

Application Type Renewal
Facility Type Industrial
Major / Minor Minor

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

Application No. PA0232599
APS ID 1126791
Authorization ID 1508396

Applicant and Facility Information

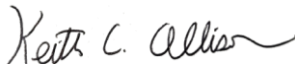
Applicant Name	<u>Veolia Water PA, Inc.</u>	Facility Name	<u>Bloomsburg WTP</u>
Applicant Address	<u>6310 Allentown Boulevard, Suite 104</u> <u>Harrisburg, PA 17112-2739</u>	Facility Address	<u>100 Irondale Road</u> <u>Bloomsburg, PA 17815-8507</u>
Applicant Contact	<u>Larry Finnicum</u>	Facility Contact	<u>Tate Hunsinger</u>
Applicant Phone	<u>(302) 252-3035</u>	Facility Phone	<u>(570) 784-4487</u>
Client ID	<u>64718</u>	Site ID	<u>786889</u>
SIC Code	<u>4941</u>	Municipality	<u>Bloomsburg Town</u>
SIC Description	<u>Trans. & Utilities - Water Supply</u>	County	<u>Columbia</u>
Date Application Received	<u>November 27, 2024</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>January 30, 2025</u>	If No, Reason	
Purpose of Application	<u>Renewal of a NPDES Permit</u>		

Summary of Review

This is an existing water treatment plant discharge in the Town of Bloomsburg, Columbia County. A map indicating the discharge location is attached (Attachment A).

Public Participation

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

Approve	Deny	Signatures	Date
✓		 Keith C. Allison / Project Manager	May 14, 2025
✓		 Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	May 14, 2025

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>0.38</u>
Latitude	<u>41° 0' 22.73"</u>	Longitude	<u>-76° 27' 44.16"</u>
Quad Name	<u>Bloomsburg, PA</u>	Quad Code	<u>1034</u>
Wastewater Description: <u>Water Treatment Effluent</u>			
Receiving Waters	<u>Fishing Creek (WWF, MF)</u>	Stream Code	<u>27623</u>
NHD Com ID	<u>65640559</u>	RMI	<u>2.63</u>
Drainage Area	<u>362</u>	Yield (cfs/mi ²)	<u>0.072</u>
Q ₇₋₁₀ Flow (cfs)	<u>26.2</u>	Q ₇₋₁₀ Basis	<u>Stream Gage #01539000, Fishing Creek near Bloomsburg, PA</u>
Elevation (ft)	<u>468</u>	Slope (ft/ft)	<u>0.001</u>
Watershed No.	<u>5-C</u>	Chapter 93 Class.	<u>WWF, MF</u>
Existing Use	<u>N/A</u>	Existing Use Qualifier	<u>N/A</u>
Exceptions to Use	<u>None</u>	Exceptions to Criteria	<u>None</u>
Assessment Status	<u>Attaining Use(s)</u>		
Nearest Downstream Public Water Supply Intake	<u>Danville Municipal Water Authority</u>		
PWS Waters	<u>Susquehanna River</u>	Flow at Intake (cfs)	<u>1,120</u>
PWS RMI	<u>138.06</u>	Distance from Outfall (mi)	<u>12.19</u>

Comments:

The discharge is not expected to affect any downstream public water supply at this time with the monitoring and limitations proposed.

Treatment Facility Summary
The treatment of the wastewater discharges as permitted under WQM Permit No. 1914201 A-1 consists of a 41,212-gallon sludge equalization basin, 385,000-gallon clarifier, and 323,136-gallon concrete clarifier.

Stormwater Discharges from Industrial Activities
As a SIC Code 4941 Water Supply facility it is not subject to the requirements for discharges of stormwater from industrial activities at 40 CFR 122.26(b)(14).

Compliance History

DMR Data for Outfall 001 (from April 1, 2024 to March 31, 2025)

Parameter	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24
Flow (MGD) Average Monthly	0.15491	0.16459	0.16869	0.16501	0.15378	0.1752	0.16349	0.16425	0.1759	0.16775	0.15297	0.16421
Flow (MGD) Daily Maximum	0.18701	0.20934	0.20275	0.19396	0.1893	0.19393	0.1950	0.17831	0.22336	0.2846	0.24713	0.17803
pH (S.U.) Instantaneous Minimum	7.1	7.4	7.5	7.5	7.14	7.5	7.5	7.2	7.6	7.35	7.4	7.4
pH (S.U.) Instantaneous Maximum	7.1	7.4	7.5	7.5	7.14	7.5	7.5	7.2	7.6	7.35	7.4	7.4
TRC (mg/L) Average Monthly	0.09	0.03	0.05	0.03	0.06	0.02	0.02	0.04	0.02	0.02	0.01	0.02
TRC (mg/L) Instantaneous Maximum	0.31	0.05	0.08	0.07	0.18	0.03	0.05	0.06	0.03	0.05	0.02	0.03
TSS (mg/L) Average Monthly	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TSS (mg/L) Daily Maximum	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Total Aluminum (mg/L) Average Monthly	< 0.1	0.37	0.259	< 0.1	0.188	0.277	0.376	0.092	0.15	0.13	0.076	0.15
Total Aluminum (mg/L) Daily Maximum	< 0.1	0.37	0.259	< 0.1	0.188	0.277	0.376	0.092	0.15	0.13	0.076	0.15
Total Iron (mg/L) Average Monthly	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Total Iron (mg/L) Daily Maximum	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Total Manganese (mg/L) Average Monthly	< 0.02	< 0.02	< 0.02	< 0.02	0.028	0.025	0.022	0.026	0.011	0.026	0.0073	0.0075
Total Manganese (mg/L) Daily Maximum	< 0.02	< 0.02	< 0.02	< 0.02	0.028	0.025	0.022	0.026	0.011	0.026	0.0073	0.0075

Compliance History, Cont'd

Summary of Inspections:	The facility has been inspected approximately annually by the Department over the past permit term. The most recent inspection on March 14, 2025, identified no violations at the time of inspection.
Other Comments:	A query in WMS found one open violation in eFACTS for Veolia Water PA, Inc for an unpaid annual fee for a facility in the Southcentral region.

Existing Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	Grab
TRC	XXX	XXX	XXX	0.5	XXX	0.75	1/month	Grab
TSS	XXX	XXX	XXX	30.0	60.0	75	1/month	Grab
Total Aluminum	XXX	XXX	XXX	4.0	8.0	10	1/month	Grab
Total Iron	XXX	XXX	XXX	2.0	4.0	5	1/month	Grab
Total Manganese	XXX	XXX	XXX	1.0	2.0	2.5	1/month	Grab

Development of Effluent Limitations

Outfall No. 001 Design Flow (MGD) 0.38
Latitude 41° 0' 23.00" Longitude -76° 27' 44.00"
Wastewater Description: Water Treatment Effluent

Technology-Based Limitations

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

Parameter	Limit (mg/l)	SBC
Total Suspended Solids	30	Average Monthly
	60	Daily Max
Total Iron	2	Average Monthly
	4	Daily Max
Total Aluminum	4	Average Monthly
	8	Daily Max
Total Manganese	1	Average Monthly
	2	Daily Max
TRC	0.5	Average Monthly
pH	6.0 – 9.0 S.U.	Min – Max

Comments: The above limits have been determined by the Department to be applicable to filter backwash, waste sludges and other related water treatment plant wastes as listed in the Department's *Technology-Based Control Requirements for Water Treatment Plant Wastes* guidance document (Doc. ID 362-2183-003).

Water Quality-Based Limitations

A "Reasonable Potential Analysis" was performed to determine additional parameters with the potential to violate water quality standards (see the Toxics Management Spreadsheet in Attachment C). The Toxics Management Spreadsheet (TMS) is a mass-balance water quality analysis model that includes consideration for mixing and other factors to determine recommended water quality-based effluent limits. The model incorporates the water quality criteria in 25 Pa. Code §93.

The TMS identified no pollutants necessitating additional limitations or monitoring based on the renewal sampling.

Total Residual Chlorine

The Department uses a modeling spreadsheet to determine necessary WQBELs for TRC toxicity based on instream dilution. The attached modeling results (See attachment D) show that the BAT limit of 0.5 mg/l is adequate to protect the receiving stream. The discharge has an existing IMAX of 0.75 mg/L which will remain pursuant to anti-backsliding.

Chesapeake Bay/Nutrient Requirements

Because minimal levels of TN and TP are present in the discharge and consistent with Department policy and the Phase III Wastewater Supplement no monitoring for TN and TP will be included in the permit.

Best Professional Judgment (BPJ) Limitations

Comments: No additional limitations are necessary at this time beyond the technology and water quality-based limits noted above.

Anti-Backsliding

Consistent with the anti-backsliding requirements of the Clean Water Act and 40 CFR 122.44(l) no proposed limitations have been made less stringent.

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	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	Grab
TRC	XXX	XXX	XXX	0.5	XXX	0.75	1/month	Grab
TSS	XXX	XXX	XXX	30.0	60.0	75	1/month	Grab
Total Aluminum	XXX	XXX	XXX	4.0	8.0	10	1/month	Grab
Total Iron	XXX	XXX	XXX	2.0	4.0	5	1/month	Grab
Total Manganese	XXX	XXX	XXX	1.0	2.0	2.5	1/month	Grab

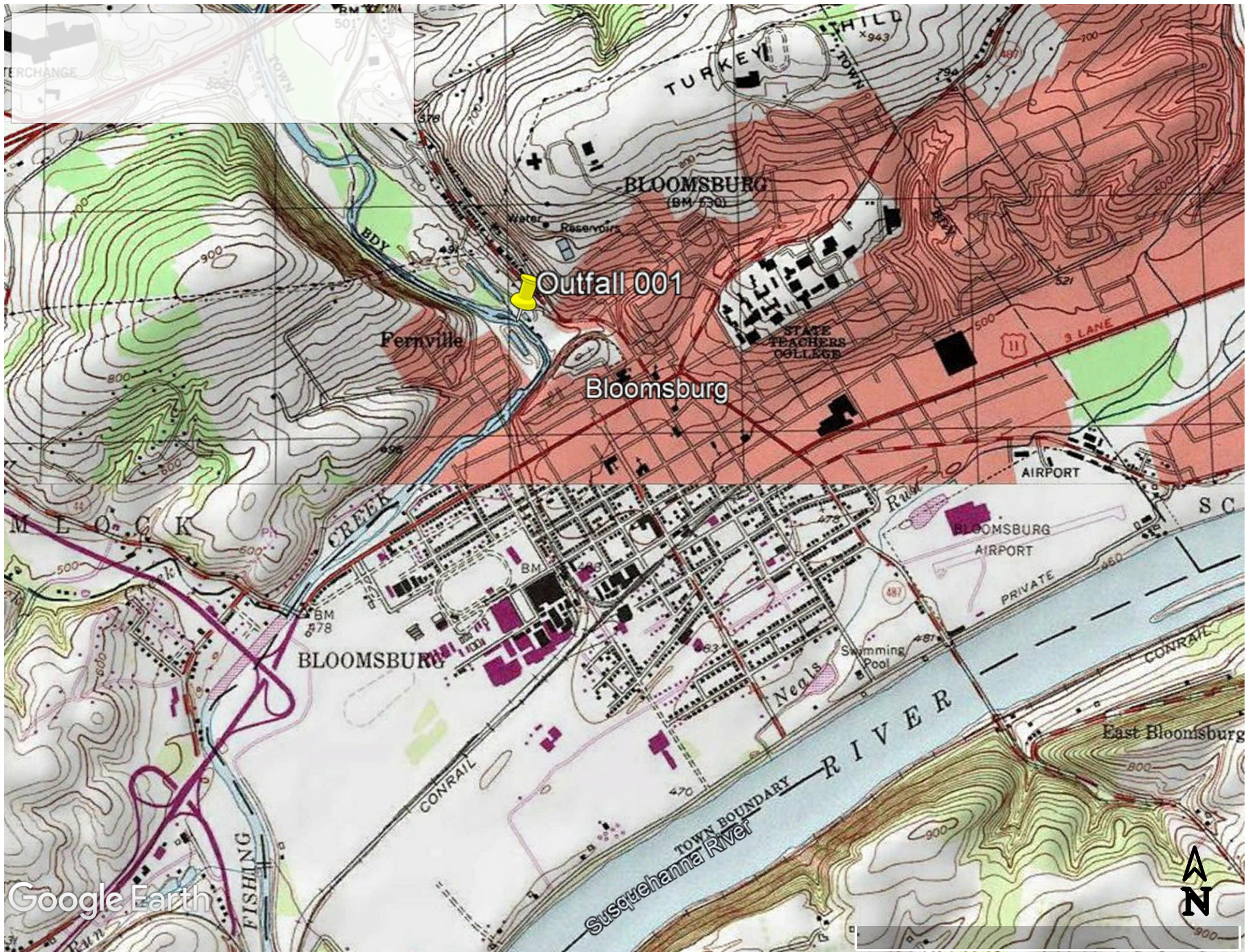
Compliance Sampling Location: Outfall 001

Other Comments: The proposed limitations and monitoring are unchanged.

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment C)
☐	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment D)
☐	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:
☐	Other:

Attachments:

- A. Discharge Location Map
- B. Toxics Management Spreadsheet
- C. TRC Model



Discharge Information

Instructions

Discharge

Stream

Facility: **Veolia Bloomsburg**

NPDES Permit No.: **PA0232599**

Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste**

Wastewater Description: **Filter Backwash**

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
0.38	20.9	6.9						

	Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
				Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L	53									
	Chloride (PWS)	mg/L	12									
	Bromide	mg/L	< 0.103									
	Sulfate (PWS)	mg/L	8.03									
	Fluoride (PWS)	mg/L	< 13.6									
Group 2	Total Aluminum	µg/L	120									
	Total Antimony	µg/L	< 0.504									
	Total Arsenic	µg/L	< 0.252									
	Total Barium	µg/L	15.5									
	Total Beryllium	µg/L	< 0.105									
	Total Boron	µg/L	< 12									
	Total Cadmium	µg/L	< 0.272									
	Total Chromium (III)	µg/L	< 0.517									
	Hexavalent Chromium	µg/L	1.04									
	Total Cobalt	µg/L	< 0.08									
	Total Copper	µg/L	0.3									
	Free Cyanide	µg/L										
	Total Cyanide	µg/L	< 6									
	Dissolved Iron	µg/L	< 40									
	Total Iron	µg/L	42									
	Total Lead	µg/L	0.13									
	Total Manganese	µg/L	< 20									
	Total Mercury	µg/L	< 0.1									
	Total Nickel	µg/L	0.77									
	Total Phenols (Phenolics) (PWS)	µg/L	10									
	Total Selenium	µg/L	< 1.3									
	Total Silver	µg/L	< 0.611									
	Total Thallium	µg/L	< 0.0952									
	Total Zinc	µg/L	2.33									
	Total Molybdenum	µg/L										
	Acrolein	µg/L	<									
	Acrylamide	µg/L	<									
	Acrylonitrile	µg/L	<									
	Benzene	µg/L	<									
	Bromoform	µg/L	<									

Stream / Surface Water Information

Veolia Bloomsburg, NPDES Permit No. PA0232599, Outfall 001

Instructions Discharge **Stream**

Receiving Surface Water Name: **Fishing Creek**

No. Reaches to Model: **1**

- ☒ Statewide Criteria
☐ Great Lakes Criteria
☐ ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi ²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	027623	2.63	468	362			Yes
End of Reach 1	027623	1.63	461	375			Yes

Q₇₋₁₀

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	2.63	0.072										100	7		
End of Reach 1	1.63	0.072													

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	2.63														
End of Reach 1	1.63														

Model Results

Veolia Bloomsburg, NPDES Permit No. PA0232599, Outfall 001

Instructions

Results

RETURN TO INPUTS

SAVE AS PDF

PRINT

☒ All

☐ Inputs

☐ Results

☐ Limits

☒ **Hydrodynamics**

Q_{7-10}

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
2.63	26.06		26.06	0.588	0.001	0.937	87.887	93.794	0.324	0.189	306.584
1.63	27.00		27								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
2.63	128.41		128.41	0.588	0.001	1.875	87.887	46.864	0.783	0.078	112.187
1.63	132.434		132.43								

☒ **Wasteload Allocations**

☒ **AFC**

CCT (min): 15

PMF: 0.221

Analysis Hardness (mg/l): 92.681

Analysis pH: 6.99

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	
Fluoride (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	8,105	
Total Antimony	0	0		0	1,100	1,100	11,888	
Total Arsenic	0	0		0	340	340	3,674	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	226,948	
Total Boron	0	0		0	8,100	8,100	87,537	
Total Cadmium	0	0		0	1.870	1.97	21.3	Chem Translator of 0.947 applied
Total Chromium (III)	0	0		0	535.376	1,694	18,310	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	176	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	1,027	
Total Copper	0	0		0	12.510	13.0	141	Chem Translator of 0.96 applied

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	59.446	74.1	801	Chem Translator of 0.802 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	17.8	Chem Translator of 0.85 applied
Total Nickel	0	0		0	439.074	440	4,755	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	2.823	3.32	35.9	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	702	
Total Zinc	0	0		0	109.872	112	1,214	Chem Translator of 0.978 applied

☒ **CFC**

CCT (min): #####

PMF: 1

Analysis Hardness (mg/l): 98.255

Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total 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	
Fluoride (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	9,974	
Total Arsenic	0	0		0	150	150	6,801	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	185,882	
Total Boron	0	0		0	1,600	1,600	72,539	
Total Cadmium	0	0		0	0.243	0.27	12.1	Chem Translator of 0.91 applied
Total Chromium (III)	0	0		0	73.054	84.9	3,851	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	471	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	861	
Total Copper	0	0		0	8.822	9.19	417	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	68,006	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.469	3.11	141	Chem Translator of 0.794 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	41.1	Chem Translator of 0.85 applied
Total Nickel	0	0		0	51.238	51.4	2,330	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	226	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	589	
Total Zinc	0	0		0	116.390	118	5,352	Chem Translator of 0.986 applied

☒ **THH**

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
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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	
Fluoride (PWS)	0	0		0	2,000	2,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	254	
Total Arsenic	0	0		0	10	10.0	453	
Total Barium	0	0		0	2,400	2,400	108,809	
Total Boron	0	0		0	3,100	3,100	140,545	
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	
Dissolved Iron	0	0		0	300	300	13,601	
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	45,337	
Total Mercury	0	0		0	0.050	0.05	2.27	
Total Nickel	0	0		0	610	610	27,656	
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	10.9	
Total Zinc	0	0		0	N/A	N/A	N/A	

☒ **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	
Fluoride (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	
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	

☒ **Recommended WQBELs & Monitoring Requirements**

No. Samples/Month: 4

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			

☐ **Other Pollutants without Limits or Monitoring**

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

26.2	= Q stream (cfs)	0.5	= CV Daily
0.38	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 14.236	1.3.2.iii	WLA cfc = 13.872
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 5.305	5.1d	LTA_cfc = 8.064

Source	Effluent Limit Calculations
PENTOXSD TRG	5.1f AML MULT = 1.231
PENTOXSD TRG	5.1g AVG MON LIMIT (mg/l) = 0.500 BAT/BPJ
	INST MAX LIMIT (mg/l) = 1.635

WLA afc	$(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...]$
LTAMULT afc	$...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)$
LTA_afc	$EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^{0.5})$
	$wla_afc*LTAMULT_afc$
WLA_cfc	$(.011/e(-k*CFC_tc)) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc)) ...]$
LTAMULT_cfc	$...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)$
LTA_cfc	$EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^{0.5})$
	$wla_cfc*LTAMULT_cfc$
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	$1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)$