pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0266400**
Facility Type	**Industrial**	APS ID	**927503**
Major / Minor	**Minor**	Authorization ID	**1409166**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Newport Borough Water Authority Perry County**	Facility Name	**Newport Borough Wells #10 & #14**
Applicant Address	497 N Front Street	Facility Address	Adjacent and east of 155 Red Hill Road
	Newport, PA 17074-1609		Newport, PA 17074-1609
Applicant Contact	Penny Frownfelter	Facility Contact	Penny Frownfelter
Applicant Phone	(717) 567-6373	Facility Phone	(717) 567-6373
Client ID	51684	Site ID	819111
SIC Code	4941	Municipality	Howe Township
SIC Description	Trans. & Utilities - Water Supply	County	Perry
Date Application Received	September 1, 2022	EPA Waived?	Yes
Date Application Accepted	September 8, 2022	If No, Reason	

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

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	January 25, 2023
x		Daniel W. Martin, P.E. / Environmental Engineer Manager Maria D. Bebenek for	January 25, 2023
x		Maria D. Bebenek, P.E. / Environmental Program Manager Maria D. Bebenek	January 25, 2023

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Howe Treatment Plant- Wells #10 and #14 located at adjacent and east of 155 Red Hill Road, Newport, PA 17074 in Perry County, municipality of Howe. The existing permit became effective on November 1, 2017 and expired on October 31, 2022. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on September 1, 2022.

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

The subject facility is a 0.001 MGD average annual design flow treatment facility. The applicant anticipates the following proposed upgrades: (a) replacement of chlorine chemical feed, aeration system and zinc orthophosphate chemical feed (b) addition of pH adjustment chemical feed (c) removal/mothballing of potassium permanganate chemical feed and greensand filters with associated aluminum sulfate and polymer chemical feeds. The NPDES application has been processed as an Industrial Wastewater Facility due to the type of wastewater and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Perry County Commissioners and the Board of Supervisors- Howe Township and the notice was received by the parties on August 18, 2022 and August 22, 2022.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be Tributary 11463 of Juniata River. The sequence of receiving streams that the Tributary 11463 of Juniata River discharges into are Juniata River and the Susquehanna River which eventually drains into the Chesapeake Bay. The subject site is not subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for warm water fishes (WWF) and migratory fishes (MF). No Class A Wild Trout fisheries are impacted by this discharge. The absence of high quality and/or exceptional value surface waters removes the need for an additional evaluation of anti-degradation requirements.

The Tributary 11463 of Juniata River is a Category 2 stream listed in the 2022 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an attaining stream that supports aquatic life. The receiving waters is not subject to a total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **Monitoring 2x/yr shall be required for arsenic, copper, dissolved iron, and silver**

Sludge use and disposal description and location(s): The source of water for the facility is from groundwater. The facility is a drinking water plant. Minimal solids production is suspected.

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

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

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

1.0 Applicant

1.1 General Information

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

Facility Name:	Howe Treatment Plant – Wells #10 and #14
NPDES Permit #	PA0266400
Physical Address:	Adjacent and east of 155 Red Hill Road, Newport, PA
Mailing Address:	497 North Front Street Newport, PA 17074
Contact:	Penny Frownfelter Chairperson pfrownfelter@newportwater.com
Consultant:	Robert Hasemeier Barton and Loguidice rhasemeier@bartonandloguidice.com

1.2 Permit History

Permit submittal included the following information.

- NPDES Application
- Flow Diagrams
- Effluent Sample Data

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is adjacent and east of 155 Red Hill Road, Newport, PA. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

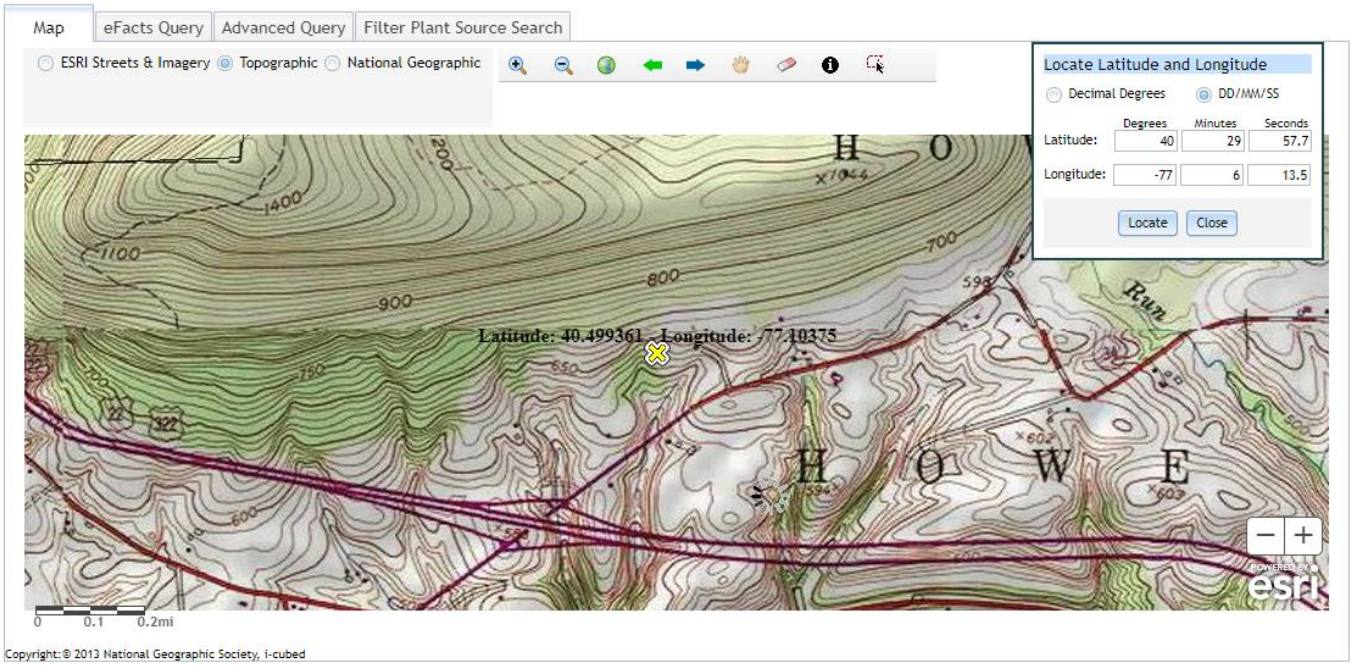
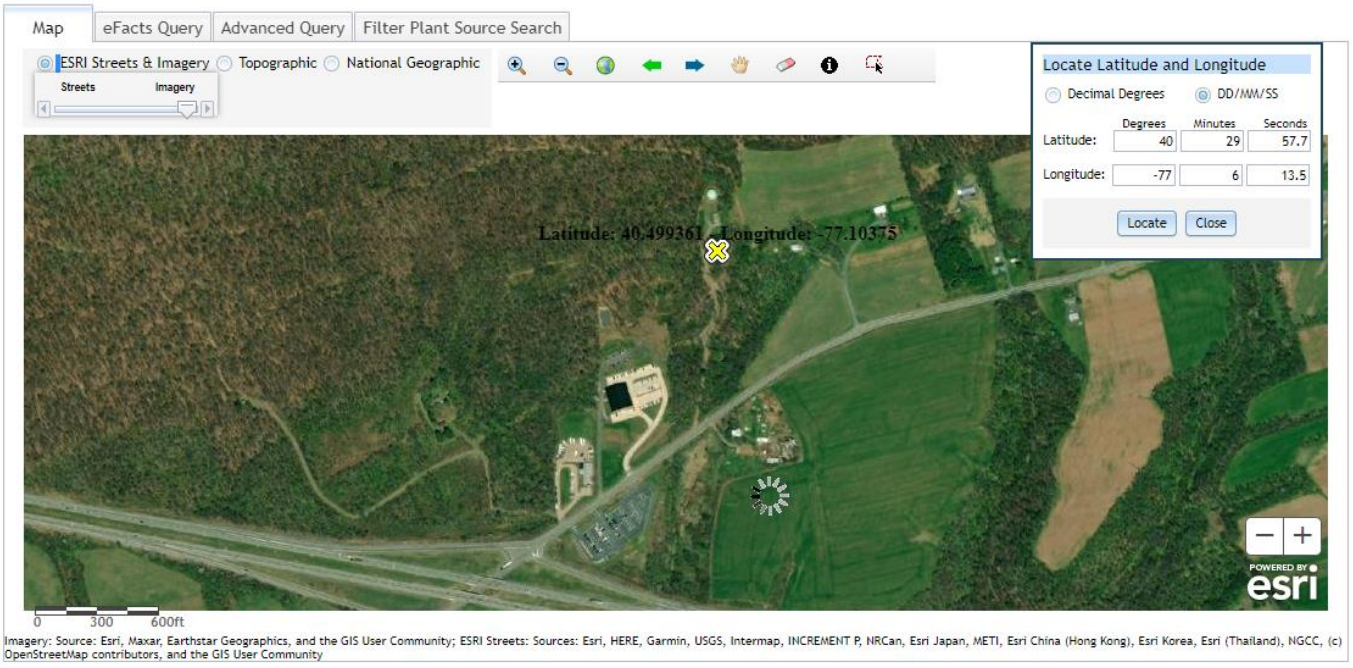
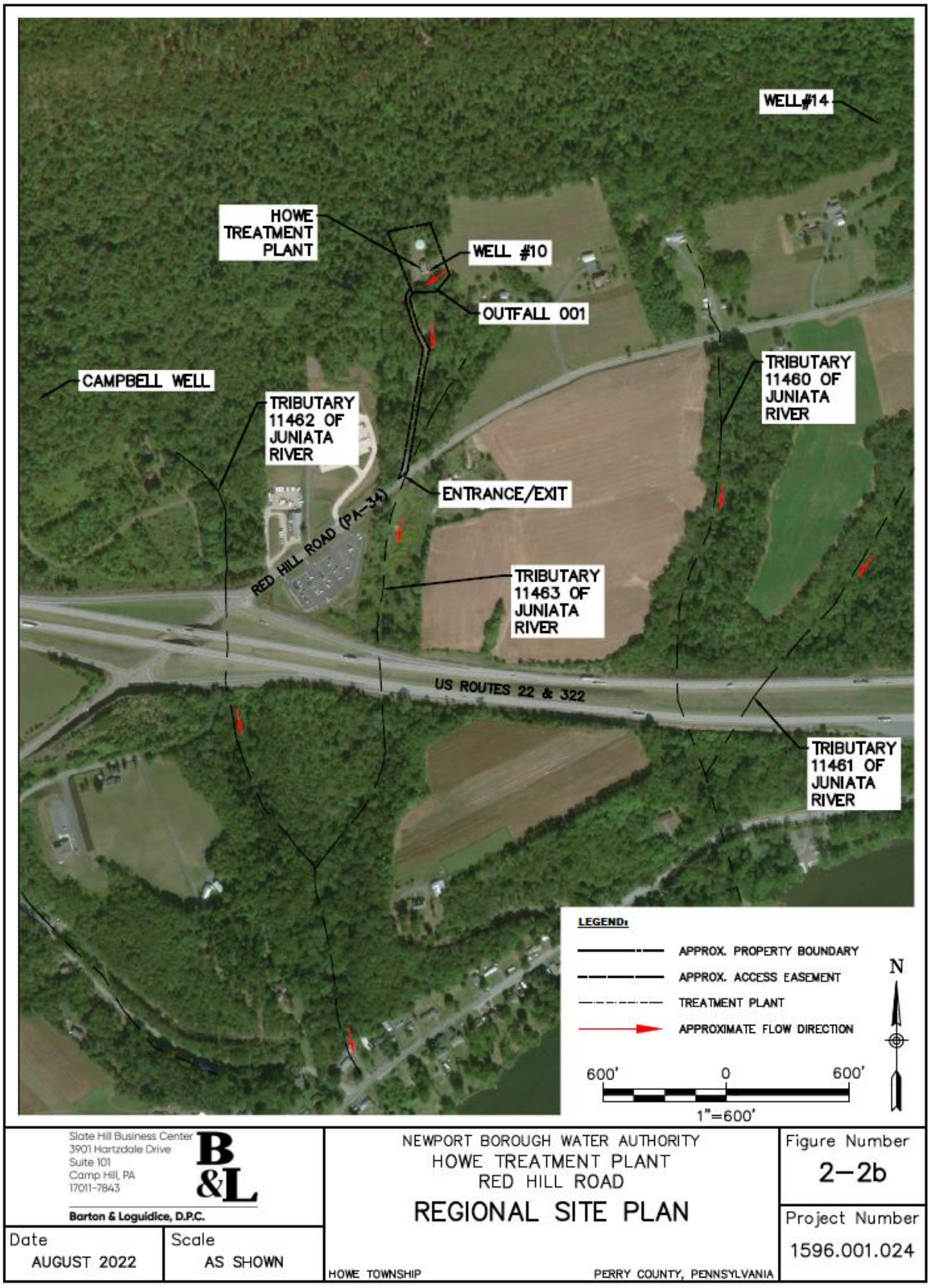


Figure 2: Aerial Photograph of the subject facility



Aerial Map with site features



2.1.2 Sources of Wastewater/Stormwater

The treatment plant is permitted for groundwater withdrawal from three wells- Well #10, Well #14, and the Campbell Well. Groundwater withdrawn from Wells #10 and #14 is subject to the entire water treatment process. Due to variations in water chemistry, groundwater withdrawn from the Campbell Well is disinfected and introduced into the treatment process following the clear well.

2.2 Description of Wastewater Treatment Process

The subject facility is a 0.001 MGD average annual design flow facility. The design capacity is 0.01 MGD. Discharges are composed of sample purge water (groundwater and/or finished water), floor drains, and greensand filter backwash (if needed).

The potable water treatment system was designed to operate with zero discharge but change in safe drinking water treatment regulations prevent recycling of supernatant back to the head of the water treatment plant. Currently, filter backwash wastewater goes to a concrete tank with operating volume of 17,950 gallons and the supernatant is hauled off site for disposal. The facility requests an approval to discharge an average of 0.001 mgd of supernatant resulting from backwashing the two sand filters to a dry ditch which eventually flows to unnamed tributary of Juniata River. The two sand filters are backwashed intermittently approximately weekly. The proposed operation of the plant is the filter backwash water will enter the existing concrete tank and settle for at least 2 days prior to discharge. The existing submersible pump in the tank intended for recycling flow back to the head of the treatment plant will be re-piped to pump supernatant via 2" pipe to a dry ditch which eventually flow to unnamed tributary to Juniata River (Abstracted from Fact Sheet dated for July 14, 2017).

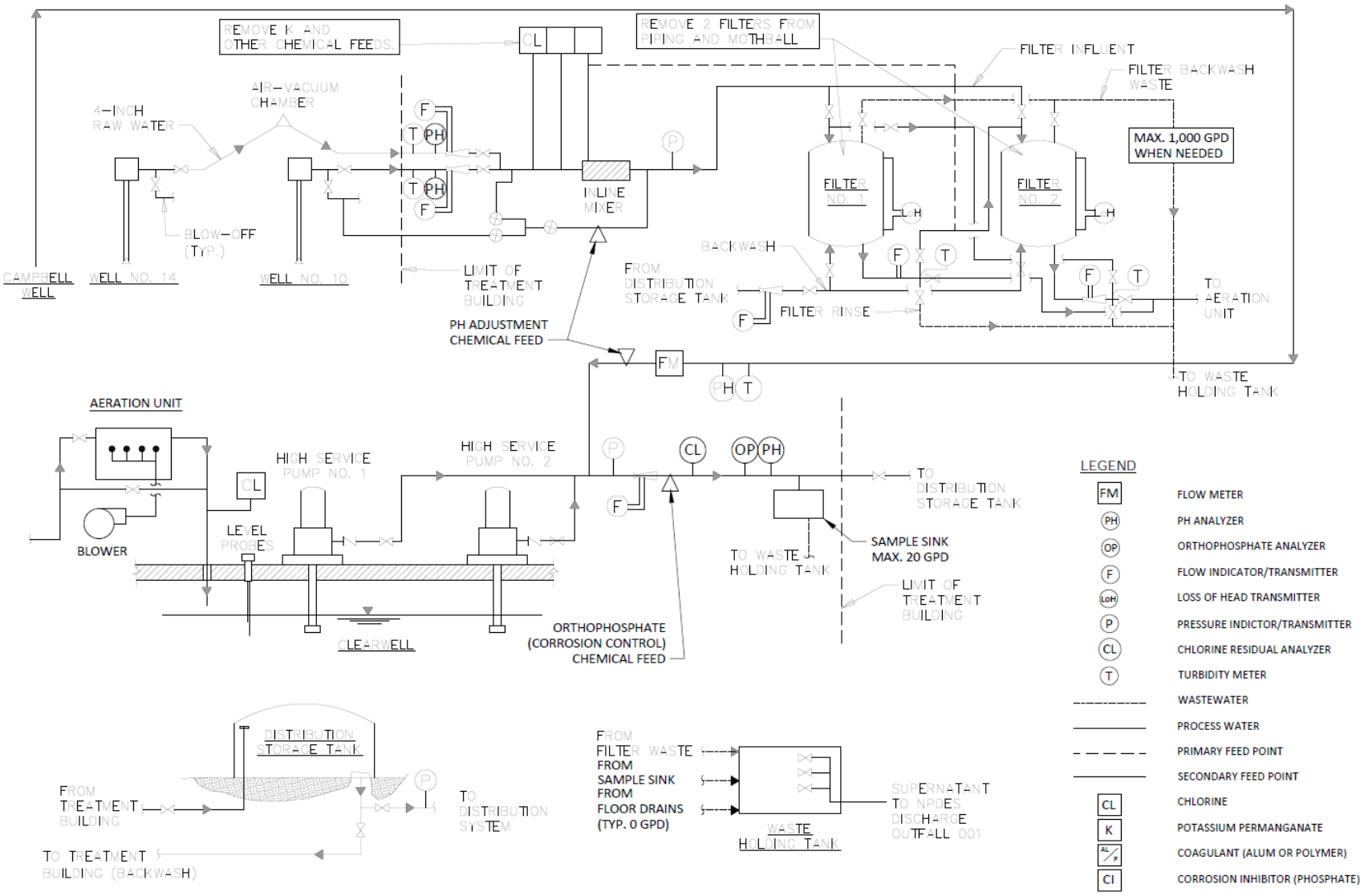
If greensand filters are operational, groundwater is withdrawn from Wells #10 and #14, disinfected using chlorine gas, and filtered.

The facility is being evaluated for flow, pH, TRC, TSS, aluminum, iron, and manganese. The existing permits limits for the facility is summarized in Section 2.4.

The treatment process is summarized in the table.

Treatment Facility Summary				
Treatment Facility Name: Newport Borough Well #10 & #14				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial			Chlorine gas	0.001
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**

A schematic of the process is depicted.



2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No.	001	**Design Flow (MGD)**	.001
Latitude	40º 29' 58.70"	**Longitude**	-77º 6' 13.50"
Wastewater Description:	Water Treatment Effluent		

2.3.1 Operational Considerations- Chemical Additives

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

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

- Aluminum sulfate to improve removal of very fine sediment
- Potassium permanganate to oxidize iron, manganese, and hydrogen sulfide
- Polymer to aid in settling
- Chlorine gas for disinfection

The facility proposes to use caustic soda for pH control in the future.

2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

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

I. A. For Outfall 001 , **Latitude** 40º 29' 58.70" , **Longitude** 77º 6' 13.50" , **River Mile Index** 0.5100 , **Stream Code** 11463

Receiving Waters: Unnamed Tributary to Juniata River

Type of Effluent: Water Treatment Effluent

1. The permittee is authorized to discharge during the period from **November 1, 2017** through **October 31, 2022**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2)	
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Required Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Calculation	Weekly when Discharging
pH (S.U.)	XXX	XXX	5.0	XXX	9.0 Max	XXX	1/week	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	Report	XXX	Report	1/week	Grab
Total Suspended Solids	Report	Report	XXX	30.0	60.0	75	2/month	Grab
Aluminum, Total	Report	Report	XXX	4.0	8.0	9	2/month	Grab
Iron, Total	Report	Report	XXX	2.0	4.0	5	2/month	Grab
Manganese, Total	Report	Report	XXX	1.0	2.0	2.5	2/month	Grab

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

at Outfall 001

3.0 Facility NPDES Compliance History

3.1 Summary of Inspections

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

The DEP inspector noted the following during the inspection.

12/9/2019: There was nothing significant to report.

3.2 Summary of DMR Data

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility below the design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 0.00229 MGD. The design capacity of the treatment system is 0.01 MGD.

The off-site laboratory used for the analysis of the parameters was ALS Global located at 301 Fulling Mill Road, Middletown, PA 17057.

DMR Data for Outfall 001 (from August 1, 2021 to July 31, 2022)

Parameter	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21
Flow (MGD) Average Monthly	0.00137	0.00159	0.00229	0.00137	0.001202	0.00178	0.00132	0.00128	0.00133	0.00174	0.00132	0.00135
Flow (MGD) Daily Maximum	0.0108	0.0114	0.0129	0.0129	0.007875	0.01095	0.00855	0.00765	0.0054	0.00435	0.0069	0.0042
pH (S.U.) Minimum	7.4	7.29	7.30	7.3	7.4	7.34	7.50	7.41	7.31	7.27	7.16	7.36
pH (S.U.) Maximum	7.74	7.77	7.61	7.99	7.71	7.76	7.58	7.84	7.62	7.63	7.40	7.79
TRC (mg/L) Average Monthly	0.34	0.19	0.26	0.2	0.36	0.39	< 0.035	< 0.04	0.03	0.05	0.06	0.098
TRC (mg/L) Instantaneous Maximum	0.41	0.27	0.43	0.25	0.41	0.42	0.09	< 0.10	0.05	0.10	0.10	0.22
TSS (lbs/day) Average Monthly	< 0.30	< 0.01	0.80	< 0.2	< 0.02	< 0.02	< 0.09	< 0.07	< 0.06	< 0.1	0.09	< 0.10
TSS (lbs/day) Daily Maximum	< 0.50	0.02	0.90	< 0.3	< 0.03	0.02	0.09	< 0.09	0.1	0.1	0.20	< 0.10
TSS (mg/L) Average Monthly	< 5.0	< 6.0	13.0	< 5.0	< 5.0	< 5.0	7.0	< 5.0	< 5.0	< 5.0	7.0	< 5.0
TSS (mg/L) Daily Maximum	< 5.0	6.0	17.0	< 5.0	5.0	5.0	9.0	< 5.0	5.0	0.10	7.0	< 5.0
Total Aluminum (lbs/day) Average Monthly	< 0.003	< 0.00009	< 0.05	< 0.002	< 0.0003	< 0.0002	< 0.00083	< 0.0007	< 0.0006	< 0.001	< 0.0008	< 0.01
Total Aluminum (lbs/day) Daily Maximum	< 0.005	< 0.0001	< 0.05	< 0.003	0.0003	< 0.0002	< 0.00083	< 0.0009	< 0.001	< 0.001	< 0.001	0.02
Total Aluminum (mg/L) Average Monthly	< 0.05	< 0.05	< 0.003	< 0.05	< 0.09	< 0.05	< 0.05	< 0.0025	< 0.1	< 0.1	< 0.05	< 1.0
Total Aluminum (mg/L) Daily Maximum	< 0.05	< 0.05	< 0.004	< 0.05	0.13	< 0.05	< 0.05	< 0.0025	< 0.05	< 0.05	< 0.05	1.1
Total Iron (lbs/day) Average Monthly	< 0.002	< 0.00006	< 0.002	< 0.001	< 0.0001	< 0.0001	0.00072	< 0.0004	< 0.0003	< 0.0008	< 0.0005	< 0.0007
Total Iron (lbs/day) Daily Maximum	< 0.003	< 0.00008	< 0.002	< 0.002	< 0.0002	< 0.0001	0.0053	< 0.0005	< 0.0006	< 0.0008	< 0.0008	< 0.0008
Total Iron (mg/L) Average Monthly	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.0655	< 0.03	< 0.1	< 0.1	< 0.03	0.03
Total Iron (mg/L) Daily Maximum	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	0.078	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

Total Manganese (lbs/day) Average Monthly	< 0.0001	< 0.000005	< 0.0002	< 0.0001	0.0001	< 0.000009	< 0.00041	< 0.00003	< 0.00003	< 0.002	< 0.00004	0.0002
Total Manganese (lbs/day) Daily Maximum	< 0.0002	< 0.000006	< 0.0002	< 0.0002	< 0.00002	< 0.000009	< 0.00041	< 0.00004	< 0.00005	< 0.00007	< 0.00007	0.0003
Total Manganese (mg/L) Average Monthly	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.1	< 0.0025	< 0.05	< 0.0025
Total Manganese (mg/L) Daily Maximum	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.05	0.0003

3.3 Non-Compliance

3.3.1 Non-Compliance- NPDES Effluent

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

From the DMR data beginning in November 1, 2017 to December 27, 2022, there were no observed effluent non-compliances.

3.3.2 Non-Compliance- Enforcement Actions

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

Beginning in November 1, 2017 to December 27, 2022, the following were observed enforcement actions.

Summary of Enforcement Actions
Beginning November 1, 2017 and Ending December 27, 2022

FACILITY	ENF ID	ENF TYPE	ENF TYPE DESC	ENF CREATION DATE	EXECUTED DATE	INITIATED DATE	VIOLATIONS
NEWPORT BOROUGH WELL #10 & #14	404498	NOV	Notice of Violation	06/10/2022	06/10/2022	06/01/2022	92A.75(A)

3.4 Summary of Biosolids Disposal

A summary of the biosolids disposed of from the facility is as follows.

The source of water for the facility is from groundwater. The facility is a drinking water plant. Minimal solids production is suspected.

3.5 Open Violations

No open violations existed as of January 2023.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be Tributary 11463 of Juniata River. The sequence of receiving streams that the Tributary 11463 of Juniata River discharges into are Juniata River and the Susquehanna River which eventually drains into the Chesapeake Bay.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is Suez Water (PWS ID #7220015) located approximately 19 miles downstream of the subject facility on the Susquehanna River. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

4.3 Class A Wild Trout Streams

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

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

4.4 2022 Integrated List of All Waters (303d Listed Streams)

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

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

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

The receiving waters is listed in the 2022 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 2 waterbody. The surface waters is an attaining stream that supports aquatic life. The designated use has been classified as protected waters for warm water fishes (WWF) and migratory fishes (MF).

4.5 Low Flow Stream Conditions

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

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

The closest WQN station to the subject facility is the Susquehanna River @ Harrisburg (WQN202). This WQN station is located approximately 25 miles downstream of the subject facility.

The closest gauge station to the subject facility is the Juniata River at Newport, PA (USGS station number 1567000). This gauge station is located approximately 2.6 miles upstream of the subject facility on the Juniata River.

For WQM modeling, pH and stream water temperature data from the water quality network station was used. pH was estimated to be 8.25 and the stream water temperature was estimated to be 23.75 C.

The hardness of the stream was collected from samples. The hardness was 116 mg/l $CaCO_3$.

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

Gauge Station Data			
USGS Station Number	1567000		
Station Name	Juniata River at Newport, PA		
Q710	367	ft^3/sec	
Drainage Area (DA)	3354	mi^2	
Calculations			
The low flow yield of the gauge station is:			
Low Flow Yield (LFY) = Q710 / DA			
LFY =	(367 ft^3/sec / 3,354 mi^2)		
LFY =	0.1094	$ft^3/sec/mi^2$	
The low flow at the subject site is based upon the DA of		0.0688	mi^2
Q710 = (LFY@gauge station)(DA@Subject Site)			
Q710 = (0.1094 $ft^3/sec/mi^2$)(0.0688 mi^2)			
Q710 =	0.008	ft^3/sec	

4.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.001
Latitude	40º 29' 55.15"	Longitude	-77º 6' 10.69"
Quad Name		Quad Code	
Wastewater Description:	Water Treatment Effluent		

Receiving Waters	Unnamed Tributary to Juniata River (WWF, MF)	Stream Code	11463
NHD Com ID	66205981	RMI	0.5
Drainage Area	0 (discharge to dry ditch)	Yield (cfs/mi^2)	0.1094
Q_{7-10} Flow (cfs)	0.008	Q_{7-10} Basis	Gauge Station/BPJ
Elevation (ft)	652	Slope (ft/ft)	
Watershed No.	12-B	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93 class	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s) supports aquatic life		
Cause(s) of Impairment	Not appl.		
Source(s) of Impairment	Not appl.		
TMDL Status	Not appl.	Name	

Background/Ambient Data		Data Source
pH (SU)	8.25	WQN202; Median July to Sept
Temperature (°C)	23.75	WQN202; Median July to Sept
Hardness (mg/L)	116	Sampling for NPDES permit
Other:		

Nearest Downstream Public Water Supply Intake		Suez Water	
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	76	Distance from Outfall (mi)	19

5.0: Overview of Presiding Water Quality Standards

5.1 General

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

5.2.1 Technology-Based Limitations

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Permit limits for water treatment plant wastes are subject to handling and disposal of water treatment plant (WTP) using Best Practicable Control Technology (BPCT) currently available. Waste water from treatment of WTP sludges and filter backwash shall have the following permit limits.

Parameter	Monthly Average	Daily Max
	mg/l	mg/l
Suspended Solids	30	60
Iron (total)	2	4
Aluminum (total)	4	8
Manganese (total)	1	2
pH	6 - 9	-----
TRC	0.5	1

Notes:
Source: TECHNOLOGY-BASED CONTROL REQUIREMENTS FOR WATER TREATMENT PLANT WASTES

5.3 Water Quality-Based Limitations

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

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

The modeling point nodes utilized for this facility are summarized below.

General Data 1	(Modeling Point #1)	(Modeling Point #2)	Units
Stream Code	11463	11463	
River Mile Index	0.5	0	miles
Elevation	652	445	feet
Latitude	40.499639	40.491921	
Longitude	-77.10375	-77.105767	
Drainage Area	0.0688	0.19	sq miles
Low Flow Yield	0.008	0.008	cfs/sq mile

5.3.1 Water Quality Modeling 7.0

The facility is not subject to WQM.

5.3.2 Toxics Modeling

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

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

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

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

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

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

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

To determine if Toxics modeling is necessary, DEP has developed a Toxics Management Spreadsheet to identify toxics of concern. Toxic pollutants whose maximum concentrations as reported in the permit application or on DMRs are greater than the most stringent applicable water quality criterion are pollutants of concern. A Reasonable Potential Analysis was utilized to determine (a) if the toxic parameters modeled would require monitoring or (b) if permit limitations would be required for the parameters. The toxics reviewed for reasonable potential were the pollutants in Groups 1 and 2.

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

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

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

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

5.3.3 Whole Effluent Toxicity (WET)

The facility is not subject to WET.

5.4 Total Maximum Daily Loading (TMDL)

5.4.1 TMDL

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

A TMDL for a given pollutant and waterbody is composed of the sum of individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background levels. In addition, the TMDL must include an implicit or explicit margin of safety (MOS) to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving waterbody. The TMDL components are illustrated using the following equation:

$$TMDL = \Sigma WLAs + \Sigma LAs + MOS$$

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

5.4.1.1 Local TMDL

The subject facility does not discharge into a local TMDL.

5.4.1.2 Chesapeake Bay TMDL Requirement

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

Most of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the federal Water Pollution Control Act ("Clean Water Act"), 33 U.S.C. § 1313(d). While the Chesapeake Bay is outside

the boundaries of Pennsylvania, more than half of the State lies within the watershed. Two major rivers in Pennsylvania are part of the Chesapeake Bay Watershed. They are (a) the Susquehanna River and (b) the Potomac River. These two rivers total 40 percent of the entire Chesapeake Bay watershed.

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

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

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

Phase 3 WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. The latest revision of the supplement was September 13, 2021.

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

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

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

Cap Loads will be established in permits as Net Annual TN and TP loads (lbs/yr) that apply during the period of October 1 – September 30. For facilities that have received Cap Loads in any other form, the Cap Loads will be modified accordingly when the permits are renewed.

Offsets have been incorporated into Cap Loads in several permits issued to date. From this point forward, permits will be issued with the WLAs as Cap Loads and will identify Offsets separately to facilitate nutrient trading activities and compliance with the TMDL.

Based upon the supplement the subject facility has been categorized as a Sector C discharger. The supplement defines Sector C as a non-significant dischargers include sewage facilities (Phase 4 facilities: ≥ 0.2 MGD and < 0.4 MGD and Phase 5 facilities: > 0.002 MGD and < 0.2 MGD), small flow/single residence sewage treatment facilities (≤ 0.002 MGD), and non-significant IW facilities, all of which may be covered by statewide General Permits or may have individual NPDES permits.

At this time, there are approximately 850 Phase 4 and 5 sewage facilities, approximately 715 small flow sewage treatment facilities covered by a statewide General Permit, and approximately 300 non-significant IW facilities.

For non-significant IW facilities, monitoring and reporting of TN and TP will be required throughout the permit term in renewed or amended permits anytime the facility has the potential to introduce a net TN or TP increase to the load contained within the intake water used in processing. In general, facilities that discharge groundwater and cooling water with no addition of chemicals containing N or P do not require monitoring.

Non-significant IW facilities that propose expansion or production increases and as a result will discharge at least 75 lbs/day TN or 25 lbs/day TP (on an annual average basis), will be classified as Significant IW dischargers and receive Cap Loads in their permits based on existing performance (existing TN/TP concentrations at current average annual flow).

In general, for new non-significant IW discharges (including existing facilities discharging without a permit), DEP will issue permits containing Cap Loads of "0" and these facilities will be expected to purchase credits and/or apply offsets to achieve compliance.

Since this facility is not suspected of generating nitrogen and phosphorus, the facility will not be subject to Sector C monitoring requirements.

5.5 Anti-Degradation Requirement

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

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

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

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

5.6 Anti-Backsliding

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

6.0 NPDES Parameter Details

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

The reader will find in this section:

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

6.1 Recommended Monitoring Requirements and Effluent Limitations

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

6.1.1 Conventional Pollutants and Disinfection

Consistent with the Fact Sheet dated for July 2017, no effluent limits were employed for TRC since the TRC levels were relatively low.

For this permit renewal, the TRC from DMR from August 2021 to July 2022 ranged from 0.03 mg/l to 0.39 mg/l. The TBEL limits from the DEP guidance document entitled Water Treatment Plant Wastes are 0.50 mg/l as an average monthly and 1 mg/l as a daily max. Monitoring shall continue at 1x/wk. The next renewal cycle is likely to include limits for TRC.

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection
Newport Borough Water Authority, PA0266400

Parameter	Permit Limitation Required by[1]:	Recommendation	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be 1x/wk as a grab sample (Table 6-4).
		Effluent Limit:	Effluent limits may range from pH = 5.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-4 and the effluent limits assigned by Chapter 95.2(1).
TSS	DEP Guidance Document-Water Treatment Plant Wastes	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-4).
		Effluent Limit:	The effluent shall not exceed 30 mg/l as an average monthly
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by the Water Treatment Plant Wastes guidance document.
TRC	DEP Guidance Document-Water Treatment Plant Wastes	Monitoring:	The monitoring frequency shall be on a 1x/wk basis as a grab sample (Table 6-4).
		Effluent Limit:	No effluent limit.
		Rationale: Chlorine in both combined (chloramine) and free form is extremely toxic to freshwater fish and other forms of aquatic life (Implementation Guidance Total Residual Chlorine 1). The TRC effluent limitations to be imposed on a discharger shall be the more stringent of either the WQBEL or TBEL requirements and shall be expressed in the NPDES permit as an average monthly and instantaneous maximum effluent concentration (Implementation Guidance Total Residual Chlorine 4). Based on the stream flow rate (lowest 7-day flow rate in 10 years) and the design flow rate of the subject facility calculated by the TRC Evaluation worksheet, the TBEL is more stringent than the WQBEL. The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.48(b)(2)	

Notes:

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

2 Monitoring frequency based on flow rate of 0.001 MGD.

3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

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

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.1.2 Toxics

The NPDES application submitted on September 1, 2022 failed to include sampling data for the pollutant groups. DEP requested sampling. Barton and Loguidice coordinated the collection of two grab samples from the holding tank. The consultant claims that the low flow rate generated necessitated grab samples. Typically, DEP requires a total of three composite samples. The current permit allows for grab sampling.

The table summarizes the sampling results.

Sampling Results

Parameter	10/20/2022		10/27/2022		Max		DEP Target QL
Aluminum, Total (µg/L)		12		7.6		12	
Antimony, Total (µg/L)	<	1	<	1	<	1	
Arsenic, Total (µg/L)		4.4		3.8		4.4	3
Barium, Total (µg/L)		190		170		190	
Beryllium, Total (µg/L)	<	0.5	<	0.5	<	0.5	
Boron, Total (µg/L)	<	50	<	50	<	50	
Cadmium, Total (µg/L)	<	0.2	<	0.2	<	0.2	
Chromium, Total (µg/L)	<	1	<	1	<	1	
Chromium, Hexavalent (µg/L)	<[A]	20	<[C]	20	<	20	
Cobalt, Total (µg/L)	<	2.5	<	2.5	<	2.5	
Copper, Total (µg/L)		4.8		4.7		4.8	4
Cyanide, Total (µg/L)		3.6	<	4	<	4	
Iron, Total (µg/L)	<	30	<	30	<	30	
Iron, Dissolved (µg/L)	<	60	<	60	<	60	20
Lead, Total (µg/L)	<	1	<	1	<	1	
Manganese, Total (µg/L)	<	2.5	<	2.5	<	2.5	
Mercury, Total (µg/L)	<	0.2	<	0.2	<	0.2	
Molybdenum, Total (µg/L)	<	1	<	1	<	1	
Nickel, Total (µg/L)	<	2.5	<	2.5	<	2.5	
Phenols, Total (µg/L)	<[B]	4	<	4	<	4	
Selenium, Total (µg/L)		0.77		0.77		0.77	5
Silver, Total (µg/L)	<	0.5	<	0.5	<	0.5	0.4
Thallium, Total (µg/L)	<	0.5	<	0.5	<	0.5	
Zinc, Total (µg/L)		3.5		2.8		3.5	

Notes:

- Sampling results from 10/20/22 and 10/27/22

-DEP Target QL have been input in the table for those parameters flagged by TMS

[A]Analyte was analyzed past the 24 hour holding time.

[B]The QC sample type MS for method SW846 9066 was outside the control limits for the analyte Phenolics. The % Recovery was reported as 141 and the control limits were 90 to 110

[C]The holding time for EPA Method 218.6 is 24 hours. Per 40 CFR Part 136, EPA Method 218.6 allows a 28-day holding time if samples are preserved to pH 9.3 to 9.7 with ammonium sulfate buffer upon collection. This sample had a pH outside of this range upon receipt, and was analyzed after the 24 hour holding time had expired.

The design flow rate is 0.01 MGD. The average annual flow rate is 0.001 MGD. Due to the discontinued use of the greensand filters, discharges to Outfall 001 fell significantly below the 0.001 MGD design flows needed for the filter backwash. Current discharges are generated from sample purge water in the facilities sampling sink and amount to less than 100 gallons per week.

Modeling was completed using 0.001 MGD and at 0.01 MGD.

Using 0.001 MGD flow rate, no toxics were flagged for modeling.

A correspondence dated for September 28, 2017, indicated that at certain times, discharge of up to 0.01 MGD (10,000 gpd) is necessary. Using 0.01 MGD, arsenic, copper, dissolved iron, selenium, and silver were flagged for modeling.

Since modeling at 0.002 MGD would show monitoring for some of the toxics, monitoring shall be required 2x/yr for the following parameters: arsenic, copper, dissolved iron, and silver. The applicant should recognize the following:

- Selenium was J flagged and did not exceed DEP target QL of 5 ug/l. Monitoring was not recommended for this parameter.
- Dissolved iron and silver were likely flagged for monitoring since the detection limits were above DEP target quantitation limits.
- Provided favorable sampling results, future renewals may reduce or eliminate monitoring.

Summary of Proposed NPDES Parameter Details for Toxics

Newport Borough Water Authority, PA0266400

Parameter	Permit Limitation Required by[1]:	Recommendation	
Aluminum	DEP Guidance Document-Water Treatment Plant Wastes	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-3).
		Effluent Limit:	The performance effluent limit shall not exceed 4 mg/l as a monthly average.
		Rationale:	Effluent limits are defined by DEP Guidance Document- Technology-Based Control Requirements for Water Treatment Plant Wastes- Waste Water from Treatment of WTP Sludges and Filter Backwash
Iron	DEP Guidance Document-Water Treatment Plant Wastes	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-3).
		Effluent Limit:	The performance effluent limit shall not exceed 2 mg/l as a monthly average.
		Rationale:	Effluent limits are defined by DEP Guidance Document- Technology-Based Control Requirements for Water Treatment Plant Wastes- Waste Water from Treatment of WTP Sludges and Filter Backwash
Manganese	DEP Guidance Document-Water Treatment Plant Wastes	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-3).
		Effluent Limit:	The performance effluent limit shall not exceed 1 mg/l as a monthly average.
		Rationale:	Effluent limits are defined by DEP Guidance Document- Technology-Based Control Requirements for Water Treatment Plant Wastes- Waste Water from Treatment of WTP Sludges and Filter Backwash
Arsenic	WQBEL	Monitoring:	The monitoring frequency shall be 2x/yr as a grab sample.
		Effluent Limit:	No effluent requirements
		Rationale:	Water quality modeling recommends monitoring.
Copper	WQBEL	Monitoring:	The monitoring frequency shall be 2x/yr as a grab sample.
		Effluent Limit:	No effluent requirements
		Rationale:	Water quality modeling recommends monitoring.
Dissolved Iron	WQBEL	Monitoring:	The monitoring frequency shall be 2x/yr as a grab sample.
		Effluent Limit:	No effluent requirements
		Rationale:	Water quality modeling recommends monitoring.
Silver	WQBEL	Monitoring:	The monitoring frequency shall be 2x/yr as a grab sample.
		Effluent Limit:	No effluent requirements
		Rationale:	Water quality modeling recommends monitoring.

Notes:

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

2 Monitoring frequency based on flow rate of 0.001 MGD.

3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

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

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.2 Summary of Changes From Existing Permit to Proposed Permit

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

- Monitoring 2x/yr shall be required for arsenic, copper, dissolved iron, and silver

6.3.1 Summary of Proposed NPDES Effluent Limits

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

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

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

I. A. For Outfall 001 , **Latitude** 40° 29' 58.70" , **Longitude** 77° 6' 13.50" , **River Mile Index** 0.5 , **Stream Code** 11463

Receiving Waters: Unnamed Tributary to Juniata River (WWF, MF)

Type of Effluent: Water Treatment Effluent

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2]	Required
	Average Monthly	Daily Maximum	Minimum	Semi-Annual Average	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Weekly when Discharging	Calculation
pH (S.U.)	XXX	XXX	5.0 Inst Min	XXX	XXX	9.0	1/week	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	Report Avg Mo	XXX	Report	1/week	Grab
Total Suspended Solids	Report	Report	XXX	30.0 Avg Mo	60.0	75	2/month	Grab
Aluminum, Total	Report	Report	XXX	4.0 Avg Mo	8.0	9	2/month	Grab
Arsenic, Total	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Copper, Total	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Iron, Dissolved	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab
Iron, Total	Report	Report	XXX	2.0 Avg Mo	4.0	5	2/month	Grab
Manganese, Total	Report	Report	XXX	1.0 Avg Mo	2.0	2.5	2/month	Grab
Silver, Total	XXX	XXX	XXX	Report	XXX	XXX	1/6 months	Grab

6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- Chlorine Minimization
- Solids Management for Non-Lagoon Treatment Systems

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

Attachment A

Stream Stats/Gauge Data

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

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

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

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

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

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

StreamStats Report

Region ID: PA
Workspace ID: PA20221221192713446000
Clicked Point (Latitude, Longitude): 40.49859, -77.10312
Time: 2022-12-21 14:27:33 -0500

Newport PA0266400 Modeling Point #1 December 2022

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	0.0688	square miles
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	4.5	feet

Parameter Code	Parameter Description	Value	Unit
STRDEN	Stream Density -- total length of streams divided by drainage area	0.19	miles per square mile

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0688	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
STRDEN	Stream Density	0.19	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.5	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0329	ft^3/s
30 Day 2 Year Low Flow	0.0432	ft^3/s
7 Day 10 Year Low Flow	0.0138	ft^3/s
30 Day 10 Year Low Flow	0.0186	ft^3/s
90 Day 10 Year Low Flow	0.0346	ft^3/s

Low-Flow Statistics Citations

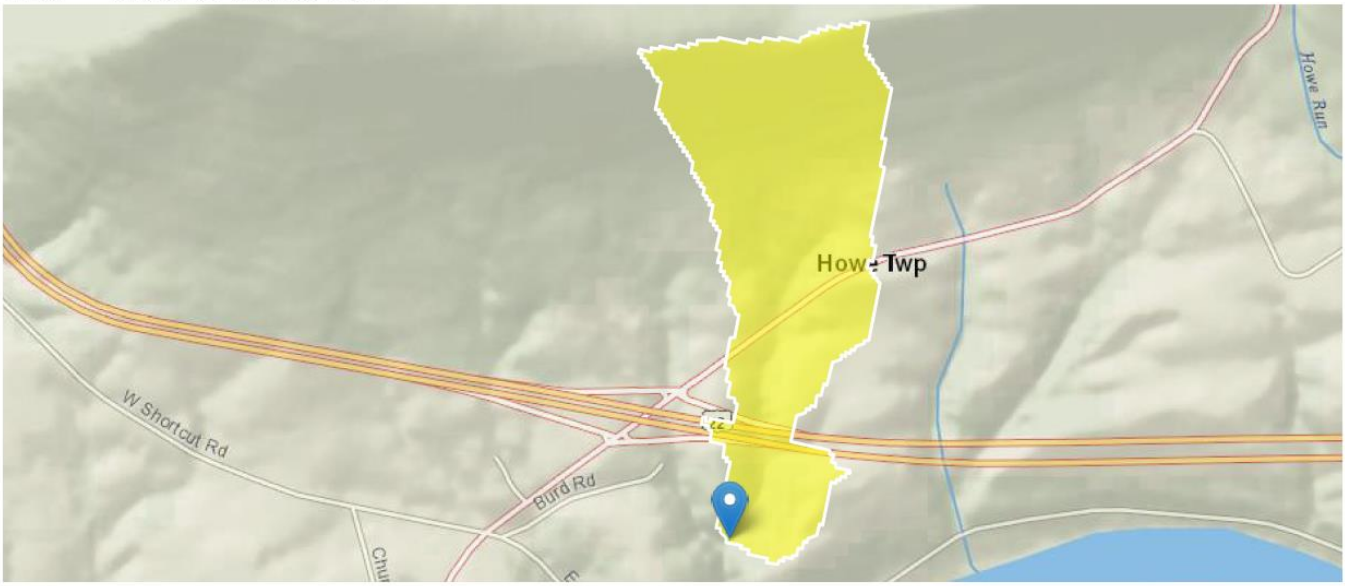
Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-

5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Application Version: 4.11.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

StreamStats Report

Region ID: PA
Workspace ID: PA20220920135847295000
Clicked Point (Latitude, Longitude): 40.49200, -77.10553
Time: 2022-09-20 09:59:07 -0400



Howe Treatment Plant- Wells #10 and #14 PA0266400 Modeling Point #2 September 2022

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	0.19	square miles
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	4	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	2.7	miles per square mile

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.19	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
STRDEN	Stream Density	2.7	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

Low-Flow Statistics Disclaimers [Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00709	ft^3/s
30 Day 2 Year Low Flow	0.0112	ft^3/s
7 Day 10 Year Low Flow	0.00211	ft^3/s
30 Day 10 Year Low Flow	0.00339	ft^3/s
90 Day 10 Year Low Flow	0.00667	ft^3/s

Low-Flow Statistics Citations

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

Application Version: 4.10.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment B

Toxics Management Spreadsheet Output Values

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Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Newport- Howe Treatment** NPDES Permit No.: **PA0266400** Outfall No.: **001**

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

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.001	116	7.52						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Strea m CV	Fate Coeff	FOS	Criteri a Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		154									
	Chloride (PWS)	mg/L		57									
	Bromide	mg/L		1									
	Sulfate (PWS)	mg/L		8									
	Fluoride (PWS)	mg/L		0.2									
Group 2	Total Aluminum	µg/L		12									
	Total Antimony	µg/L	<	1									
	Total Arsenic	µg/L		4.4									
	Total Barium	µg/L		190									
	Total Beryllium	µg/L		0.5									
	Total Boron	µg/L		50									
	Total Cadmium	µg/L	<	0.2									
	Total Chromium (III)	µg/L		1									
	Hexavalent Chromium	µg/L	<	0.02									
	Total Cobalt	µg/L		2.5									
	Total Copper	µg/L		4.8									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L		4									
	Dissolved Iron	µg/L	<	60									
	Total Iron	µg/L	<	30									
	Total Lead	µg/L	<	1									
	Total Manganese	µg/L		2.5									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		2.5									
	Total Phenols (Phenolics) (PWS)	µg/L		4									
	Total Selenium	µg/L		0.77									
	Total Silver	µg/L	<	0.5									
	Total Thallium	µg/L	<	0.5									
	Total Zinc	µg/L		3.5									
	Total Molybdenum	µg/L		1									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Newport- Howe Treatment, NPDES Permit No. PA0266400, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: **Tributary 11463 of 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	011463	0.5	652	0.0688			Yes
End of Reach 1	011463	0	445	0.19			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.5	0.1094										109	8.25		
End of Reach 1	0	0.1094										109	8.25		

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.5														
End of Reach 1	0														

☑ ***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

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Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Newport- Howe Treatment** NPDES Permit No.: **PA0266400** Outfall No.: **001**

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

Discharge Characteristics									
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.01	116	7.52						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Strea m CV	Fate Coeff	FOS	Criteri a Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		154									
	Chloride (PWS)	mg/L		57									
	Bromide	mg/L		1									
	Sulfate (PWS)	mg/L		8									
	Fluoride (PWS)	mg/L		0.2									
Group 2	Total Aluminum	µg/L		12									
	Total Antimony	µg/L	<	1									
	Total Arsenic	µg/L		4.4									
	Total Barium	µg/L		190									
	Total Beryllium	µg/L		0.5									
	Total Boron	µg/L		50									
	Total Cadmium	µg/L	<	0.2									
	Total Chromium (III)	µg/L		1									
	Hexavalent Chromium	µg/L	<	0.02									
	Total Cobalt	µg/L		2.5									
	Total Copper	µg/L		4.8									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L		4									
	Dissolved Iron	µg/L	<	60									
	Total Iron	µg/L	<	30									
	Total Lead	µg/L	<	1									
	Total Manganese	µg/L		2.5									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		2.5									
	Total Phenols (Phenolics) (PWS)	µg/L		4									
	Total Selenium	µg/L		0.77									
	Total Silver	µg/L	<	0.5									
	Total Thallium	µg/L	<	0.5									
	Total Zinc	µg/L		3.5									
	Total Molybdenum	µg/L		1									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Newport- Howe Treatment, NPDES Permit No. PA0266400, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Tributary 11463 of Juniata River**

No. Reaches to Model: 1

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	011463	0.5	652	0.0688			Yes
End of Reach 1	011463	0	445	0.19			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.5	0.1094										109	8.25		
End of Reach 1	0	0.1094										109	8.25		

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.5														
End of Reach 1	0														

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

No. Samples/Month: 4

Pollutants	*Mass Limits* AML (lbs/day)	*Mass Limits* MDL (lbs/day)	*Concentration Limits* AML	*Concentration Limits* MDL	*Concentration Limits* IMAX	*Concentration Limits* Units	Governing WQBEL	WQBEL Basis	Comments
Total Arsenic	Report	Report	Report	Report	Report	µg/L	14.9	THH	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	15.5	CFC	Discharge Conc > 10% WQBEL (no RP)
Dissolved Iron	Report	Report	Report	Report	Report	µg/L	446	THH	Discharge Conc > 10% WQBEL (no RP)
Total Selenium	Report	Report	Report	Report	Report	µg/L	7.42	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Silver	Report	Report	Report	Report	Report	µg/L	4.72	AFC	Discharge Conc > 10% WQBEL (no RP)

Attachment C

TRC Evaluation

Newport December 2022
PA0266400

1A	B	C	D	E	F	G
2	**TRC EVALUATION**					
3	**Input appropriate values in B4:B8 and E4:E7**					
4	0.008	**= Q stream (cfs)**		0.5	**= CV Daily**	
5	0.001	**= Q discharge (MGD)**		0.5	**= CV Hourly**	
6	30	**= no. samples**		1	**= AFC_Partial Mix Factor**	
7	0.3	**= Chlorine Demand of Stream**		1	**= CFC_Partial Mix Factor**	
8	0	**= Chlorine Demand of Discharge**		15	**= AFC_Criteria Compliance Time (min)**	
9	0.5	**= BAT/BPJ Value**		720	**= CFC_Criteria Compliance Time (min)**	
	0	**= % Factor of Safety (FOS)**		0	**=Decay Coefficient (K)**	
10	Source	Reference	AFC Calculations		Reference	CFC Calculations
11	TRC	**1.3.2.iii**	WLA afc = 1.669		**1.3.2.iii**	WLA cfc = 1.619
12	PENTOXSD TRG	**5.1a**	LTAMULT afc = 0.373		**5.1c**	LTAMULT cfc = 0.581
13	PENTOXSD TRG	**5.1b**	LTA_afc= 0.622		**5.1d**	LTA_cfc = 0.941
14						
15	Source		Effluent Limit Calculations			
16	PENTOXSD TRG	**5.1f**	AML MULT = 1.231			
17	PENTOXSD TRG	**5.1g**	AVG MON LIMIT (mg/l) = 0.500		BAT/BPJ	
18			INST MAX LIMIT (mg/l) = 1.635			

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

Correspondence

Hong, Nicholas

From: Alison L. D'Airo <adairo@bartonandloguidice.com>
Sent: Monday, November 28, 2022 2:44 PM
To: Hong, Nicholas
Cc: Penny Frownfelter; dmiller@miller-env.com; Robert F. Hasemeier
Subject: RE: [External] RE: Newport / PA0266400 / NPDES renewal preliminary questions
Attachments: NPDES Pollutant Group Summary Tables (ID 2766226).pdf; NPDES Sample Results Summary (ID 2766228).pdf; NPDES Testing_2022.10.20_3269843_206244 (ID 2766059).pdf; NPDES Testing_ 2022.10.27_3270928_207949 (ID 2766061).pdf

Good afternoon Mr. Hong, please find attached to this message the laboratory results summary table, ALS lab reports, and NPDES permit application pages for Pollutant Groups 1 and 2 of the NPDES Permit Application. This data includes the results of the two sampling events of the effluent from the Howe Treatment Plant completed by ALS laboratories, Middletown.

Please let me know if you have any additional questions.

Thank you!
Alison

Alison L. D'Airo
Environmental Scientist II
Environmental

Barton&Loguidice
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From: Robert F. Hasemeier <rhasemeier@bartonandloguidice.com>
Sent: Thursday, October 20, 2022 3:15 PM
To: Hong, Nicholas <nhong@pa.gov>; Alison L. D'Airo <adairo@bartonandloguidice.com>
Cc: Penny Frownfelter <pfrownfelter@newportwater.com>; dmiller@miller-env.com
Subject: RE: [External] RE: Newport / PA0266400 / NPDES renewal preliminary questions

The lab obtained one sample earlier today. The lab is scheduled to get the second sample next week.

From: Hong, Nicholas [mailto:nhong@pa.gov]
Sent: Thursday, October 20, 2022 3:14 PM
To: Robert F. Hasemeier <rhasemeier@bartonandloguidice.com>; Alison L. D'Airo <adairo@bartonandloguidice.com>
Cc: Penny Frownfelter <pfrownfelter@newportwater.com>; dmiller@miller-env.com
Subject: RE: [External] RE: Newport / PA0266400 / NPDES renewal preliminary questions

1

Rob and Alison.

Reminder to submit lab samples.

Nick Hong, PE | Environmental Engineer
PA Department of Environmental Protection
Clean Water Programs
Southcentral Regional Office
909 Elmerton Avenue | Harrisburg, PA 17110
Phone: 717.705.4824 | Fax: 717.705.4760
www.dep.pa.gov

THE SOUTHCENTRAL REGIONAL OFFICE AFTER HOURS REPORTING & 24 HOUR EMERGENCY RESPONSE NUMBER IS 1-800-541-2050

From: Robert F. Hasemeier <rhasemeier@bartonandloguidice.com>
Sent: Wednesday, September 21, 2022 12:57 PM
To: Hong, Nicholas <nhong@pa.gov>; Alison L. D'Airo <adairo@bartonandloguidice.com>
Cc: Penny Frownfelter <pfrownfelter@newportwater.com>; dmiller@miller-env.com
Subject: RE: [External] RE: Newport / PA0266400 / NPDES renewal preliminary questions

Nick>> the sampling location is the holding tank itself. NBWA does not have any way of getting into the piping leading into the tank to obtain a grab sample. The tank is set up as a settling tank when it was used for filter backwash water. The solids settle and have been periodically pumped for off-site disposal. The supernatant is what is the discharge being requested for this permit. Previously, we operated the pump to gather the effluent sample, but our flows are now small necessitating the need for a grab sample.

Based upon the comments below, we can plan for two grab samples. Can we sample at the same time, or must we wait ato sample a week apart?

Robert F. Hasemeier, P.E., BCEE
Senior Managing Engineer

Barton&Loguidice
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Website | LinkedIn | Twitter | Facebook | Vimeo

From: Hong, Nicholas [mailto:nhong@pa.gov]
Sent: Wednesday, September 21, 2022 11:44 AM
To: Alison L. D'Airo <adairo@bartonandloguidice.com>
Cc: Robert F. Hasemeier <rhasemeier@bartonandloguidice.com>; Penny Frownfelter <pfrownfelter@newportwater.com>; dmiller@miller-env.com
Subject: RE: [External] RE: Newport / PA0266400 / NPDES renewal preliminary questions

2

Alison.

Is the sample point before or after the holding tank?

We recommend at least 3 grab samples. We can have 2 grab samples. If lab results are suspect, we may require more than 2 samples.

Nick Hong, PE | Environmental Engineer
PA Department of Environmental Protection
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909 Elmerton Avenue | Harrisburg, PA 17110
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www.dep.pa.gov

THE SOUTHCENTRAL REGIONAL OFFICE AFTER HOURS REPORTING & 24 HOUR EMERGENCY RESPONSE NUMBER IS 1-800-541-2050

From: Alison L. D'Airo <adairo@bartonandloguidice.com>
Sent: Wednesday, September 21, 2022 11:37 AM
To: Hong, Nicholas <nhong@pa.gov>
Cc: Robert F. Hasemeier <rhasemeier@bartonandloguidice.com>; Penny Frownfelter <pfrownfelter@newportwater.com>; dmiller@miller-env.com
Subject: [External] RE: Newport / PA0266400 / NPDES renewal preliminary questions

ATTENTION: This email message is from an external sender. Do not open links or attachments from unknown senders. To report suspicious email, use the Report Phishing button in Outlook.

Good morning Mr. Hong, Please see responses below to your preliminary comments on the renewal package. Based on the current flows and plant layout, we are proposing to collect a single grab sample from the waste holding tank. If this is acceptable we will move forward with coordinating sample collection.

- Provide the laboratory's names, address, and phone number. **NBWA typically relies on ALS Middletown for their laboratory sampling needs. Their contact information is:**
  ALS Environmental
  301 Fulling Mill Road, Middletown, PA 17057
  717-944-5541

- Submit complete influent and effluent sampling results per the NPDES application instructions on page 15-17. At least one influent grab sample and three effluent grab samples should be collected. The effluent samples should be collected over at least a period of 3 weeks. One sample for each week. **As detailed in the supplement narrative, the discharges associated with the Howe Treatment Plant are typically of very low flow since the discontinuation of the iron and manganese treatment at the facility following PADEP approval in February 2021. NPDES discharges are only coming from the sample sink at this time, and therefore are at most 100 gallons per week, typically much less. Please note there is no accessible sampling point to the floor drains or greensand filters (due to mothballing), and the sampling tap is the finished water sampling point. Effluent from the sample sink is consistent from week to week, and given the current operational flows, we propose the collection of a single grab sample at the waste holding tank.**

3

- Collect a total of three grab hardness samples upstream on the receiving waters. **The NPDES outfall is connected to a typically dry ditch. The intermittent stream has had no flow throughout the summer.**

- Collect a total of three grab hardness samples from influent **See response to second bullet above.**

Thank you!
Alison

Alison L. D'Airo
Environmental Scientist II
Environmental

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From: Robert F. Hasemeier <rhasemeier@bartonandloguidice.com>
Sent: Tuesday, September 20, 2022 12:17 PM
To: Alison L. D'Airo <adairo@bartonandloguidice.com>
Subject: Fw: Newport / PA0266400 / NPDES renewal preliminary questions

Robert F. Hasemeier, P.E., BCEE
Senior Managing Engineer

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From: Hong, Nicholas <nhong@pa.gov>
Sent: Tuesday, September 20, 2022 12:09 PM
To: Robert F. Hasemeier
Cc: pfrownfelter@newportwater.com
Subject: Newport / PA0266400 / NPDES renewal preliminary questions

Robert and Penny:

This message acknowledges that DEP has received the NPDES renewal application for the Newport- Howe Treatment Plant.

We have the following preliminary comments on the renewal package.

- Provide the laboratory's names, address, and phone number.

- Submit complete influent and effluent sampling results per the NPDES application instructions on page 15-17. At least one influent grab sample and three effluent grab samples should be collected. The effluent samples should be collected over at least a period of 3 weeks. One sample for each week.

- Collect a total of three grab hardness samples upstream on the receiving waters.

- Collect a total of three grab hardness samples from influent

We would be encouraged if DEP can receive a response by 11/1/22.

Nick Hong, PE | Environmental Engineer
PA Department of Environmental Protection

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5

Pennsylvania DEP

www.dep.pa.gov

THE SOUTHCENTRAL REGIONAL OFFICE AFTER HOURS REPORTING & 24 HOUR EMERGENCY RESPONSE NUMBER IS 1-800-541-2050

Kwedza, John

From: Robert F. Hasemeier <rhasemeier@bartonandloguidice.com>
Sent: Thursday, September 28, 2017 9:22 AM
To: Kwedza, John; Wallen, Antaunette
Cc: Kevin L. Little; Alison L. D'Airo
Subject: FW: Newport well 10-14 DRAFT NPDES

Pascal>> We are beginning the design of the pump and discharge to implement the NPDES for Newport's Well 10 & 14. Our design follows the details provided in the response package and reproduced below

5. ***What is the flow of the discharge and how is flow measured?***

The wastewater recycle pump is a submersible pump. The typical practice is to drawdown the tank liquid and discharge the settled liquid to the dry ditch prior to performing the backwash, usually on a weekly time period. An hour meter will be added to the pump to allow for the flow to be calculated from the pump discharge data and runtime. The discharge pump has a 1 HP motor and pump rating of 12gpm which approximates the discharge flow. The pump run time multiplied by the pump rating will be measurement of flow discharge.

We also note the design flow is limited to 0.001 MPD. At 12 gpm, we need to be able to discharge 10,000 gpd which is 0.01 MGD. Is this flow limit something you can correct in the final permit?

Robert Hasemeier, PE, BCEE
Sr. Managing Engineer

Barton & Loguidice, D.P.C.
phone 717-737-8326, ext. 2310
"Better living through robust public works. Look at what the Romans accomplished 2,000 years ago"
Robert Hasemeier, civil engineer

From: Kevin L. Little
Sent: Thursday, September 28, 2017 9:03 AM
To: Robert F. Hasemeier
Subject: RE: NPDES well 10-14 DRAFT NPDES

From page 3:

1