	0	0	15
July	4.79	0	6	6	0	0	12
August	6.47	0	6	7	1	0	14
September	6.9	0	6	7	3	0	16
October	2.63	0	0	5	0	0	5
November	0	0	2	2	0	0	4
December	2.6	0	0	4	0	0	4
2021	41.1	0	45	59	5	3	112
2020	34.0	0	47	47	3	32	129
2019	40.5	0	53	50	14	44	161
2018	56.8	0	92	87	21	56	256
2017	45.7	0	55	67	5	47	174

An important gauge of combined sewer overflow is the measurement of the volume in the overflows. Utilizing the CSO volumes recorded for the five flow meters it is estimated that approximately 95.4% of the combined sewage was captured at the wastewater treatment plant in 2021 (Table 6). The flow meters performed well, as there was only one (1) meter malfunction in 2021.

It is important for the meters to be working correctly. The more accurate the data provided by the meters the more reliable the Borough's understanding of the system will be. We recommend that the Borough continue to verify that the flow meters at all CSO discharges are working properly, and correct issues with the meters as soon as they arise. The Borough should continue to review the CSO metering data every month and determine if the meters are working properly. Also, personnel should be trained on meter maintenance, calibration, and troubleshooting.

Table 6: Volume of Combined Sewage Metered and Captured in 2021 (million gallons)

1. Regulator No. 1 Closed in 2021
2. Regulator No. 2 Meter out of service in November. Bypasses with undetermined flow.

Month	Precipitation	Plant Flow	Daily Regulator No.1	Daily Regulator No.2	Daily 7th & Penn No. 4	Daily 16th & Oneida No. 5	Daily 4th & Allegheny No. 6	Daily Total CSO	Adjusted Plant Flow (Less Bulk Customers)	CS Captured (MGD)	Total CS Generated (Captured + CSO)
Jan	1.62	70.237	0.000	0.130	0.208	0.000	0.006	0.344	44.790	14.916	15.260
Feb	3.61	75.485	0.000	0.080	0.115	0.010	0.003	0.208	50.564	24.411	24.619
Mar	2.03	90.058	0.000	0.023	0.024	0.000	0.005	0.052	63.190	21.543	21.595
Apr	2.52	78.489	0.000	0.158	0.679	0.000	0.000	0.837	52.715	26.025	26.862
May	3.95	74.774	0.000	0.218	0.478	0.000	0.000	0.696	48.221	20.609	21.305
Jun	3.95	66.947	0.000	0.125	0.386	0.000	0.000	0.511	42.866	24.860	25.371
Jul	4.79	67.376	0.000	0.212	0.864	0.000	0.000	1.076	42.398	17.547	18.623
Aug	6.47	62.309	0.000	0.221	1.252	0.004	0.000	1.477	37.046	24.383	25.860
Sep	6.9	97.714	0.000	0.873	6.012	0.022	0.000	6.907	69.832	27.211	34.118
Oct	2.63	91.338	0.000	0.000	0.300	0.000	0.000	0.300	68.022	39.015	39.315
Nov	0	69.880	0.000	0.000	0.408	0.000	0.000	0.408	45.762	10.664	11.072
Dec	2.6	65.969	0.000	0.000	0.190	0.000	0.000	0.190	39.597	18.303	18.493
Total	**41.07**	**910.58**	**0.000**	**2.040**	**10.916**	**0.036**	**0.014**	**13.006**	**605.00**	**269.49**	**282.49**
								Percent Combined Sewage Captured =			**95.40%**

1. Regulator No. 1 Closed in 2021
2. Regulator No. 2 Meter out of service in November. Bypasses with undetermined flow.

2021 Borough of Huntingdon CSO DATA

Date	Precipitation	Daily Regulator No.1	Daily Regulator No. 2	Daily 7th & Penn No. 4	Daily 16th & Oneida No. 5	Daily 4th & Allegheny No. 6	Daily Total CSO	Plant Flow	Adjusted Plant Flow (Less Bulk Customers)	CS Captured (MGD)	Total CS Generated (Captured + CSO)
1/1/2021	0.79	0.000	0.130	0.208	0.000	0.006	0.344	3.952	2.908	2.908	3.252
1/2/2021	0.01	0.000					0.000	4.563	3.468	3.468	3.468
1/3/2021	0.2	0.000					0.000	3.843	2.846	2.846	2.846
1/4/2021	0.0	0.000					0.000	3.579	2.643	0.0	0.0
1/5/2021	0.0	0.000					0.000	3.174	2.3105	0.0	0.0
1/6/2021	0.0	0.000					0.000	2.799	1.9119	0.0	0.0
1/7/2021	0.0	0.000					0.000	2.681	1.8575	0.0	0.0
1/8/2021	0.0	0.000					0.000	2.544	1.6974	0.0	0.0
1/9/2021	0.0	0.000					0.000	2.216	1.4059	0.0	0.0
1/10/2021	0.0	0.000					0.000	2.072	1.2939	0.0	0.0
1/11/2021	0.0	0.000					0.000	2.129	1.3749	0.0	0.0
1/12/2021	0.0	0.000					0.000	2.131	1.3204	0.0	0.0
1/13/2021	0.0	0.000					0.000	1.875	1.1431	0.0	0.0
1/14/2021	0.0	0.000					0.000	1.99	1.2399	0.0	0.0
1/15/2021	0.21	0.000					0.000	2.102	1.3227	1.3227	1.3227
1/16/2021	0.02	0.000					0.000	2.015	1.2419	1.2419	1.2419
1/17/2021	0.0	0.000					0.000	1.836	1.0559	0.0	0.0
1/18/2021	0.0	0.000					0.000	1.87	1.0369	0.0	0.0
1/19/2021	0.0	0.000					0.000	1.949	1.196	0.0	0.0
1/20/2021	0.0	0.000					0.000	1.664	0.8925	0.0	0.0
1/21/2021	0.0	0.000					0.000	1.849	1.0499	0.0	0.0
1/22/2021	0.0	0.000					0.000	1.879	1.0885	0.0	0.0
1/23/2021	0.0	0.000					0.000	1.655	0.8866	0.0	0.0
1/24/2021	0.0	0.000					0.000	1.67	0.8986	0.0	0.0
1/25/2021	0.01	0.000					0.000	1.862	1.1016	1.1016	1.1016
1/26/2021	0.04	0.000					0.000	1.982	1.2115	1.2115	1.2115
1/27/2021	0.0	0.000					0.000	1.654	0.88	0.0	0.0
1/28/2021	0.0	0.000					0.000	1.748	0.9737	0.0	0.0
1/29/2021	0.0	0.000					0.000	1.732	0.9499	0.0	0.0

1/30/2021	0.0	0.000					0.000	1.609	0.767	0.0	0.0
1/31/2021	0.18	0.000					0.000	1.613	0.816	0.816	0.816
2/1/2021	0.4	0.000					0.000	1.845	1.072	1.072	1.072
2/2/2021	0.01	0.000					0.000	2.034	1.236	1.236	1.236
2/3/2021	0	0.000					0.000	1.959	1.1527	0.0	0.0
2/4/2021	0	0.000					0.000	2.131	1.279	0.0	0.0
2/5/2021	0	0.000					0.000	2.402	1.5073	0.0	0.0
2/6/2021	0	0.000					0.000	2.035	1.1938	0.0	0.0
2/7/2021	0.07	0.000					0.000	1.94	1.1018	1.1018	1.1018
2/8/2021	0	0.000					0.000	1.975	1.1567	0.0	0.0
2/9/2021	0	0.000					0.000	1.946	1.1638	0.0	0.0
2/10/2021	0.19	0.000					0.000	1.766	0.9929	0.9929	0.9929
2/11/2021	0	0.000					0.000	2.078	1.2697	0.0	0.0
2/12/2021	0	0.000					0.000	1.978	1.2158	0.0	0.0
2/13/2021	0	0.000					0.000	1.793	0.958	0.0	0.0
2/14/2021	0	0.000					0.000	1.669	0.872	0.0	0.0
2/15/2021	0.01	0.000	0.080	0.115			0.195	2.162	1.349	1.349	1.544
2/16/2021	0	0.000					0.000	4.931	3.8102	0.0	0.0
2/17/2021	0.05	0.000					0.000	3.105	2.2044	2.2044	2.2044
2/18/2021	0.14	0.000					0.000	2.791	1.944	1.944	1.944
2/19/2021	0	0.000					0.000	2.697	1.7939	0.0	0.0
2/20/2021	0	0.000					0.000	2.34	1.4687	0.0	0.0
2/21/2021	0	0.000					0.000	2.235	1.4057	0.0	0.0
2/22/2021	0.16	0.000					0.000	2.658	1.7767	1.7767	1.7767
2/23/2021	0	0.000					0.000	2.916	2.0075	0.0	0.0
2/24/2021	0.03						0.000	3.568	2.5624	2.5624	2.5624
2/25/2021	0						0.000	5.114	3.898	0.0	0.0
2/26/2021	0.03						0.000	3.969	2.9251	2.9251	2.9251
2/27/2021	0.01						0.000	3.472	2.5269	2.5269	2.5269
2/28/2021	1.02				0.010	0.003	0.013	5.976	4.7199	4.7199	4.7329
3/1/2021	0.02						0.000	7.566	6.1989	6.1989	6.1989
3/2/2021	0						0.000	5.228	4.1838	0.0	0.0
3/3/2021	0						0.000	3.86	2.8507	0.0	0.0
3/4/2021	0						0.000	3.316	2.4064	0.0	0.0

3/5/2021	0						0.000	2.908	2.0729	0.0	0.0
3/6/2021	0						0.000	2.524	1.734	0.0	0.0
3/7/2021	0						0.000	2.367	1.55	0.0	0.0
3/8/2021	0						0.000	2.471	1.663	0.0	0.0
3/9/2021	0						0.000	2.454	1.6691	0.0	0.0
3/10/2021	0						0.000	2.287	1.4106	0.0	0.0
3/11/2021	0.08						0.000	2.451	1.6636	1.6636	1.6636
3/12/2021	0						0.000	2.479	1.6901	0.0	0.0
3/13/2021	0						0.000	2.237	1.4296	0.0	0.0
3/14/2021	0						0.000	2.106	1.3466	0.0	0.0
3/15/2021	0						0.000	2.249	1.4616	0.0	0.0
3/16/2021	0						0.000	2.257	1.4429	0.0	0.0
3/17/2021	0.01						0.000	2.023	1.2421	1.2421	1.2421
3/18/2021	1.01						0.000	4.264	3.2654	3.2654	3.2654
3/19/2021	0						0.000	3.841	2.8459	0.0	0.0
3/20/2021	0						0.000	2.912	1.9921	0.0	0.0
3/21/2021	0						0.000	2.675	1.8121	0.0	0.0
3/22/2021	0						0.000	2.622	1.7801	0.0	0.0
3/23/2021	0						0.000	2.392	1.5955	0.0	0.0
3/24/2021	0.19						0.000	2.662	1.8375	1.8375	1.8375
3/25/2021	0.13						0.000	2.514	1.6807	1.6807	1.6807
3/26/2021	0.01						0.000	2.545	1.7491	1.7491	1.7491
3/27/2021	0	0.000					0.000	2.134	1.3746	0.0	0.0
3/28/2021	0.38	0.000	0.004	0.007			0.011	2.843	1.9626	1.9626	1.9736
3/29/2021	0	0.000					0.000	2.617	1.7596	0.0	0.0
3/30/2021	0	0.000					0.000	2.433	1.5751	0.0	0.0
3/31/2021	0.41	0.000	0.019	0.017		0.005	0.041	2.821	1.9434	1.9434	1.9844
4/1/2021	0.15	0.000					0.000	3.349	2.4342	2.4342	2.4342
4/2/2021	0	0.000					0.000	2.523	1.6582	0.0	0.0
4/3/2021	0	0.000					0.000	2.349	1.4803	0.0	0.0
4/4/2021	0	0.000					0.000	2.266	1.4313	0.0	0.0
4/5/2021	0	0.000					0.000	2.444	1.6323	0.0	0.0
4/6/2021	0	0.000					0.000	2.351	1.5503	0.0	0.0
4/7/2021	0.01	0.000					0.000	2.003	1.2319	1.2319	1.2319

4/8/2021	0.11	0.000					0.000	2.22	1.4474	1.4474	1.4474
4/9/2021	0.01	0.000					0.000	2.321	1.476	1.476	1.476
4/10/2021	0.66	0.000	0.039	0.170			0.209	1.97	1.1986	1.1986	1.4076
4/11/2021	0.7	0.000	0.071	0.363			0.434	5.237	4.1046	4.1046	4.5386
4/12/2021	0.25	0.000	0.040	0.129			0.169	5.59	4.4116	4.4116	4.5806
4/13/2021	0	0.000					0.000	4.871	3.8408	0.0	0.0
4/14/2021	0.02	0.000					0.000	3.448	2.504	2.504	2.504
4/15/2021	0.01	0.000					0.000	3.314	2.3795	2.3795	2.3795
4/16/2021	0	0.000					0.000	2.839	1.998	0.0	0.0
4/17/2021	0	0.000					0.000	2.369	1.5926	0.0	0.0
4/18/2021	0	0.000					0.000	2.309	1.4416	0.0	0.0
4/19/2021	0	0.000					0.000	2.354	1.5616	0.0	0.0
4/20/2021	0	0.000					0.000	2.277	1.4676	0.0	0.0
4/21/2021	0	0.000					0.000	2.043	1.2358	0.0	0.0
4/22/2021	0	0.000					0.000	2.068	1.248	0.0	0.0
4/23/2021	0	0.000					0.000	1.913	1.1227	0.0	0.0
4/24/2021	0.28	0.000					0.000	1.68	0.8866	0.8866	0.8866
4/25/2021	0	0.000					0.000	2.113	1.2836	0.0	0.0
4/26/2021	0	0.000					0.000	1.971	1.1436	0.0	0.0
4/27/2021	0	0.000					0.000	1.828	1.0019	0.0	0.0
4/28/2021	0.15	0.000		0.001			0.001	1.894	1.0831	1.0831	1.0841
4/29/2021	0.26	0.000	0.008	0.016			0.024	2.46	1.6116	1.6116	1.6356
4/30/2021	0.01	0.000					0.000	2.115	1.256	1.256	1.256
5/1/2021	0	0.000					0.000	1.645	0.8494	0.0	0.0
5/2/2021	0	0.000					0.000	1.69	0.9034	0.0	0.0
5/3/2021	0.65	0.000	0.043	0.082			0.125	2.719	1.7524	1.7524	1.8774
5/4/2021	0.11	0.000	0.005	0.003			0.008	2.935	2.0431	2.0431	2.0511
5/5/2021	0.43	0.000	0.052	0.131			0.183	3.646	2.6767	2.6767	2.8597
5/6/2021	0	0.000					0.000	2.587	1.6734	0.0	0.0
5/7/2021	0.14	0.000					0.000	2.695	1.7766	1.7766	1.7766
5/8/2021	0.06	0.000					0.000	2.239	1.445	1.445	1.445
5/9/2021	0.75	0.000	0.058	0.163			0.221	3.451	2.506	2.506	2.727
5/10/2021	0	0.000					0.000	5.165	4.042	0.0	0.0
5/11/2021	0	0.000					0.000	3.392	2.3801	0.0	0.0

5/12/2021	0	0.000					0.000	2.564	1.7346	0.0	0.0
5/13/2021	0	0.000					0.000	2.51	1.6473	0.0	0.0
5/14/2021	0	0.000					0.000	2.335	1.5031	0.0	0.0
5/15/2021	0	0.000					0.000	1.948	1.1361	0.0	0.0
5/16/2021	0	0.000					0.000	1.941	1.0681	0.0	0.0
5/17/2021	0	0.000					0.000	2.009	1.2161	0.0	0.0
5/18/2021	0	0.000					0.000	1.903	1.139	0.0	0.0
5/19/2021	0	0.000					0.000	1.716	0.9202	0.0	0.0
5/20/2021	0	0.000					0.000	1.86	1.1178	0.0	0.0
5/21/2021	0	0.000					0.000	1.783	1.0972	0.0	0.0
5/22/2021	0	0.000	0.022				0.022	1.62	0.8351	0.0	0.022
5/23/2021	0	0.000					0.000	1.638	0.9021	0.0	0.0
5/24/2021	0.52	0.000		0.009			0.009	2.274	1.4641	1.4641	1.4731
5/25/2021	0	0.000					0.000	1.941	1.1575	0.0	0.0
5/26/2021	0.18	0.000					0.000	1.777	1.0035	1.0035	1.0035
5/27/2021	0	0.000					0.000	1.919	1.1348	0.0	0.0
5/28/2021	1.12	0.000	0.038	0.090			0.128	2.875	1.938	1.938	2.066
5/29/2021	0.07	0.000					0.000	3.695	2.6947	2.6947	2.6947
5/30/2021	0.08	0.000					0.000	2.27	1.3087	1.3087	1.3087
5/31/2021	0	0.000					0.000	2.032	1.1547	0.0	0.0
6/1/2021	0	0.000					0.000	2.061	1.2517	0.0	0.0
6/2/2021	0.35	0.000	0.005	0.008			0.013	2.011	1.2563	1.2563	1.2693
6/3/2021	0.05	0.000					0.000	2.725	1.9525	1.9525	1.9525
6/4/2021	0	0.000					0.000	2.169	1.448	0.0	0.0
6/5/2021	0	0.000					0.000	1.839	1.1184	0.0	0.0
6/6/2021	0	0.000					0.000	1.793	1.0164	0.0	0.0
6/7/2021	0.02	0.000					0.000	1.885	1.1364	1.1364	1.1364
6/8/2021	0.26	0.000	0.011	0.010			0.021	2.205	1.1571	1.1571	1.1781
6/9/2021	1.4	0.000	0.034	0.300			0.334	3.209	2.1422	2.1422	2.4762
6/10/2021	0.08	0.000					0.000	3.935	2.9802	2.9802	2.9802
6/11/2021	0.31	0.000	0.009	0.001			0.010	3.156	2.2396	2.2396	2.2496
6/12/2021	0	0.000					0.000	2.596	1.7958	0.0	0.0
6/13/2021	0.11	0.000	0.014	0.004			0.018	2.173	1.4088	1.4088	1.4268
6/14/2021	0.17	0.000	0.010	0.010			0.020	2.697	1.9118	1.9118	1.9318

6/15/2021	0	0.000					0.000	2.348	1.5747	0.0	0.0
6/16/2021	0	0.000					0.000	2.078	1.321	0.0	0.0
6/17/2021	0	0.000					0.000	1.984	1.1823	0.0	0.0
6/18/2021	0.02	0.000					0.000	1.85	1.1368	1.1368	1.1368
6/19/2021	0.84	0.000	0.042	0.051			0.093	2.384	1.579	1.579	1.672
6/20/2021	0.01	0.000					0.000	2.657	1.766	1.766	1.766
6/21/2021	0.13	0.000		0.002			0.002	2.274	1.461	1.461	1.463
6/22/2021	0.27	0.000					0.000	2.769	1.9403	1.9403	1.9403
6/23/2021	0	0.000					0.000	1.959	1.1351	0.0	0.0
6/24/2021	0	0.000					0.000	1.951	1.2003	0.0	0.0
6/25/2021	0	0.000					0.000	1.869	1.125	0.0	0.0
6/26/2021	0	0.000					0.000	1.676	0.9331	0.0	0.0
6/27/2021	0	0.000					0.000	1.647	0.9181	0.0	0.0
6/28/2021	0	0.000					0.000	1.743	1.0081	0.0	0.0
6/29/2021	0	0.000					0.000	1.773	0.9775	0.0	0.0
6/30/2021	0.01	0.000					0.000	1.531	0.792	0.792	0.792
7/1/2021	0.66	0.000	0.034	0.026			0.060	2.947	2.0361	2.0361	2.0961
7/2/2021	0	0.000					0.000	1.971	1.1987	0.0	0.0
7/3/2021	0.01	0.000					0.000	1.642	0.9026	0.9026	0.9026
7/4/2021	0	0.000					0.000	1.596	0.7246	0.0	0.0
7/5/2021	0	0.000					0.000	1.693	0.9296	0.0	0.0
7/6/2021	0	0.000					0.000	1.802	0.9976	0.0	0.0
7/7/2021	0.01	0.000					0.000	1.474	0.7087	0.7087	0.7087
7/8/2021	0.1	0.000					0.000	1.702	0.9324	0.9324	0.9324
7/9/2021	0	0.000					0.000	1.651	0.8514	0.0	0.0
7/10/2021	0	0.000					0.000	1.386	0.6718	0.0	0.0
7/11/2021	1.21	0.000	0.064	0.190			0.254	2.449	1.5538	1.5538	1.8078
7/12/2021	0.39	0.000	0.008	0.200			0.208	3.519	2.5408	2.5408	2.7488
7/13/2021	0.82	0.000	0.054	0.191			0.245	3.491	2.5528	2.5528	2.7978
7/14/2021	0	0.000					0.000	3.745	2.8124	0.0	0.0
7/15/2021	0	0.000					0.000	2.557	1.7698	0.0	0.0
7/16/2021	0.46	0.000	0.030	0.181			0.211	3.107	2.198	2.198	2.409
7/17/2021	0.32	0.000	0.022	0.076			0.098	3.279	2.4291	2.4291	2.5271
7/18/2021	0	0.000					0.000	3.045	2.1731	0.0	0.0
7/19/2021	0	0.000					0.000	2.81	2.0091	0.0	0.0
7/20/2021	0	0.000					0.000	2.406	1.6212	0.0	0.0
7/21/2021	0	0.000					0.000	1.72	0.8547	0.0	0.0
7/22/2021	0	0.000					0.000	1.981	1.202	0.0	0.0
7/23/2021	0	0.000					0.000	1.898	1.1478	0.0	0.0
7/24/2021	0	0.000					0.000	1.705	0.9449	0.0	0.0
7/25/2021	0	0.000					0.000	1.671	0.9289	0.0	0.0
7/26/2021	0	0.000					0.000	1.778	1.0339	0.0	0.0
7/27/2021	0	0.000					0.000	2.063	1.2999	0.0	0.0
7/28/2021	0.06	0.000					0.000	1.351	0.6246	0.6246	0.6246
7/29/2021	0.04	0.000					0.000	1.81	1.0679	1.0679	1.0679
7/30/2021	0	0.000					0.000	1.748	0.9834	0.0	0.0
7/31/2021	0	0.000					0.000	1.379	0.6964	0.0	0.0
8/1/2021	0.07	0.000					0.000	1.446	0.6954	0.6954	0.6954
8/2/2021	0	0.000					0.000	1.575	0.8894	0.0	0.0
8/3/2021	0	0.000					0.000	1.536	0.8497	0.0	0.0
8/4/2021	0	0.000					0.000	1.367	0.6519	0.0	0.0
8/5/2021	0.05	0.000					0.000	1.61	0.8779	0.8779	0.8779
8/6/2021	0	0.000					0.000	1.622	0.9015	0.0	0.0
8/7/2021	0	0.000					0.000	1.436	0.6608	0.0	0.0
8/8/2021	0	0.000					0.000	1.348	0.6518	0.0	0.0
8/9/2021	0	0.000					0.000	1.537	0.8308	0.0	0.0
8/10/2021	0.78	0.000	0.020	0.088			0.108	2.31	1.4838	1.4838	1.5918
8/11/2021	0.02	0.000					0.000	1.631	0.917	0.917	0.917
8/12/2021	0.01	0.000					0.000	1.669	0.993	0.993	0.993
8/13/2021	0.48	0.000	0.016	0.110			0.126	1.869	1.0176	1.0176	1.1436
8/14/2021	0	0.000					0.000	2.238	1.4358	0.0	0.0
8/15/2021	0	0.000					0.000	1.568	0.8218	0.0	0.0
8/16/2021	0.27	0.000					0.000	1.94	1.1258	1.1258	1.1258
8/17/2021	0.48	0.000	0.020	0.102	0.004		0.126	2.071	1.3008	1.3008	1.4268
8/18/2021	1.47	0.000	0.107	0.547			0.654	5.854	4.2868	4.2868	4.9408
8/19/2021	0.01	0.000					0.000	4.045	2.8428	2.8428	2.8428
8/20/2021	0	0.000					0.000	2.703	1.7868	0.0	0.0
8/21/2021	0.02	0.000					0.000	2.105	1.2328	1.2328	1.2328

8/22/2021	0.01	0.000					0.000	2.02	1.1818	1.1818	1.1818
8/23/2021	0	0.000					0.000	2.057	1.1918	0.0	0.0
8/24/2021	0	0.000					0.000	1.9	1.1161	0.0	0.0
8/25/2021	0	0.000					0.000	1.708	0.8751	0.0	0.0
8/26/2021	0.07	0.000					0.000	1.845	1.0251	1.0251	1.0251
8/27/2021	0.03	0.000					0.000	1.913	1.1	1.1	1.1
8/28/2021	0.01	0.000					0.000	1.592	0.877	0.877	0.877
8/29/2021	0.12	0.000		0.034			0.034	1.735	0.9961	0.9961	1.0301
8/30/2021	0.3	0.000	0.005	0.037			0.042	2.124	1.3061	1.3061	1.3481
8/31/2021	0.95	0.000	0.053	0.334			0.387	1.935	1.1233	1.1233	1.5103
9/1/2021	4.35	0.000	0.460	3.790			4.250	10.326	7.9158	7.9158	12.1658
9/2/2021	0	0.000	0.098	0.328			0.426	11.777	10.2858	0.0	0.426
9/3/2021	0	0.000					0.000	6.409	5.3996	0.0	0.0
9/4/2021	0.11	0.000		0.004			0.004	4.045	3.1562	3.1562	3.1602
9/5/2021	0.01	0.000					0.000	3.979	3.0642	3.0642	3.0642
9/6/2021	0	0.000					0.000	3.284	2.4472	0.0	0.0
9/7/2021	0	0.000					0.000	3.147	2.3162	0.0	0.0
9/8/2021	0.16	0.000	0.028	0.152			0.180	3.45	2.5552	2.5552	2.7352
9/9/2021	0.1	0.000	0.005	0.004			0.009	3.491	2.6405	2.6405	2.6495
9/10/2021	0	0.000					0.000	2.818	2.0112	0.0	0.0
9/11/2021	0	0.000					0.000	2.339	1.5377	0.0	0.0
9/12/2021	0	0.000					0.000	2.248	1.3567	0.0	0.0
9/13/2021	0	0.000					0.000	2.412	1.6207	0.0	0.0
9/14/2021	0	0.000					0.000	2.209	1.4323	0.0	0.0
9/15/2021	0.02	0.000					0.000	1.99	1.2163	1.2163	1.2163
9/16/2021	0	0.000					0.000	2.059	1.3193	0.0	0.0
9/17/2021	0	0.000					0.000	2.115	1.3243	0.0	0.0
9/18/2021	0	0.000					0.000	1.97	1.1963	0.0	0.0
9/19/2021	0	0.000					0.000	1.501	0.7273	0.0	0.0
9/20/2021	0	0.000					0.000	1.771	0.9943	0.0	0.0
9/21/2021	0.2	0.000					0.000	1.47	0.7603	0.7603	0.7603
9/22/2021	2.26	0.000	0.163	1.277	0.011		1.451	2.881	2.0503	2.0503	3.5013
9/23/2021	0.16	0.000	0.119	0.457	0.011		0.587	3.658	1.9253	1.9253	2.5123
9/24/2021	0	0.000					0.000	5.319	4.2936	0.0	0.0

9/25/2021	0.01	0.000					0.000	1.61	0.7183	0.7183	0.7183
9/26/2021	0	0.000					0.000	1.099	0.2763	0.0	0.0
9/27/2021	0	0.000					0.000	1.145	0.3573	0.0	0.0
9/28/2021	0.13	0.000					0.000	2.01	1.2083	1.2083	1.2083
9/29/2021	0	0.000					0.000	2.571	1.8255	0.0	0.0
9/30/2021	0	0.000					0.000	2.611	1.8992	0.0	0.0
10/1/2021	0	0.000					0.000	2.691	1.9853	0.0	0.0
10/2/2021	0	0.000					0.000	1.988	1.3103	0.0	0.0
10/3/2021	0.11	0.000					0.000	1.761	1.0213	1.0213	1.0213
10/4/2021	0.09	0.000					0.000	1.503	0.7663	0.7663	0.7663
10/5/2021	0	0.000					0.000	3.139	2.3687	0.0	0.0
10/6/2021	0	0.000					0.000	2.858	2.1701	0.0	0.0
10/7/2021	0	0.000					0.000	2.917	2.1578	0.0	0.0
10/8/2021	0	0.000					0.000	2.702	1.9917	0.0	0.0
10/9/2021	0.01	0.000					0.000	2.411	1.7258	1.7258	1.7258
10/10/2021	0.02	0.000					0.000	2.45	1.6938	1.6938	1.6938
10/11/2021	0	0.000					0.000	2.643	1.9448	0.0	0.0
10/12/2021	0	0.000					0.000	2.759	2.0621	0.0	0.0
10/13/2021	0	0.000					0.000	2.5	1.8067	0.0	0.0
10/14/2021	0	0.000					0.000	2.628	1.9411	0.0	0.0
10/15/2021	0	0.000					0.000	2.631	1.8915	0.0	0.0
10/16/2021	0.24	0.000		0.003			0.003	2.669	1.9422	1.9422	1.9452
10/17/2021	0.02	0.000					0.000	2.468	1.7032	1.7032	1.7032
10/18/2021	0	0.000					0.000	2.66	1.9442	0.0	0.0
10/19/2021	0	0.000					0.000	2.599	1.8818	0.0	0.0
10/20/2021	0	0.000					0.000	2.4	1.653	0.0	0.0
10/21/2021	0.19	0.000		0.002			0.002	2.638	1.9364	1.9364	1.9384
10/22/2021	0.08	0.000					0.000	2.771	2.0604	2.0604	2.0604
10/23/2021	0.07	0.000					0.000	2.548	1.7924	1.7924	1.7924
10/24/2021	0.31	0.000		0.001			0.001	2.741	2.0174	2.0174	2.0184
10/25/2021	0.05	0.000					0.000	3.211	2.4594	2.4594	2.4594
10/26/2021	0.07	0.000					0.000	3.184	2.3897	2.3897	2.3897
10/27/2021	0	0.000					0.000	2.633	1.8978	0.0	0.0
10/28/2021	0.13	0.000					0.000	2.939	2.1576	2.1576	2.1576

10/29/2021	0.98	0.000		0.268			0.268	6.39	5.3854	5.3854	5.6534
10/30/2021	0.3	0.000		0.026			0.026	6.68	5.6549	5.6549	5.6809
10/31/2021	0.08	0.000					0.000	5.226	4.3089	4.3089	4.3089
11/1/2021	0	0.000					0.000	4.287	3.4149	0.0	0.0
11/2/2021	0	0.000					0.000	3.707	2.9487	0.0	0.0
11/3/2021	0	0.000					0.000	3.115	2.3983	0.0	0.0
11/4/2021	0	0.000					0.000	3.24	2.4363	0.0	0.0
11/5/2021	0	0.000					0.000	3.129	2.2951	0.0	0.0
11/6/2021	0	0.000					0.000	2.593	1.835	0.0	0.0
11/7/2021	0	0.000					0.000	2.673	1.89	0.0	0.0
11/8/2021	0	0.000					0.000	2.329	1.523	0.0	0.0
11/9/2021	0	0.000					0.000	1.813	1.1099	0.0	0.0
11/10/2021	0	0.000					0.000	1.575	0.8638	0.0	0.0
11/11/2021	1.27	0.000		0.345			0.345	1.561	0.8134	0.8134	1.1584
11/12/2021	0.03	0.000		0.063			0.063	5.0	4.0031	4.0031	4.0661
11/13/2021	0	0.000					0.000	2.8	1.9782	0.0	0.0
11/14/2021	0.13	0.000					0.000	2.518	1.6422	1.6422	1.6422
11/15/2021	0	0.000					0.000	2.548	1.7192	0.0	0.0
11/16/2021	0	0.000					0.000	2.227	1.4154	0.0	0.0
11/17/2021	0	0.000					0.000	1.994	1.149	0.0	0.0
11/18/2021	0	0.000					0.000	2.129	1.3128	0.0	0.0
11/19/2021	0	0.000					0.000	1.918	1.1332	0.0	0.0
11/20/2021	0	0.000					0.000	1.746	0.9216	0.0	0.0
11/21/2021	0.06	0.000					0.000	1.734	0.9246	0.9246	0.9246
11/22/2021	0	0.000					0.000	1.902	1.0956	0.0	0.0
11/23/2021	0	0.000					0.000	1.868	1.0258	0.0	0.0
11/24/2021	0	0.000					0.000	1.587	0.7923	0.0	0.0
11/25/2021	0.01	0.000					0.000	1.513	0.7528	0.7528	0.7528
11/26/2021	0	0.000					0.000	1.876	1.0524	0.0	0.0
11/27/2021	0.03	0.000					0.000	1.474	0.6939	0.6939	0.6939
11/28/2021	0.03	0.000					0.000	1.538	0.7449	0.7449	0.7449
11/29/2021	0	0.000					0.000	1.61	0.7879	0.0	0.0
11/30/2021	0.01	0.000					0.000	1.876	1.0891	1.0891	1.0891
12/1/2021	0.1	0.000					0.000	1.681	0.8825	0.8825	0.8825
12/2/2021	0.01	0.000					0.000	1.834	0.9804	0.9804	0.9804
12/3/2021	0	0.000					0.000	1.682	0.866	0.0	0.0
12/4/2021	0	0.000					0.000	1.472	0.6767	0.0	0.0
12/5/2021	0	0.000					0.000	1.486	0.6787	0.0	0.0
12/6/2021	0.04	0.000					0.000	1.685	0.9367	0.9367	0.9367
12/7/2021	0	0.000					0.000	1.667	0.903	0.0	0.0
12/8/2021	0	0.000					0.000	1.523	0.7414	0.0	0.0
12/9/2021	0	0.000					0.000	1.618	0.8253	0.0	0.0
12/10/2021	0.21	0.000		0.005			0.005	1.61	0.8119	0.8119	0.8169
12/11/2021	0.02	0.000					0.000	1.768	0.9168	0.9168	0.9168
12/12/2021	0	0.000					0.000	1.469	0.6368	0.0	0.0
12/13/2021	0	0.000					0.000	1.669	0.8348	0.0	0.0
12/14/2021	0	0.000					0.000	1.73	0.9143	0.0	0.0
12/15/2021	0	0.000					0.000	1.493	0.6982	0.0	0.0
12/16/2021	0	0.000					0.000	1.625	0.8633	0.0	0.0
12/17/2021	0.22	0.000					0.000	1.583	0.8046	0.8046	0.8046
12/18/2021	0.34	0.000					0.000	2.337	1.5281	1.5281	1.5281
12/19/2021	0	0.000					0.000	1.841	1.0571	0.0	0.0
12/20/2021	0	0.000					0.000	1.973	1.0481	0.0	0.0
12/21/2021	0	0.000					0.000	1.894	1.0648	0.0	0.0
12/22/2021	0	0.000					0.000	1.657	0.8674	0.0	0.0
12/23/2021	0	0.000					0.000	1.803	0.9704	0.0	0.0
12/24/2021	0	0.000					0.000	1.647	0.8105	0.0	0.0
12/25/2021	0.37	0.000		0.014			0.014	2.137	1.2505	1.2505	1.2645
12/26/2021	0	0.000					0.000	1.856	0.9475	0.0	0.0
12/27/2021	0.61	0.000					0.000	2.425	1.5185	1.5185	1.5185
12/28/2021	0.7	0.000		0.064			0.064	3.404	2.4707	2.4707	2.5347
12/29/2021	0	0.000		0.107			0.107	7.316	5.8899	0.0	0.107
12/30/2021	0.02	0.000					0.000	4.591	3.6497	3.6497	3.6497
12/31/2021	0.05	0.000					0.000	3.493	2.5526	2.5526	2.5526
		0.000	2.040	10.916	0.036	0.014	13.01	910.58	605.00	269.49	282.49

Percent Combined Sewage Capturecd = 95.40%

Huntingdon WWTP's Determination of the Percent of Combined Sewage Captured at the WWTP

Huntingdon Borough uses the Presumptive Approach of complying with water Quality Standards. Under the Presumptive Approach, the Borough endeavors to capture a minimum of 85% of the combined sewage generated in their system for treatment at the Huntingdon Wastewater Treatment Plant (WWTP) and discharge to the Juniata River. Also, the Borough tests the Juniata River during CSO discharges to verify that there are no adverse water quality effects from the discharges. The Borough conducts one such test every year.

Since about 2009, Huntingdon Borough meters all CSO discharges. Annually, the Borough determines the total combined sewage received at the POTW, the total combined sewage discharged to the Juniata River, and the percent of combined sewage captured for treatment at the Huntingdon WWTP as described below. The Borough's calculation of the percent of combined sewage captured at the WWTP for 2021 is attached. A narrative explanation of the attached calculations on the Excel spreadsheet includes:

1. The precipitation received at the WWTP is measured and recorded daily.
2. All sewage flow arriving at the Huntingdon WWTP is metered continuously. This includes sewage flow from Huntingdon Borough and Smithfield Township along with sewage flow from the following bulk customers:
    a. State Correctional Institute (SCI) Huntingdon
    b. SCI Smithfield
    c. Superior Huntingdon Composites
    d. Walker Township
    e. Penn Township
    f. Oneida Township
3. The sewage flow from each of the bulk customers is metered daily.
4. Since the sewage flow from bulk customers is either strictly sanitary sewage or industrial wastewater, these flows are removed from the daily total sewage flows reaching the Huntingdon WWTP. The resulting numbers are the daily sewage flows received from Huntingdon Borough and Smithfield Township.
5. Next the daily precipitation data is compared to the above sewage flows from Huntingdon Borough and Smithfield Township. The sewage flows from days when measurable precipitation occurs are then identified as combined sewage. These flows are totaled, resulting in the amount of Combined Sewage Captured by the Huntingdon WWTP.
6. As noted above, Combined Sewer Overflows in the Huntingdon Collection System are continuously metered. The days when Combined Sewer Overflows occur are identified and the CSO amounts totaled resulting in the total Combined Sewer Overflows to the Juniata River.
7. The annual total Combined Sewage Generated in the Huntingdon Collection System is calculated by adding the Combined Sewage Captured (#5 above) and the total Combined Sewer Overflows (#6 above).
8. The percent of combined sewage captured is calculated by dividing the Combined Sewage Captured (#5 above) by the Combined Sewage Generated (#7 above).

1. Introduction

Of the 157,000-feet of public sewers within the Borough, roughly 15,500 feet are combined sewers. Combined sewers carry normal every day wastewater, plus storm water from street runoff into inlets. The combined flows from the storm water far exceed the total carrying capacity of the Borough's trunk sewers, interceptors, and the wastewater treatment facilities. Thus, as in other communities with combined sewers, the Borough has combined sewer overflow (CSO) points that discharge some of the combination of sanitary sewage and storm water directly to the Juniata River or Muddy Run. These overflow points are permitted by the Department of Environmental protection (DEP) under the Borough's NPDES permit, but require special attention with respect to monitoring, operation, and maintenance. In accordance with Part C of the Borough's NPDES permit, this CSO Supplemental Report summarizes this activity for the 2019 operating year.

2. Operational Status and Location of CSO Facilities

The Borough's five CSOs in operation are listed in Table 1. The sewer and storm lines at 5th & Allegheny were separated in June of 2012, and the associated CSO was eliminated.

American Sigma™ Model 950 flow meters were installed at the Regulator No. 1, Regulator No. 2, 7th & Penn Street, and 4th & Allegheny Street CSOs in 2011. American Sigma™ Model 910 flow meter was installed at 16th & Oneida in 2012. All five sites had a dedicated source of electricity and a lockable protective housing containing the flow meter.

Regulator No. 1 is located near the confluence of Standing Stone Creek and the Juniata River. Regulator No. 2 is located along the old Ice Plant Road across the railroad tracks from 14th Street. The remaining CSOs are located at the approximate intersection of the streets used in their name (e.g. The 4th & Allegheny diversion chamber is located at the intersection of 4th Street and Allegheny Street).

Table 1 Location of Combined Sewer Overflows in Huntingdon Borough

NPDES ID Number	Name	Type	Latitude	Longitude	Special Attention
002	Regulator No. 1	Flow Regulator	40º28'23"	78º00'19"	Regulator Valves, Flood Gate
003	Regulator No. 2	Flow Regulator	40º29'09"	78º01'24"	Regulator Valves, Flood Gate
004	7th & Penn Street	Diversion Structure	40º29'08"	78º00'54"	Flood Gate
005	16th & Oneida Street	Diversion Structure	40º29'54"	78º00'57"	
006	4th & Allegheny Street	Diversion Structure	40º29'01"	78º00'40"	

3. In-Stream Water Quality Effects

According to the Borough's Long Term Control Plan (LTCP), the Borough is required to collect in-stream water quality samples at least once every five years. The Borough performed stream sampling and testing on March 22, 2019, with the results summarized in Table 2. The complete stream sampling results can be found in Attachment 1.

Table 2 Stream Sampling Results from March 22, 2019

			Contaminant Concentration (mg/l), except Cu, Fe, and Pb (µg/)								
Above	Below	Date	pH	D.O.	Cu	Fe	Pb	NH_3	BOD	TSS	Cl-
	Reg. No. 1	3/22/2019	7.62	8.87	1.17	899	0.891	<0.24	756	28	17
Reg. No. 1		3/22/2019	7.74	9.02	1.22	911	0.915	<0.24	24	26	16
5th St.	7th St.	3/22/2019	7.11	8.75	1.28	928	0.976	<0.24	32	23	16
7th St.	Penn St.	3/22/2019	6.98	9.11	1.29	930	1.0	< 0.24	38	28	16
Penn St.	Reg. No. 2	3/22/2019	7.25	8.92	1.44	1150	1.07	<0.24	42	44	17
Reg. No. 2	-	3/22/2019	7.42	8.84	2.21	980	1.0	< 0.24	25	32	15

4. Implementation of the Nine Minimum Controls and Long Term Control Plans

Borough personnel performed routine inspection and maintenance activity on the combined sewer system in 2020. Monthly summaries of this activity are contained in Attachment 2. Typically, a copy of PA DEP's annual inspection of the combined sewer system can be found in Attachment 3. However, due to State of Pennsylvania requirements regarding Covid-19 in 2020, and restrictions placed upon DEP field activities, PA DEP Combined Sewer System Inspections were not performed in 2020.

4.1 General Practices

The Borough of Huntingdon provides and promotes training to ensure that operators and maintenance personnel are able to perform their jobs efficiently and safely. The wastewater treatment facility currently has five certified operators on staff, including the plant superintendent.

Collection system operation and maintenance is conducted throughout the year. The Borough inspects it's approximately 660-inlets on a yearly basis and cleans specific ones in response to reported problems or as preventative measures based on past experience. Inspection of the collection system is performed on an ongoing basis. The Borough owns a vactor/sewer flushing truck that is used to clean the sanitary, combined, and storm sewers.

The regulators and diversion chambers are inspected weekly and after significant rainfalls. Reports of overflows are included with NPDES discharge monitoring reports.

Streets are swept in accordance to a schedule established by Borough Council. Streets are cleaned on a weekly basis throughout the Borough. Most streets in the downtown area are swept up to three times a week. Sometimes, street sweeping is suspended when winter conditions make sweeping impractical.

To keep the public informed, the Borough has posted signs at each outfall that describe them as wet weather wastewater discharging points.

The following paragraphs appear on the Borough's website at http://huntingdonboro.com/wastewater-treatment/.

Borough Public Works Announcements

"We want to keep you informed about our Combined Sewer Overflows (CSOs). Huntingdon is one of more than 200 PA communities with CSOs. Since the mid-1960s, street runoff has been combined with sanitary sewage for treatment at our wastewater treatment plant. If rainfall exceeds about ½ inch, the volume of the combined sewage can exceed the carrying capacity of intercepting sewers and the treatment facilities. When that happens, less than 15% of the combined sewage can be discharged to the river. The PA Department of Environmental Protection allows this procedure to occur as long as there are no adverse environmental or health consequences.

There are five points where combined sewage can be discharged: Stone Creek at the river, 4th and Allegheny, 7th and Penn, 14th and Susquehanna, and 16th and Oneida. Each of the overflow points is clearly marked and the public is urged to avoid swimming or recreational activities at the overflow points during and immediately after a significant rainfall event. More information can be obtained by contacting the Borough Sewer Department at (814) 643-5123.

The Borough Public Works Announcements will be updated to reflect the fact that the 5th and Allegheny CSO has been eliminated.

4.2 Operation and Maintenance

The Borough documents O&M activity performed on the combined sewer system. These records are stored at the wastewater treatment plant. The information the Borough records include the frequency and volume of wastewater bypassed, inspection and maintenance activity, and precipitation throughout the year. This information is also provided to DEP in the Borough's Annual Wasteload Management (Chapter 94) Report.

During periods of dry weather, the overflows are inspected on a weekly basis. The overflows are also inspected following precipitation events. Checks consist of noting the date, amount of rainfall, if overflow had or is occurring, and resetting of bobber indicators. Visual checks include conditions of board weirs, removable screens, and general condition of the structure itself. If screens have debris collected on them, they are cleaned. If grit/stone debris is present, it is removed.

Flow data are downloaded on a monthly basis, and the overall condition of the flow monitoring equipment is observed. The instruction manual provided with the equipment for routine maintenance and operation is followed.

Removable bar screens have been installed in each diversion structure. The screens effectively trap most solid and floatable materials in the waste stream. The screens are removed and cleaned following significant precipitation events or on a weekly basis, whichever occurs more frequently.

Regulators No. 1 and 2 require more maintenance than other CSO structures. The regulators have a comprehensive maintenance check at least once per quarter. These checks include manually

checking float assemblies, weirs, hinged regulator doors, valves, screens, and gates. Debris is removed or flushed from the float chamber to ensure proper travel of the float. Hinged doors, valves and gates are inspected for debris and movement, and lubricant is provided as needed. Visual inspections are performed for structural integrity of the chambers themselves and repairs made as needed.

The other CSO structures are inspected for debris, which, if present, is removed. The hinged overflow doors are checked for movement and lubricated as needed.

5. Wet Weather Overflows

The Borough currently has five CSOs (Table 3). For 2020, there were 129 overflows, which compares to the average number of recorded overflows in the last five years of 164 overflows per year. The number of overflows in 2020 may be attributed to recorded precipitation in 2020 of 34 inches which is lower than average.

5.1 Adjustments to Minimize CSO's

Regulator No. 1 is kept closed at all times. The regulator is of the Brown & Brown® type. Thus all wastewater that arrives at Regulator No. 1 is directed to the Huntingdon WWTP for treatment and discharge to the Juniata River.

The Sewer Department has installed weirs in all diversion structures. The weirs cause sewage to back-up within influent sewers allowing increased storage within the collection system. The height of the weirs can be adjusted incrementally to achieve the maximum capacity available for storage. The weirs in each CSO were raised in 2013.

Table 3 Combined Sewer Overflow Occurrences in 2020

2019	Rainfall (in)	Regulator No. 1	Regulator No. 2	7th & Penn	16th & Oneida	4th & Allegheny	5th & Allegheny	Total
January	2.58	0	2	3	1	2	-	8
February	2.11	0	4	4	0	2	-	10
March	4.36	0	9	8	1	3	-	21
April	3.97	0	5	5	0	3	-	13
May	1.68	0	1	1	0	1	-	3
June	3.72	0	7	8	0	6	-	21
July	0.99	0	3	2	0	1	-	6
August	3.73	0	6	5	0	6	-	17
September	2.24	0	2	2	0	2	-	6
October	3.41	0	1	2	0	2	-	5
November	3.19	0	5	5	0	3	-	13
December	2.02	0	2	2	1	1	-	6
	Rainfall (in)	Regulator No. 1	Regulator No. 2	7th & Penn	16th & Oneida	4th & Allegheny	5th & Allegheny	Total
2020	34.0	0	47	47	3	32	0	129

2019	40.5	0	53	50	14	44	0	161
2018	56.8	0	92	87	21	56	0	256
2017	45.7	0	55	67	5	47	0	174
2016	22.4	0	38	42	2	37	0	119

5.2 Minimizing Flow to the Juniata River

The practice of keeping the Regulator No. 1 gate closed has reduced the amount of CSO's discharged to the Juniata River. In 2020 the total combined sewage discharged to the river for the year was estimated to be 17.2 MG (Table 4). This represented 8% of the total combined sewage. Thus, 92% of the combined sewage is estimated to have been captured compared to 89.6% in 2019, 93% in 2018, 93% in 2017, and 95% in 2016. In terms of precipitation, the measured combined sewage overflow was 0.51 MG/inch. In 2016, 2017, 2018, and 2019 it was 0.43, and 0.50 and 0.57 MG/inch, and 0.68 respectively, or an average of about 0.54 MG/inch over the preceding five years.

The volume of combined sewer overflows was determined by the flow meters placed at each of the CSO locations. The combined sewage captured was estimated by adding the flow to the wastewater treatment facility on all days where a precipitation event occurred, and subtracting out flows from SCIH, SCIC, Walker Township Municipal Authority, Penn Township, and Oneida Township.

Table 4 Volume of Combined Sewage Metered and Captured in 2020

	Rainfall (in)	Plant Flow (MG)	Regulator No. 1	Regulator No. 2	7th & Penn	16th & Oneida	4th & Allegheny	Total (MG)
January	2.58	83.3	0.000	0.528	0.551	0.004	0.054	1.137
February	2.11	78.3	0.000	0.368	0.418	0.000	0.003	0.789
March	4.36	106.7	0.000	1.222	1.356	0.065	0.118	2.761
April	3.97	96.6	0.000	0.629	0.437	0.000	0.193	1.259
May	1.68	72.5	0.000	0.001	0.016	0.000	0.066	0.083
June	3.72	58.4	0.000	0.165	0.635	0.000	1.181	1.981
July	0.99	49.1	0.000	0.025	0.021	0.000	0.011	0.057
August	3.73	49.7	0.000	0.061	0.427	0.000	1.06	1.548
September	2.24	45.6	0.000	0.083	0.165	0.000	0.048	0.296
October	3.41	52.9	0.000	0.47	0.672	0.000	0.024	1.166
November	3.19	62.1	0.000	0.373	1.103	0.000	0.199	1.675
December	2.02	81.8	0.000	1.345	2.739	0.343	0.01	4.437
Total	**34.0**	**837.1**	**0.000**	**5.27**	**8.54**	**0.412**	**2.967**	**17.189**

Table 4 Continued

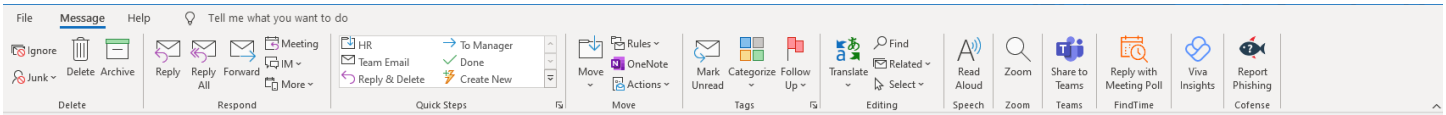
Estimated Volume of Combined Sewer Overflows (MG) =	17.2
Estimated Combined Sewage Captured (MG) =	198.1
Total Estimated Combined Sewage (MG) =	215.3
Percent Captured =	92.0%

Attachments 4 through 8 provide monthly records of CSO occurrences at the Borough's five overflow points throughout 2020.

6. Dry Weather Overflows

The plant superintendent reported that there were no other known dry weather overflows in 2020.

The Huntingdon Boro emails are below.



[External] RE: Huntingdon NPDES PA0026191 Permit Renewal CSO, the operations & maintenance plan question

Reply | Reply All | Forward

Kevin Nester <Kevin.Nester@ghd.com>
To Le, Hilary; Bebenek, Maria; Martin, Daniel
Cc John "Chris" Stevens; Roger Shaffer; Andy Glitzer; Qian Zhang; Judy Musselman; Kunkel, Summer

Wed 9/13/2023 11:52 AM

NMCP-O&M Program.pdf
3 MB

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Hilary,

Attached is the "Proper Operation and Regular Maintenance Programs" section of the Borough's Nine Minimum Control Plan (NMCP) and example "CSO Report" forms for each permitted CSO and "Preventative Maintenance Schedule" forms for Regulator 1 and 2. It is our understanding that "Proper Operation and Regular Maintenance Programs" has been in the NMCP since its development and that the Borough has been following it accordingly.

We hope this satisfies your concerns. Please let us know if we can be of further assistance.

Kevin J. Nester, PE
Project Manager

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From: Le, Hilary <hle@pa.gov>
Sent: Thursday, September 7, 2023 7:54 AM
To: Kevin Nester <Kevin.Nester@ghd.com>; Bebenek, Maria <mbebenek@pa.gov>; Martin, Daniel <daniemarti@pa.gov>
Cc: cstevens <cstevens@huntingdonboro.com>; Roger Shaffer <rshaffer@huntingdonboro.com>; Andy Glitzer <Andrew.Glitzer@ghd.com>; Qian Zhang <Qian.Zhang@ghd.com>; Judy Musselman <Judy.Musselman@ghd.com>; Le, Hilary <hle@pa.gov>; Kunkel, Summer <sukunkel@pa.gov>
Subject: Huntingdon NPDES PA0026191 Permit Renewal CSO, the operations & maintenance plan question

Hi Kevin,

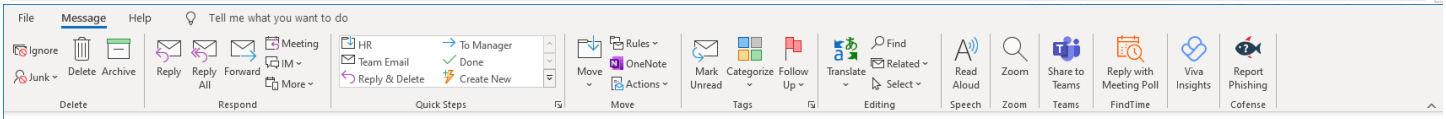
Thanks for CSO response via email on 8/14/2023!

Permit Part C: CSO Section, item B.1.- Conduct proper operations and regular maintenance programs – The permittee shall implement the ***operation and maintenance plan*** for the Combined Sewer System (CSS) that includes the elements listed below. The permittee shall also ***update the plan*** to incorporate any changes to the system and shall operate and maintain the system according to the plan.

Then I have this question:

- Does Huntingdon Boro have an operation & maintenance (O & M) plan or an update plan?

Thanks!
Hilary



[External] Huntingdon NPDES Permit Renewal CSO response.

Reply | Reply All | Forward

Kevin Nester <Kevin.Nester@ghd.com>
To Bebenek, Maria; Le, Hilary
Cc cstevens@huntingdonboro.com; Roger Shaffer; Andy Glitzer; Qian Zhang; Judy Musselman
You replied to this message on 9/7/2023 7:54 AM.

Mon 8/14/2023 1:08 PM

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Maria & Hilary,
In response to your email and as clarified during the 7/31/23 telephone conference call, below are the Combined Sewer Separation goals Huntingdon Borough's proposes to work toward over the next 5-year NPDES Permit cycle. We hope you find this proposal acceptable.
Verifying System Configuration:
Huntingdon Borough will endeavor to televise 1,000 feet of the 7- Street Combined Sewer System mains each year.
The Borough will perform nighttime evaluations, smoke testing, dye testing, etc. to verify the area served by and the connections to the televised mains.
Obtain permits as necessary to conduct work under, adjacent, or near the Norfolk Southern Railroad lines and PennDOT state highways.
Update Sewer System Mapping: Based on the information obtained from the evaluations above, the Borough will update Huntingdon Sewer System Mapping by December 31 of each year during the permit cycle.
Update Long-Term Control Plan: At the end of the 5-year permit cycle, Huntingdon Borough will update their Long-Term Control Plan based on the information and understanding gained above.

Kevin J. Nester, PE
Project Manager

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M 1 717 574 4056 **E** kevin.nester@ghd.com

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The Huntingdon Boro Consultant letter comments for renew draft is below.

1240 North Mountain Road
Harrisburg, PA 17112
USA
www.ghd.com

Reference: 11222367

April 15, 2022

Maria Bebenek, PE
PA DEP Clean Water Program Manager
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, PA 17110

Huntingdon Borough
Smithfield Township, Huntingdon County
Draft NPDES Permit No. PA0026191

Dear Ms. Bebenek,

A draft NPDES permit was received from DEP via email on March 30, 2022 for review. The draft permit was published in the April 16, 2022 *Pennsylvania Bulletin*. Therefore, comments are due to DEP by May 13, 2022.

GHD offers the following comments on draft NPDES Permit No. PA0026191 on behalf of Huntingdon Borough.

Draft NPDES Permit:

1. Page 1 – The Huntingdon WWTP is located in Smithfield Township, not Huntingdon Borough. **We request that DEP correct the WWTP municipal location.**
2. Page 2 – DEP has added Aluminum, Copper and Mercury testing and reporting at 2/week. Per Table 6-3 Self-Monitoring Requirements for Sewage Discharges in DEP's *Technical Guidance for the Development and Specification of Effluent Limits*, the recommended Toxics monitoring frequency for WWTPs of 1 to 5 MGD is 1/week. **We request that DEP change the monitoring frequency to 1/week for Aluminum and Copper (Mercury to be discussed later in this letter).**
3. Page 6 – Existing permit and permit application show incorrect coordinates for Outfall 005. The correct coordinates are in the Fact Sheet: 40° 29' 49.75" / -78° 0' 53.00". **We request that DEP correct the latitude and longitude coordinates for CSO Outfall 005 in the draft NPDES permit.**
4. Page 27 – Part C.IV.C shows two number 4 paragraphs. Renumbered paragraph 5.d should correctly state Superior Huntingdon Composites. **We request that DEP correct the numbering in this paragraph as well as correct the industrial facility name, which was provided in the permit renewal application.**

Draft Fact Sheet:

5. Page 1 – See #1 comment above. **We request that DEP correct the WWTP location to show Smithfield Township.**
6. Page 1 – Paragraph 2 under the Summary of Review incorrectly states there are (7) non-categorical significant industrial users. This statement should read there are (5) non-categorical significant industrial users and (2) non-categorical non-significant users. **We request that DEP correct this statement.**
7. Page 2 – Outfall 001 latitude and longitude coordinates do not match those in draft NPDES permit. **We request that DEP correct these coordinates.**

8. Page 7 – Other Comments: Same comment as in #6. **We request that DEP correct this statement.**
9. Page 15 – Total Dissolved Solids: The last comment reads, "The facility has no record of monitoring these pollutants. However, the application shows a maximum influent concentration of 35.2 mg/L for TDS." This statement is false. One (1) influent sample and (3) effluent samples were analyzed for TDS with an Influent TDS of 460 mg/L and a maximum Effluent TDS of 540 mg/L, neither of which exceeds 1,000 mg/L. **We request that DEP correct this statement.**
10. Page 16 – Refer to #3 comment to update latitude and longitude coordinates for CSO Outfall 005. **We request that DEP correct this information.**
11. Pages 18 &19 – Target IWCc is shown as 5.48% with a dilution series of 100%, 71%, 42%, 21% and 11%. However, page 32 of the draft NPDES permit shows a Target IWCc of 4% and a dilution series of 100%, 60%, 30%, 4% and 2%. **We request that DEP provide consistency between the draft NPDES permit and the Fact Sheet and determine which Target instream waste concentration and dilution series is correct.**
12. Pages 44-60 – The following discrepancies are noted in the Toxics Management Spreadsheet (TMS) prepared by DEP. Bottom line, Aluminum and Copper still have recommended monitoring requirements since the maximum discharge concentrations are > 10% WQBEL but Mercury goes away. GHD incorrectly did not report the (<) symbol on the permit application for Mercury. **We request that DEP make these corrections in the final TMS.**
    - Mercury max effluent concentration is <0.104 µg/L
    - Chlorobenzene max effluent concentration is <0.21 µg/L
    - Chloroethane max effluent concentration is <0.42 µg/L
    - Stream Hardness is 228 mg/L, which is found on page 2 of the permit application; DEP used default value of 100 mg/L. Hardness impacts metals that are Hardness dependent.
    - AFC Analysis Hardness is calculated as 221.83 mg/L
    - CFC Analysis Hardness is calculated as 226.83 mg/L
    - Aluminum WQBEL = 1,713 µg/L
    - Copper WQBEL = 67.7 µg/L

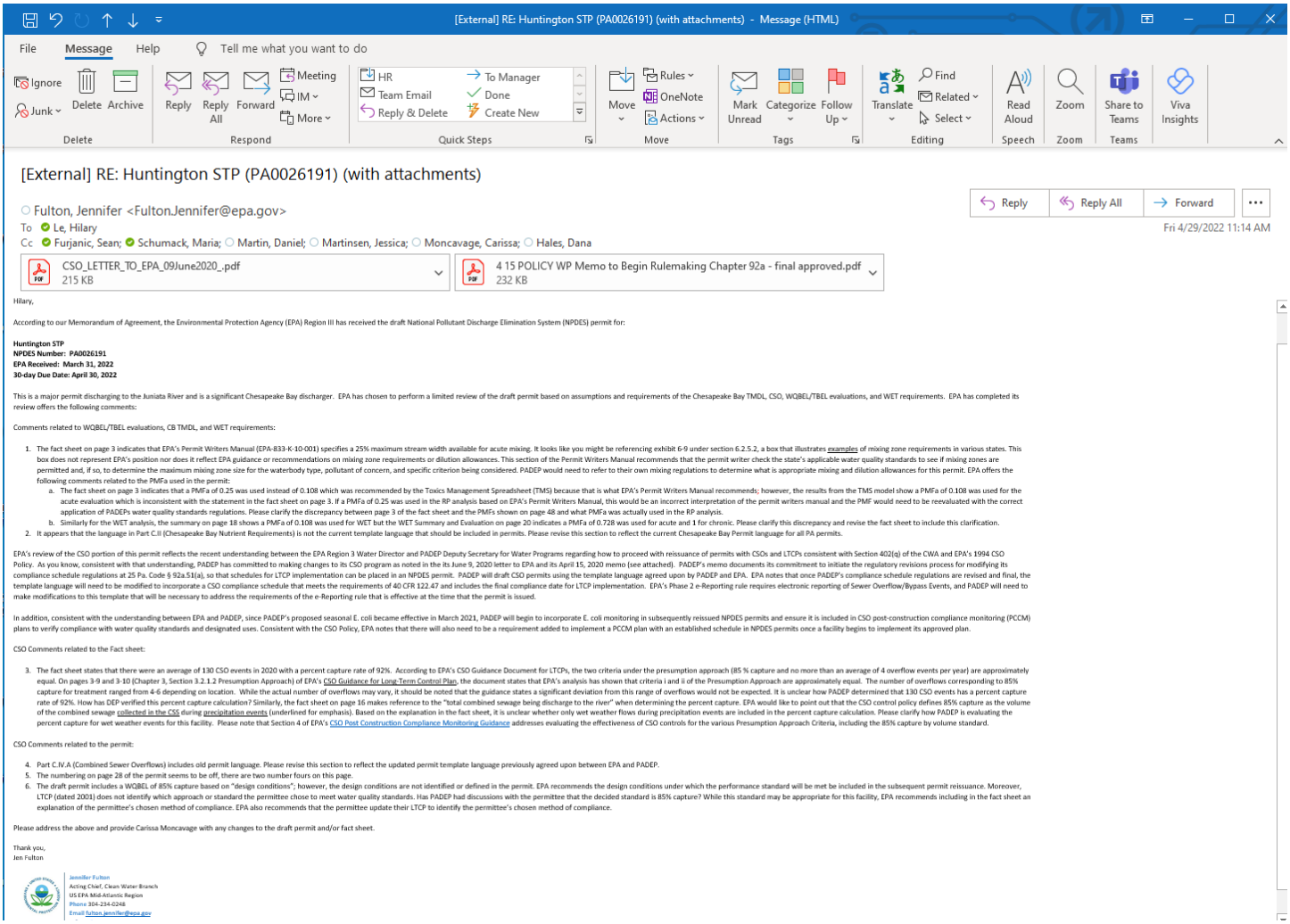
Regards

Judy Musselman, BCES QEP
Senior Environmental Scientist

717.585.6359
judy.musselman@ghd.com

Copy to: Hilary Le, DEP SCRO
Roger Shaffer, Huntingdon Borough

The EPA comments for 2022 renewal draft is below.



[External] RE: Huntington STP (PA0026191) (with attachments) - Message (HTML)

File Message Help Tell me what you want to do

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[External] RE: Huntington STP (PA0026191) (with attachments)

Reply Reply All Forward

Fulton, Jennifer <FultonJennifer@epa.gov>
To Le, Hilary
Cc Furjanic, Sean; Schumack, Maria; Martin, Daniel; Martinsen, Jessica; Moncavage, Carissa; Hales, Dana

Fri 4/29/2022 11:14 AM

CSO_LETTER_TO_EPA_09June2020_.pdf 215 KB
4 15 POLICY WP Memo to Begin Rulemaking Chapter 92a - final approved.pdf 232 KB

Hilary,

According to our Memorandum of Agreement, the Environmental Protection Agency (EPA) Region III has received the draft National Pollutant Discharge Elimination System (NPDES) permit for:

Huntington STP
NPDES Number: PA0026191
EPA Received: March 31, 2022
30-day Due Date: April 30, 2022

This is a major permit discharging to the Juniata River and is a significant Chesapeake Bay discharger. EPA has chosen to perform a limited review of the draft permit based on assumptions and requirements of the Chesapeake Bay TMDL, CSO, WQBEL/TBEL evaluations, and WET requirements. EPA has completed its review offers the following comments:

Comments related to WQBEL/TBEL evaluations, CB TMDL, and WET requirements:

1. The fact sheet on page 3 indicates that EPA's Permit Writers Manual (EPA-833-K-10-001) specifies a 25% maximum stream width available for acute mixing. It looks like you might be referencing exhibit 6-9 under section 6.2.5.2, a box that illustrates examples of mixing zone requirements in various states. This box does not represent EPA's position nor does it reflect EPA guidance or recommendations on mixing zone requirements or dilution allowances. This section of the Permit Writers Manual recommends that the permit writer check the state's applicable water quality standards to see if mixing zones are permitted and, if so, to determine the maximum mixing zone size for the waterbody type, pollutant of concern, and specific criterion being considered. PADEP would need to refer to their own mixing regulations to determine what is appropriate mixing and dilution allowances for this permit. EPA offers the following comments related to the PMFa used in the permit:
   a. The fact sheet on page 3 indicates that a PMFa of 0.25 was used instead of 0.108 which was recommended by the Toxics Management Spreadsheet (TMS) because that is what EPA's Permit Writers Manual recommends; however, the results from the TMS model show a PMFa of 0.108 was used for the acute evaluation which is inconsistent with the statement in the fact sheet on page 3. If a PMFa of 0.25 was used in the RP analysis based on EPA's Permit Writers Manual, this would be an incorrect interpretation of the permit writers manual and the PMF would need to be reevaluated with the correct application of PADEPs water quality standards regulations. Please clarify the discrepancy between page 3 of the fact sheet and the PMFs shown on page 48 and what PMFa was actually used in the RP analysis.
   b. Similarly for the WET analysis, the summary on page 18 shows a PMFa of 0.108 was used for WET but the WET Summary and Evaluation on page 20 indicates a PMFa of 0.728 was used for acute and 1 for chronic. Please clarify this discrepancy and revise the fact sheet to include this clarification.
2. It appears that the language in Part C.II (Chesapeake Bay Nutrient Requirements) is not the current template language that should be included in permits. Please revise this section to reflect the current Chesapeake Bay Permit language for all PA permits.

EPA's review of the CSO portion of this permit reflects the recent understanding between the EPA Region 3 Water Director and PADEP Deputy Secretary for Water Programs regarding how to proceed with reissuance of permits with CSOs and LTCPs consistent with Section 402(q) of the CWA and EPA's 1994 CSO Policy. As you know, consistent with that understanding, PADEP has committed to making changes to its CSO program as noted in the its June 9, 2020 letter to EPA and its April 15, 2020 memo (see attached). PADEP's memo documents its commitment to initiate the regulatory revisions process for modifying its compliance schedule regulations at 25 Pa. Code § 92a.51(a), so that schedules for LTCP implementation can be placed in an NPDES permit. PADEP will draft CSO permits using the template language agreed upon by PADEP and EPA. EPA notes that once PADEP's compliance schedule regulations are revised and final, the template language will need to be modified to incorporate a CSO compliance schedule that meets the requirements of 40 CFR 122.47 and includes the final compliance date for LTCP implementation. EPA's Phase 2 e-Reporting rule requires electronic reporting of Sewer Overflow/Bypass Events, and PADEP will need to make modifications to this template that will be necessary to address the requirements of the e-Reporting rule that is effective at the time that the permit is issued.

In addition, consistent with the understanding between EPA and PADEP, since PADEP's proposed seasonal E. coli became effective in March 2021, PADEP will begin to incorporate E. coli monitoring in subsequently reissued NPDES permits and ensure it is included in CSO post-construction compliance monitoring (PCCM) plans to verify compliance with water quality standards and designated uses. Consistent with the CSO Policy, EPA notes that there will also need to be a requirement added to implement a PCCM plan with an established schedule in NPDES permits once a facility begins to implement its approved plan.

CSO Comments related to the Fact sheet:

3. The fact sheet states that there were an average of 130 CSO events in 2020 with a percent capture rate of 92%. According to EPA's CSO Guidance Document for LTCPs, the two criteria under the presumption approach (85 % capture and no more than an average of 4 overflow events per year) are approximately equal. On pages 3-9 and 3-10 (Chapter 3, Section 3.2.1.2 Presumption Approach) of EPA's CSO Guidance for Long-Term Control Plan, the document states that EPA's analysis has shown that criteria i and ii of the Presumption Approach are approximately equal. The number of overflows corresponding to 85% capture for treatment ranged from 4-6 depending on location. While the actual number of overflows may vary, it should be noted that the guidance states a significant deviation from this range of overflows would not be expected. It is unclear how PADEP determined that 130 CSO events has a percent capture rate of 92%. How has DEP verified this percent capture calculation? Similarly, the fact sheet on page 16 makes reference to the "total combined sewage being discharge to the river" when determining the percent capture. EPA would like to point out that the CSO control policy defines 85% capture as the volume of the combined sewage collected in the CSS during precipitation events (underlined for emphasis). Based on the explanation in the fact sheet, it is unclear whether only wet weather flows during precipitation events are included in the percent capture calculation. Please clarify how PADEP is evaluating the percent capture for wet weather events for this facility. Please note that Section 4 of EPA's CSO Post Construction Compliance Monitoring Guidance addresses evaluating the effectiveness of CSO controls for the various Presumption Approach Criteria, including the 85% capture by volume standard.

CSO Comments related to the permit:

4. Part C.IV.A (Combined Sewer Overflows) includes old permit language. Please revise this section to reflect the updated permit template language previously agreed upon between EPA and PADEP.
5. The numbering on page 28 of the permit seems to be off, there are two number fours on this page.
6. The draft permit includes a WQBEL of 85% capture based on "design conditions"; however, the design conditions are not identified or defined in the permit. EPA recommends the design conditions under which the performance standard will be met be included in the subsequent permit reissuance. Moreover, LTCP (dated 2001) does not identify which approach or standard the permittee chose to meet water quality standards. Has PADEP had discussions with the permittee that the decided standard is 85% capture? While this standard may be appropriate for this facility, EPA recommends including in the fact sheet an explanation of the permittee's chosen method of compliance. EPA also recommends that the permittee update their LTCP to identify the permittee's chosen method of compliance.

Please address the above and provide Carissa Moncavage with any changes to the draft permit and/or fact sheet.

Thank you,
Jen Fulton

Jennifer Fulton
Acting Chief, Clean Water Branch
US EPA Mid-Atlantic Region
Phone 304-234-0248
Email fulton.jennifer@epa.gov

March 27, 2017

Ms. Sarah Wriglesworth
Department of Environmental Protection
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, PA 17110-8200

Dear Ms. Wriglesworth,

Re: Borough of Huntingdon
Combined Sewer Overflow Long Term Control Plan Update

As a result of the September 6, 2016 Combined Sewer System Inspection, DEP requested that the Borough revise its Combined Sewer Overflow Long Term Control Plan as follows:

- Update the combined sewer system map to show:
  - The area encompassed by each combined sewer basin.
  - The sanitary sewer basins tributary to each combined sewer basin.
  - The major trunk sewers and interceptors.
  - The outfall numbers.
- Update the Long-Term Control Plan Operations Plan to include how the De-Nitrification filter and the Trickling Filter bypasses are used.
- Update the Plan regarding current regulator operations.

The Borough has incorporated the requested revisions into the CSO mapping. Attached please find the map entitled "Combined Sewer System by Sewer Shed" for your information and review.

Regarding the other requested updates to the Huntingdon Borough CSO Long Term Control Plan we offer the following:

- **Operation of the Denitrification Filters and their Impact on the Combined Sewer Overflows**:

  The denitrification filters were placed into operation at the Huntingdon Wastewater Treatment Plant in 2011. The denitrification filters consist of 4 units each capable of treating 1.475 mgd of secondary effluent. Thus the denitrification filter process is able to treat 5.9 mgd of secondary effluent prior to ultraviolet disinfection. Secondary effluent flows in excess of 5.9mgd, are diverted directly to the ultraviolet disinfection system ((bypassing the denitrification filters) and then to discharge.

  The filters are normally operated in the semi-automatic mode. In semi-automatic all filter functions are automatic with the exception of backwashing. The backwashing function remains a manual function.

  The benefit of operating in the semi-automatic mode is that during wet weather no filters units are taken off line for backwashing. This maximizes the secondary effluent flow that receives treatment in the denitrification filters.

A denitrification filter operation that remains automatic in the semi-automatic mode is called a filter bump. During a bump, a filter is taken off line briefly to purge accumulated nitrogen gas built up in the filter. A bump occurs once every four hours for each filter cell. When a bump occurs the total filtering capacity is briefly reduced and a diversion could occur around the Denitrification Filters due to the reduced treatment capacity. However the bumps are very short (approximately 16 minutes in duration). Please note that since the implementation of the Cap Load TN Limits the Huntingdon Wastewater Treatment Plant has consistently complied with the Annual Total Nitrogen Cap Load Limits.

Thus the Borough of Huntingdon Wastewater Treatment Plant staff follows the following procedure when anticipating wet weather.

- Monitor the weather report daily.
- In advance of a wet weather event backwash all denitrification filter cells.
- Throughout the wet weather event operate the filters in the semi-automatic mode and refrain from backwashing filter units.
- When a wet weather event ceases and flows return to normal, backwash all four filter cells and return to normal operation.

- **Operation of the Trickling Filter Pump Station**:

The Trickling Filter Pump Station is equipped with three vertical turbine pumps. Each pump is capable of conveying 4000 gpm of forward sewage and recycle flow. The mode of operation is that two pumps are operating at all times supplying flow to both Trickling Filters. The third pump, the high level pump, is activated via a float switch. Should a wet weather event be such that the flow exceeds the capacity of Trickling Filter Pumps, the excess flow is diverted to the secondary clarifiers and subsequently to the denitrification filters, UV disinfection, and discharge. With each pump being able to convey approximately 4,000 gpm the Trickling Filter Pump Station is able to convey 12,000 gpm of flow (forward and recycle) to the Trickling Filters before the flow diversion is activated. This translates to 17.3 mgd forward and recycle flows.

- **Current Regulator Operations**:

Regarding the operation of Regulator No. 1, the Borough keeps this Regulator closed at all times. This directs all sewage flow arriving at Regulator No. 1 to the wastewater treatment plant for treatment and discharge. The existing outfall pipe to the Juniata River is long and partially submerged, thus there are times, due to the level of the Juniata River that false readings are indicated, however, with Regulator No. 1 closed at all times, no combined sewage is being discharged.

With respect to Regulator No. 2 located uptown near the old ice plant, the Borough keeps it open at all times. The capability exists to close Regulator No.2, however, the Borough has found that this increases the risk of sewage backups into homes.
Please note that the above operations approach for Regulators No. 1 & 2 has not caused the Borough to fail to meet the Presumptive Test of capturing for treatment at least 85% of the combined sewage during wet weather events every year.

In addition to the above, updates to the following sections of the Huntingdon Borough Combined Sewer Overflow Long Term Control Plan include:

- **1.1.2.3 - Sewer Separation**

  Since the completion and approval of the original Combined Sewer Overflow Long Term Control Plan in 1999 (copy enclosed), the Borough has completed improvements to their sewage collection system.

  In 2012 the Borough completed the construction of the Combined Sewer Overflow Separation project. This project separated the known combined sewers located in the 2nd Street and 5th Street Combined Sewer Sheds and resulted in the elimination of the 5th Street Combined Sewer Overflow.

  In 2015 the Borough completed the City League Field Sewer Replacement Project. This project separated the combined sewers in area of the City League Field parking lot. Storm water from this area is not diverted to Stone Creek via an 18" diameter outfall rather than it being conveyed to Regulator No.1.

  The Borough will continue to separate their remaining combined sewers as funding become available.

- **1.1.2.6 - Flow Diversion**

  The Borough investigated the possibility of diverting combined sewage between Regulator No. 1 and Regulator No. 2 drainage basins. These evaluations lead to the construction of the Allegheny Street Combined Sewer Overflow project. The project was completed in 2005 and involved the installation of a 48" diameter sewer in 4th Street that conveys storm water primarily to the Juniata River. Because the 4th Street Combined Sewer Outfall to the Juniata River was diverted to the 48" sewer because the outfall to the Juniata River that crossed under the railroad tracks had collapsed. The 48" diameter sewer discharges to the Juniata River adjacent to CSO Outfall 002.

- **1.1.3 - Storage Technologies**

  The Borough has fine-tuned the operation of their combined sewer system since the original Long Term Control Plan was completed and submitted in March 1999. With the exception of the 5th Street Diversion Chamber which has been eliminated, weirs at all diversion chambers have been raised to the maximum level possible so that the collection system will store as much combined sewage as possible before an overflow is activated. In addition, as previously mentioned, the Borough has separated the combined sewage in the Second Street, Fifth Street, and City League Field Parking Lot areas.

An explanation is in order regarding the combined sewers that remain in effect in the downtown area of the Borough. Recently, the Borough completed the separation of combined sewers in Second Street and Fifth Street as well as in the City League Baseball Field Parking Lot. This essentially has eliminated all combined sewers tributary to the existing 21" diameter interceptor sewer in Allegheny Street with the exception of the combined sewers in Fourth Street and relief flow from the 7th Street CSO sewer shed.

At 4th Street sewage is normally discharged to the 21" interceptor sewer in Allegheny Street. When the combined sewer diversion structure, located at 4th and Allegheny Streets is activated, combined sewage

is diverted to the 48" diameter sewer in Allegheny Street. In addition to the combined sewage from 4th Street, the 48-inch diameter sewer conveys storm water (collected along Allegheny Street from 4th Street to Stone Creek) to the Juniata River. The discharge point for this 48" sewer is adjacent to CSO 002.

In addition to the combined sewage from 4th Street, the only combined sewage entering into the 21-inch diameter interceptor sewer in Allegheny Street comes from the Seventh Street combined sewer shed. During times of very high flow, the combined sewers in the 7th Street sewer shed divert flow in excess of what CSO 004 can convey to the Juniata River to the 21" diameter interceptor at 6th and Allegheny Streets. The 21" diameter interceptor sewer conveys sewage to Regulator 1. Since the Borough keeps Regulator 1 closed at all times, this excess combined sewage from the 7th Street combined sewer shed and the combined sewage from the 4th Street combined sewer shed are conveyed to the Wastewater Treatment Plant for treatment and discharge.

We hope that this update to the Borough of Huntingdon Combined Sewer Overflow Long Term Control Plan satisfies any concerns you may have. If you have any questions or require any additional information, please do not hesitate to contact us. Or we will be happy to meet with you to discuss any questions or concerns you have at your convenience.

Sincerely,
GHD Inc.

Kevin J. Nester, PE
Project Manager

Enclosure

cc: William Wheeler (w/enclosure)
Huntingdon Borough (w/enclosure)
Bill Smith (w/enclosure)
Roger Shaffer (w/enclosure)
File (w/enclosure)

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, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☒	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☒	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☒	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 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, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 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, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☒	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: BPNPSM-PMT-033
☐	Other: